

ASCO Invites You to Compare Technology, Support, and Service

Digital Binder Quick Links

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Life Is On

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ASCO Product Overview

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Challenges

Healthcare



- Comply with Codes and Regulations
- Provide Emergency Power for Patient Wellbeing
- Streamline Operations to Optimize Resources

Data Centers



- Minimize Downtime
- Streamline Deployment
- Support Redundancy Strategies

Telecom



- Powering Wireless and Wireline Services
- Supporting Voice and Data
- Providing Emergency Communications

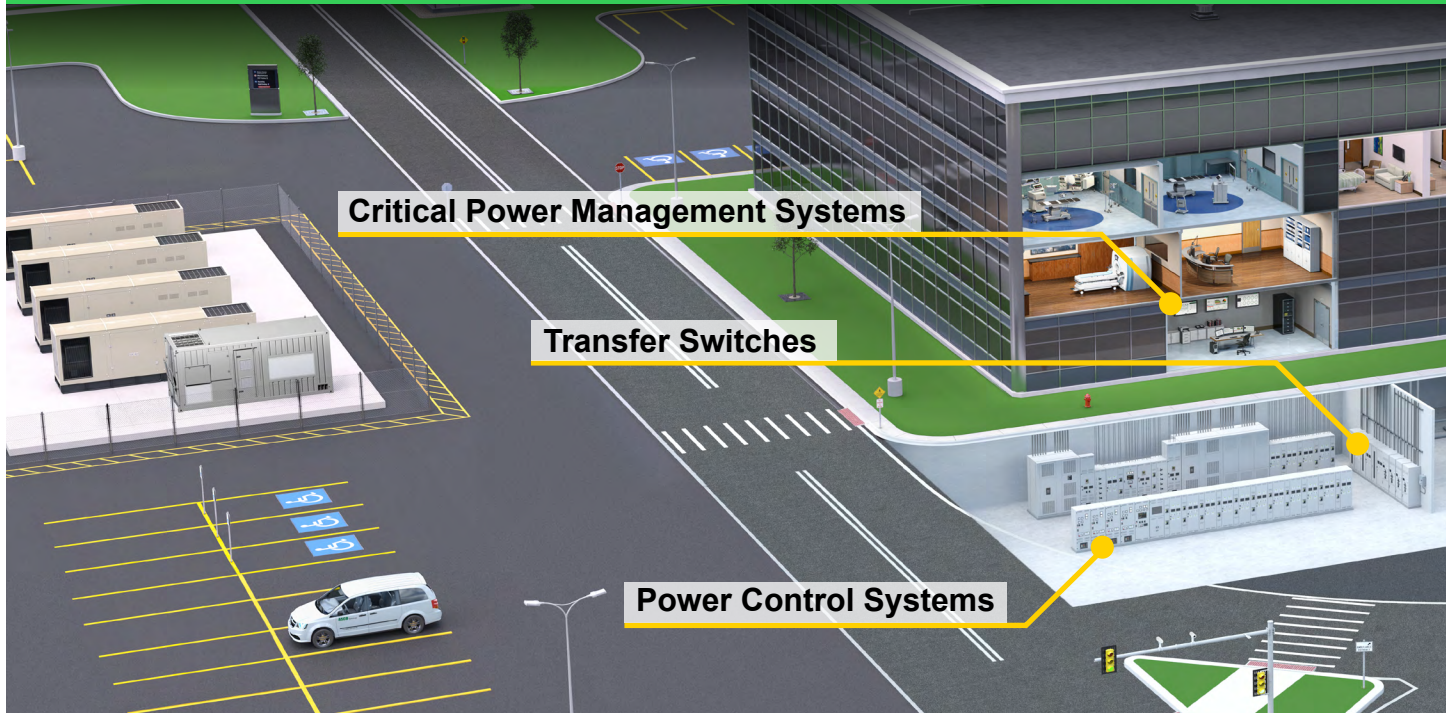
Commercial



- Maintain Business Continuity
- Provide Occupant Safety
- Support Application Flexibility

ASCO Solutions

Healthcare



Transfer Switches

Connect load to Normal and Emergency power sources



Power Control Systems

Parallel generators and provide advanced control



Critical Power Management Appliance

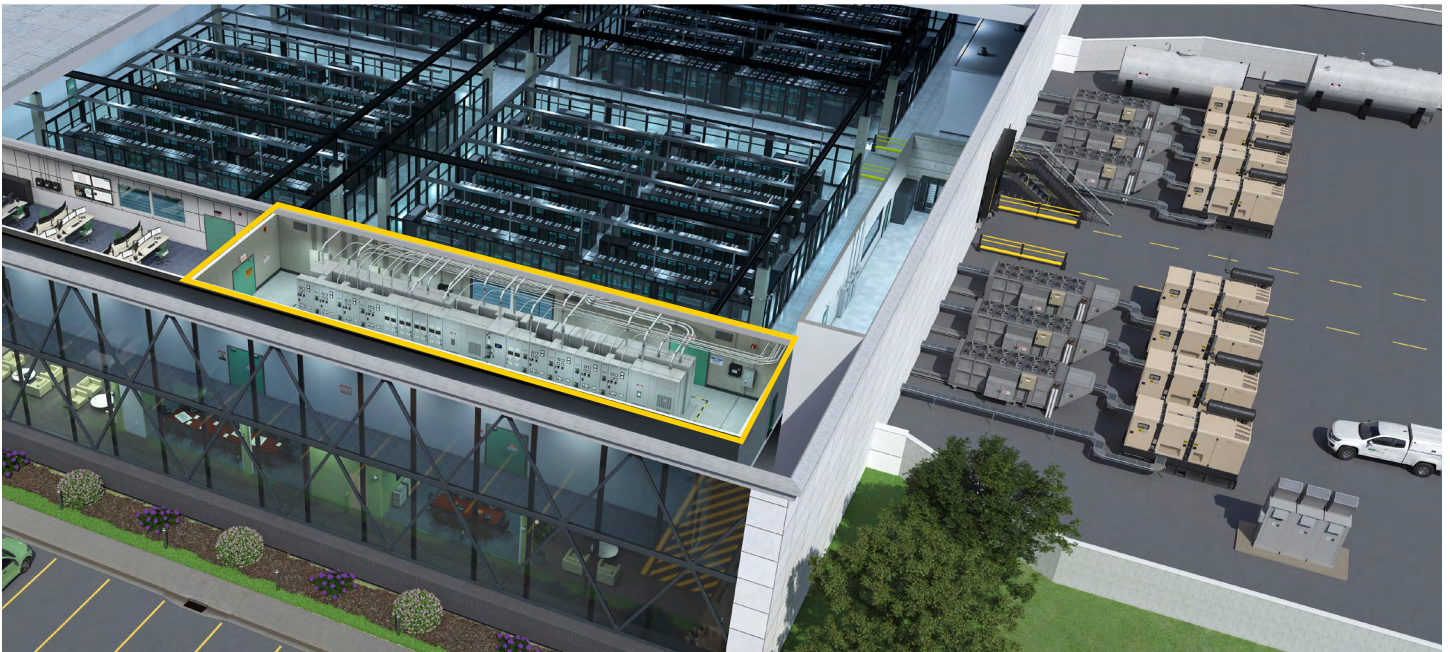
Advanced monitor, notification, control and reporting

ASCO Solutions

Critical Power Equipment for a Wide Range of Applications

Data Center

Maximum Uptime



Transfer Switches and Power Control Switchgear

Commercial Building

Business Continuity



Critical Power Management Systems

Transfer Switches and Power Control Switchgear

Telecom

Public Safety & Consumer Satisfaction



Automatic Transfer Switch

Water Treatment Plant

Environmental Protection



Transfer Switches, Power Control Switchgear, and CPMS

Residential Facilities

Occupant Safety & Comfort



Manual Transfer Switch with Integrated Quick Connects

Small Business/Critical Operations

Public Service



Transfer Switch

Transfer Switches



ASCO Power Technologies patented the first commercial automatic transfer switch in 1925, and has led the industry ever since. We design, manufacture, and support transfer switch designs for every application.

Solutions

- Load switching between two power sources
- Automatic and Manual transfer switches
- Solutions for transferring motor loads
- Removable transfer switch mechanism for ease of service
- Reduces Power Interruptions
- Bypass switching for concurrent maintainability
- A portal for IP-based monitoring, notification, and control
- Available with integrated or stand-alone quick-connect panels

“ASCO really came through with a value-engineered design that fit the room layout and saved us installation time.” Matt M., Electrical Contractor

Key Attributes

- Automatic Transfer Switches for unattended operation
- Manual or Electrically operated models
- Solenoid-operated contactors for fast reliable transfer
- Open, Delayed, and Closed Transition Modes
- Available bypass-isolation configurations for enhanced maintainability
- UL Listed and IEC compliant designs
- Indoor and outdoor enclosures
- Service Entrance models save space and streamline installation
- Custom engineering available for any application
- Low voltage & medium voltage models up to 4000 Amps

Power Control Systems



From two-generator prime power to redundant 32-generator mission-critical facilities, ASCO Power Control Systems manage and optimize multiple power sources and downstream loads.

Solutions

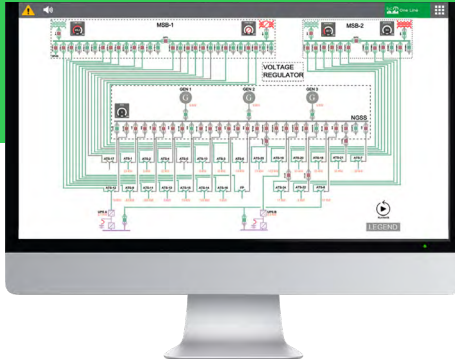
- Increase capacity by paralleling multiple power sources
- Increase availability by managing redundant equipment
- Scalability to expand existing systems or provide future capacity
- Flexibility to switch between utility, backup generators, and alternate energy sources
- Increase efficiency by optimizing use of generation capacity and power distribution
- Increase maintainability by powering priority loads during power source service
- Increase visibility into power systems through monitoring and simulation

*“We’ve always received great support from ASCO...
I will continue to use you and anyone you partner with on
my projects.” John T., Consulting Engineer*

Key Attributes

- Parallel up to 32 power sources
- Distribution Sections for Sophisticated Load Management
- Master Controls Sections for Sophisticated System Control Sequences
- Configurations for Emergency Standby Power, Paralleling with Utility and Generator, and Prime Power applications
- Wide range of available bus configurations to enhance performance and availability
- Standard Bus Optimization gets more loads online
- Standard Load Demand functions operates fewer generators at greater efficiency
- Available Simulation for planning, training, and forensic evaluation
- Custom Operating Sequences provide the most sophisticated control in the industry
- Available redundant PLCs for maximum redundancy

Critical Power Management Appliance



ASCO's Critical Power Management Appliance offers scalable, unified communication and power management tools for facilities of every size. Interactive tools apply power expertise to a single device or to systems with the touch of a button or a swipe of a screen.

Solutions

- Remote power system monitoring
- Real-time notices for power events and conditions
- Visualization on custom one-line diagrams
- Communication via purpose-built networks or existing IT infrastructure
- Power source, distribution, and metering data in a single view.
- Time-stamped logs of equipment events and conditions
- Dynamic One Line and Playback
- Detailed event logs for forensic evaluation

“...excellent recommendation and solution to the problem.” Todd M., Electrical Engineer

Key Attributes

- Server-based monitoring and control platforms
- Intelligent web-enabled multi device annunciators
- Advanced Metering and Data Logging
- Communications modules for networking across various data protocols
- Outputs to common Building Management Systems
 - SNMP
 - BACnet

Services

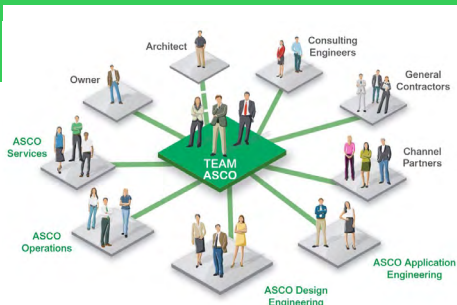


ASCO Power Services employs factory-trained technicians throughout the world. Quick response, thorough assessment, and quality maintenance are the hallmarks of ASCO service.

- Startup and commissioning
- Operator training
- Preventive inspection and maintenance
- Warranty service
- Retrofits and upgrades
- Factory replacement parts for quick shipment anywhere
- Load testing
- More than 150 factory-trained, factory-employed technicians provide routine and emergency service worldwide.

“ASCO stepped up to the plate when no one else would.” Jeff B., Engineer

Project Management



ASCO Project Managers perform these functions to make sure complex customer projects are successful.

- Develop and maintain project schedule.
- Manage project to meet established milestones.
- Process any project requirement changes.
- Conduct kickoff, status, and review meetings.
- Maintain project punch list to ensure completion.
- Serve as expert technician resource
- Coordinate on-site support during startup and commission
- Ensure drawings and documents are completed accurately and on time.

“The close communication and intimate knowledge from all perspectives was invaluable.” Scott K., Electrical Distributor

Technical Support



ASCO experts provide the most comprehensive support in the business. Representatives are available in our customer service center 24 hours per day, 365 days per year.

- Sales force of technical experts
- Customer center for technical and emergency support
- Online reference documents, including equipment drawings and sample specifications

“My preference is ASCO because of the response time and technical support I get from ASCO’s team.” Susan F., Electrical Distributor

We are here to help.

1-800-800-ASCO • customercare@ascopower.com



ASCO Power Technologies
A Century of Critical Power Experience

Life Is On



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customer-care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer-care@ascopower.com)

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Source Isolation Switches



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SourcePacT

Source isolation switch
overview

ASCO Power
Technologies™



A Battery Energy Storage System (BESS) can supply backup power only if there is a means to isolate the utility grid.

UL 3008 Listed, SourcePacT™ is the complete, isolation solution that streamlines deployment, enables resilience, and maximizes return on BESS investments.

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Adapting to a new energy landscape

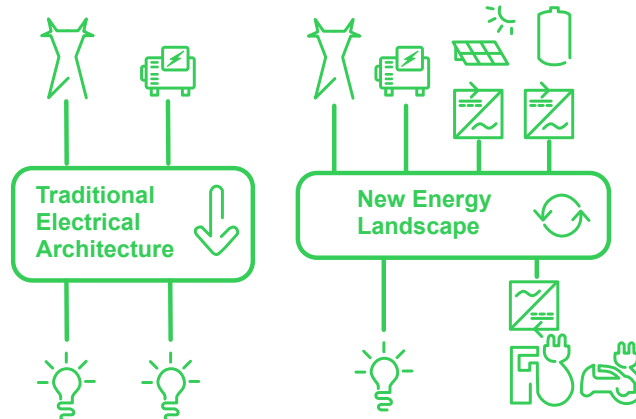
Needs for greater resilience, cost-effectiveness, and sustainability are driving facilities to adopt new energy solutions. Collectively, these trends are forming a new energy landscape in multiple ways:

- Ever-growing need for adequate, cost-effective power
- Increased commitments to sustainability
- Increasing renewable energy funding and decreasing new technology costs
- New eco-friendly building codes
- Widespread adoption of distributed sources like solar and BESS

The benefits of this new energy landscape include reduced power costs, superior operating efficiency, and greater sustainability.

Amidst these changes, businesses must preserve and improve power resilience and availability.

Evolving Electrical Architecture to Support Sustainability



• Utility is primary source

• Energy flows from grid to user

• Generator supplies emergency power

• Energy derived from multiple sources

• Energy flows from and to utility

• Distributed Energy Resources supply emergency power

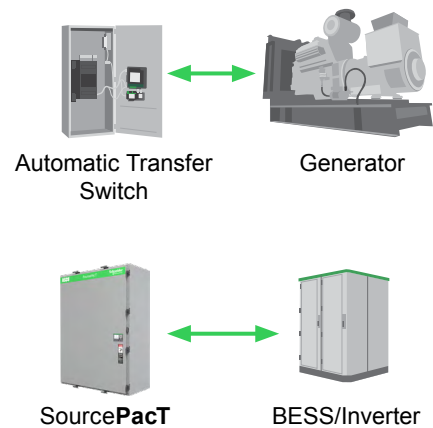
How SourcePacT supports new energy initiatives

A BESS is typically connected to a utility grid during normal operation to optimize energy cost. When utility fails, it must be isolated to prevent back-feed before the BESS can supply backup power. Facility-specific isolation solutions complicate power system design, installation, and compliance. SourcePacT™ is a UL 3008 Listed device that simplifies grid isolation from a BESS.

Isolation vs. transfer

In conventional applications, an Automatic Transfer Switch (ATS) always connects a facility's power system to one of two power sources. In contrast, a BESS is always connected to a facility's power distribution system, so there is no need to transfer load. However, the facility must be disconnected from the grid to prevent power back feed to utility – which is why an ATS is inappropriate and an isolation switch such as SourcePacT is required. SourcePacT maintains power resilience without sacrificing safety and reliability.

The SourcePacT is to a BESS what an ATS is to a Generator.



SourcePacT is the first standardized isolation solution listed to meet [UL 3008 – Outline of Investigation for Automatic Interconnection Switches for Emergency Systems](#)

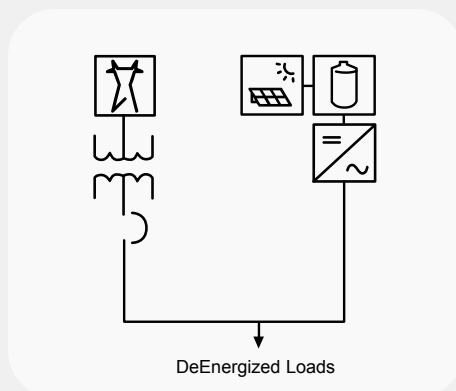
SourcePacT automatically isolates from the grid so a BESS can provide green resilient power

SourcePacT™ supports power resilience by monitoring the utility feed. When utility power becomes unacceptable or absent, SourcePacT isolates from the grid and signals a BESS to operate in grid-forming mode. When utility power returns, SourcePacT reconnects the grid and then signals the BESS to return to grid-following mode.

SourcePacT simplifies the integration of the BESS solutions into any facility power distribution system. When compared to custom solutions, SourcePacT helps stakeholders in the following ways:

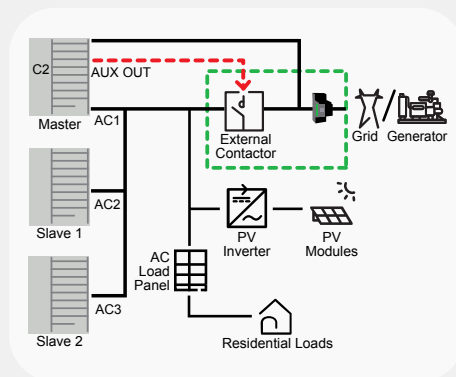
- **Specifiers:** SourcePacT streamlines design and specification with a standardized UL 3008 listed device.
- **Dealers and Distributors:** SourcePacT is the first standardized solution for solving a customer's BESS isolation challenge.
- **Contractors:** Consisting of a single purpose-built device, SourcePacT is easy to install.
- **Owners:** SourcePacT's single interface is easier to understand and use during day-to-day operations and tests.

Today's options



No Isolation

Without an ability to isolate the grid, a BESS cannot offer resilience for utility outages.



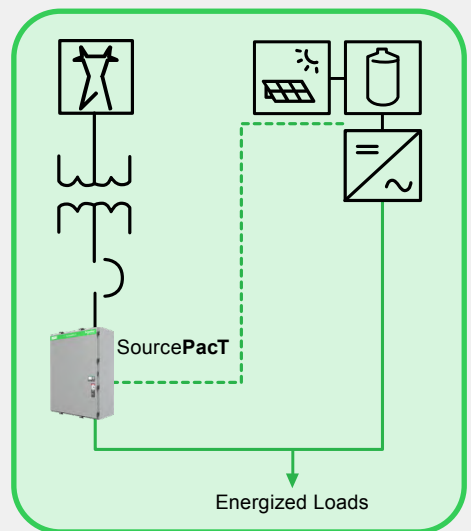
Custom

Designing and deploying controls and relays in custom circuits is complex, resource-intensive, and may not comply with UL 3008. It leaves specifiers and BESS manufacturers without a UL-compliant solution.

Optimized architecture

SourcePacT Source Isolation Switch

This device dramatically simplifies design and installation, lowers costs, improves reliability, and streamlines compliance. SourcePacT is the simplest solution enabling a BESS to provide emergency power.



SourcePacT benefits

SIMPLICITY – A single device streamlines design, installation, and operation

SAFETY – UL 3008 design offers new levels of safety for BESS isolation applications

RELIABILITY – Factory-tested device simplifies commissioning

VALUE – Enabling a BESS to supply backup power maximizes ROI



- **Streamlines BESS implementation** – Standardized design and factory-tested, SourcePacT™ requires fewer devices, simplifies wiring, and minimizes points of failure.



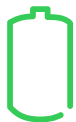
- **Reduces costs and maximizes value** – SourcePacT maximizes the return on BESS investment by enabling its use as a backup power source.



- **Improves resilience** – SourcePacT reduces reliance on power grids by enabling facilities to produce, store, and access their own power on demand.



- **Eases compliance** – SourcePacT simplifies use of a BESS for emergency standby power as well as compliance with the National Electrical Code®, California Title 24 regulations, and more.



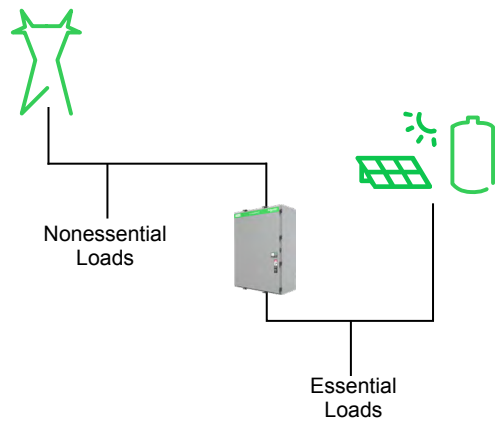
- **Improves sustainability** – Enabling a BESS to supply backup power can reduce generator fuel consumption and emissions by using energy from other sources first.



Use case scenarios

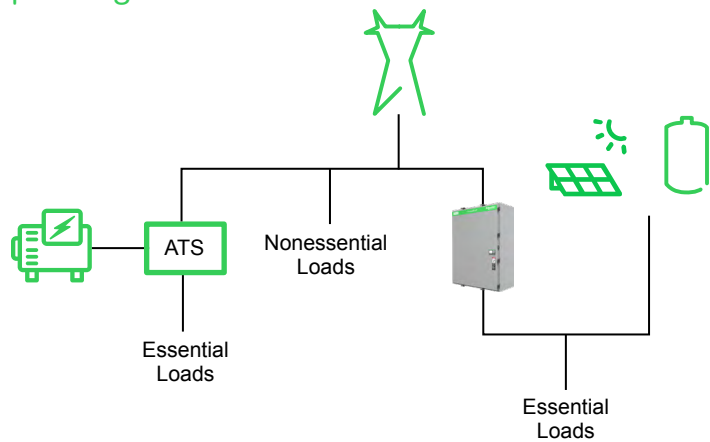
Battery Only

The simplest way to backup with BESS



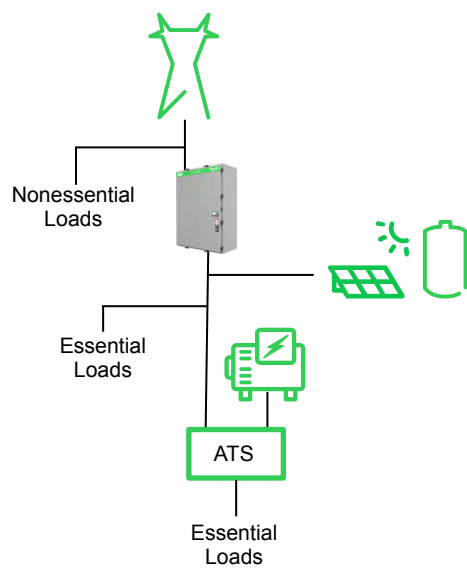
Battery and Generator

Extended resilience from onsite power generation



Battery First

Uses stored, lower-cost, cleaner power to maximize resilience and value



Use Case	Value	Resilience	Sustainability
Battery Only	Energy cost optimized	□□	□□□□□□
Battery and Generator	Simple enhancement to existing generator-equipped systems	□□□□□□	□□
Battery First	Prioritizes use of stored energy	□□□□□□	□□□□□□
For Comparison			
Solar Alone	Energy savings only	□	□□□□□□
Generator Alone	Continuity only	□□□□□□	□

Resilience and Sustainability values are relative for comparison purposes only.

The time to learn more is now

To learn more about SourcePact™ view [Navigating the New Energy Landscape](#) or contact an [ASCO Power Technologies representative](#).



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SourcePacT Data Sheet



SourcePacT Source Isolation Switch

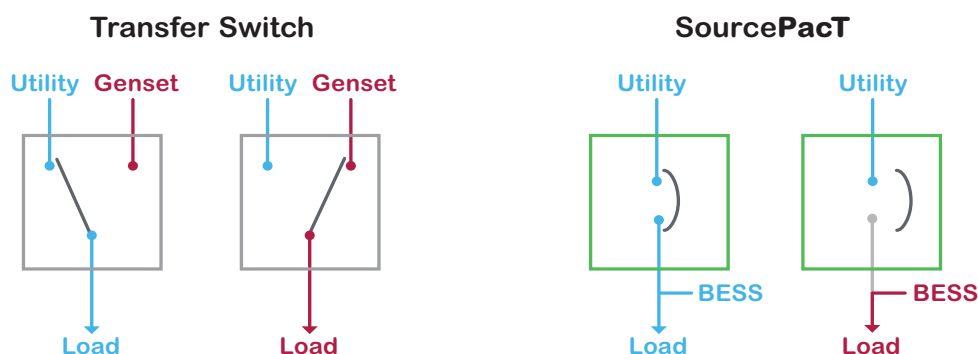
Isolating a Battery Energy Storage System (BESS) to provide backup power can be complex. SourcePacT™ is the industry's first product designed to UL 3008 requirements. The product simplifies grid isolation and enables commercial facilities to use BESS for backup power.

Rated for **600 and 800 Amps**, SourcePacT streamlines BESS deployment, improves sustainability, and simplifies design and installation to maximize the value of any BESS investment. SourcePacT provides the required isolation and controls inverter operating modes to increase resilience using battery systems.

SourcePacT benefits

Enhanced Resilience	Increased Sustainability	Simplified Deployment	Improved Safety
Get the most of your BESS by enabling it to provide backup power during utility outages.	Use cleaner, lower cost energy.	Provide grid isolation while easing power system design, installation, and operation using a single standardized device.	SourcePacT is the first, factory-tested, single-box solution designed to UL 3008, from the industry leader with more than a century of critical power experience.

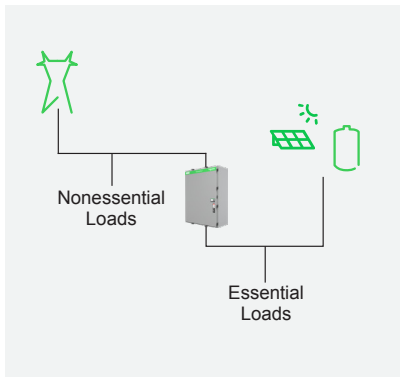
How SourcePacT Differs from a Transfer Switch



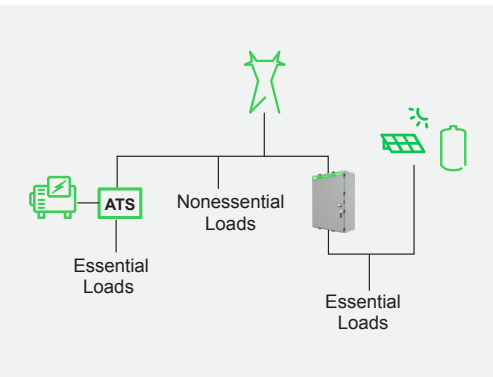
Backup power has historically been managed by a transfer switch. However, transfer switches are designed to always remain connected to a power source. Instead, SourcePacT provides the grid isolation needed for a BESS to supply backup or emergency power. SourcePacT is the simple solution available for providing code-compliant source isolation.

Use Cases

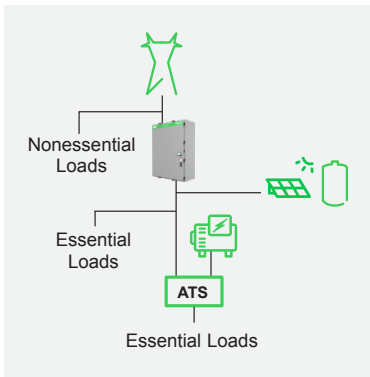
Battery Only



Battery & Generator



Battery First



Features and Specifications

Ordering Information	
Catalog Number	P03SISA30600NS0M, P03SISA30600CS0M, P03SISA30800NS0M, P03SISA30800CS0M
Electrical Ratings	
Nominal System Voltage	480V, 208V
Frequency	60Hz
Maximum Continous Current	600A, 800A
Poles	3 Poles + Solid Neutral
Withstand and Closing Ratings	42kA
Physical Characteristics	
Mounting	Wall Mount
Electrical Connections	Mechanical Screw Lugs*
Product Weight	375lbs
Enclosure Type	UL Type 3R Outdoor
Dimensions (WxHxD)	36" x 49.25" x 16"
Cable & Conduit Entry	Top & Bottom*
Cable & Conduit Sizes	Refer to Outline & Mounting Diagram*
Functional	
Inverter Mode Selection	1 Form C Dry Contact (Grid Tie vs Grid Forming)**
Isolation Type	Open Transition

* For quick refrence only, please see outline & mounting diagram for additional details
** Refer to wiring diagram for wire sizes and torque requirements

To learn more about SourcePacT™ view [Navigating the New Energy Landscape](#) or contact an [ASCO Power Technologies representative](#).

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Power Transfer Switches



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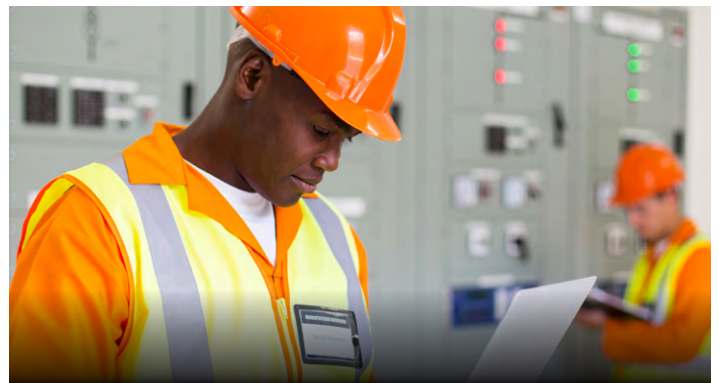
Challenges



Reliably transfer loads between two or more power sources.



Service and maintain equipment without disrupting power to loads.



Reduce equipment space requirements.



Transfer loads without impacting downstream equipment.



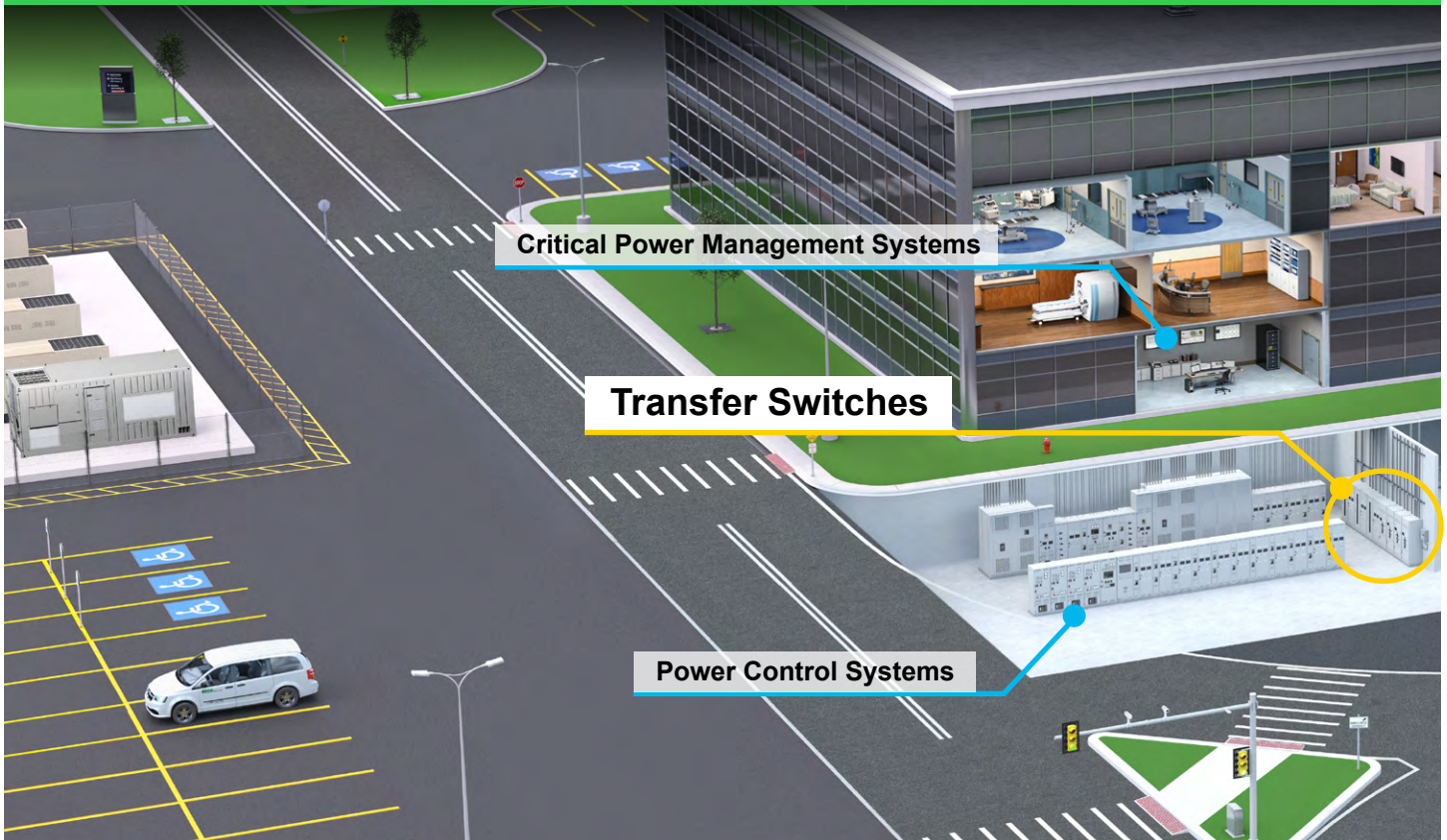
Add capability for a "backup-to-the-backup".

What do these challenges have in common?

All of them can be solved by using transfer switches.

ASCO Solutions

Healthcare



ASCO Transfer Switches make backup power possible. They enhance power availability by transferring electrical loads to alternate sources of power. From simple backup solutions to mission-critical facilities, transfer switches connect backup power to enhance safety and sustain operations.

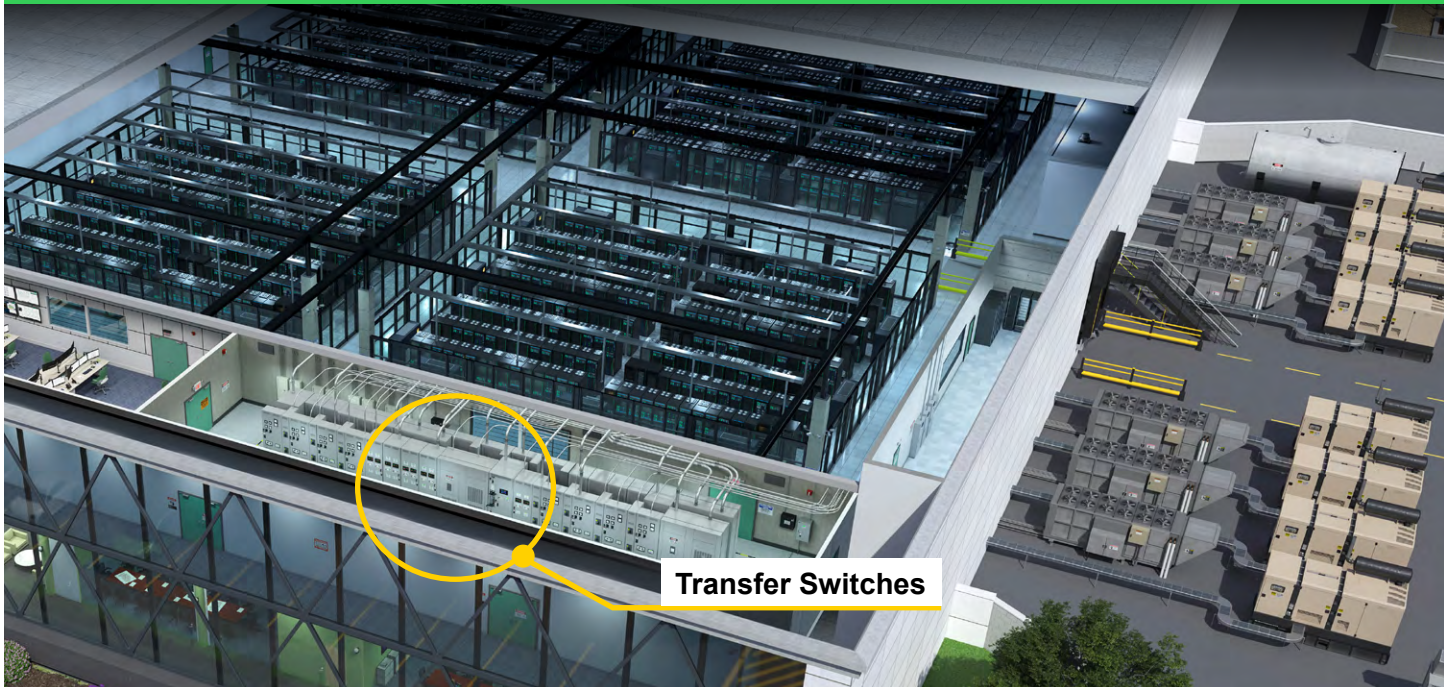


ASCO Solutions

Critical Power Equipment for a Wide Range of Applications

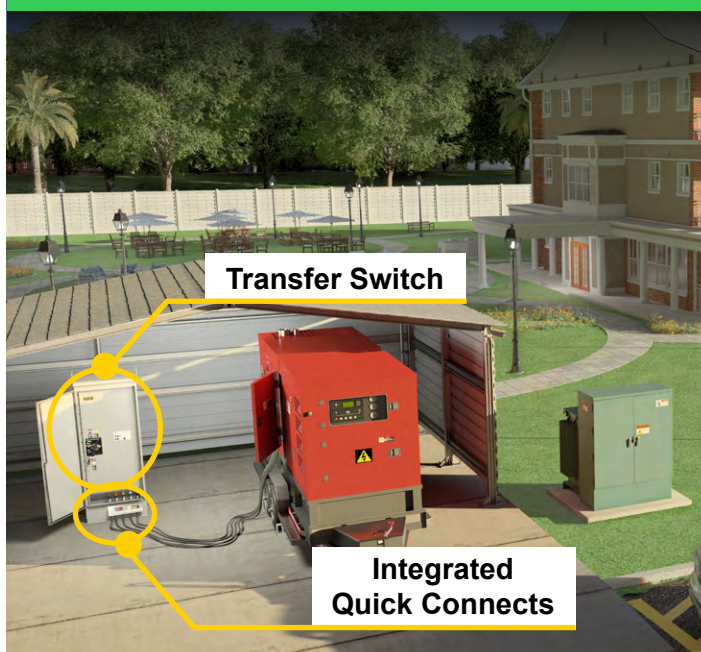
Data Center

Maximum Uptime



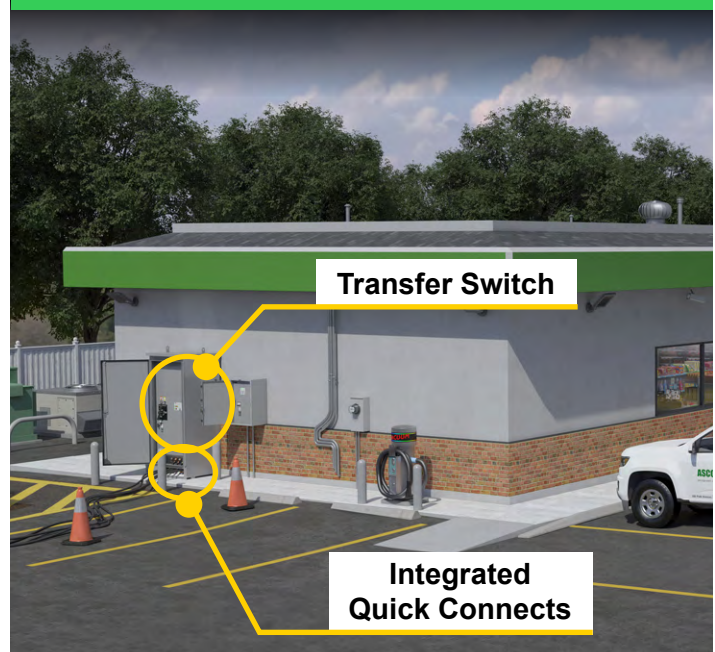
Residential Healthcare Facilities

Occupant Safety & Comfort



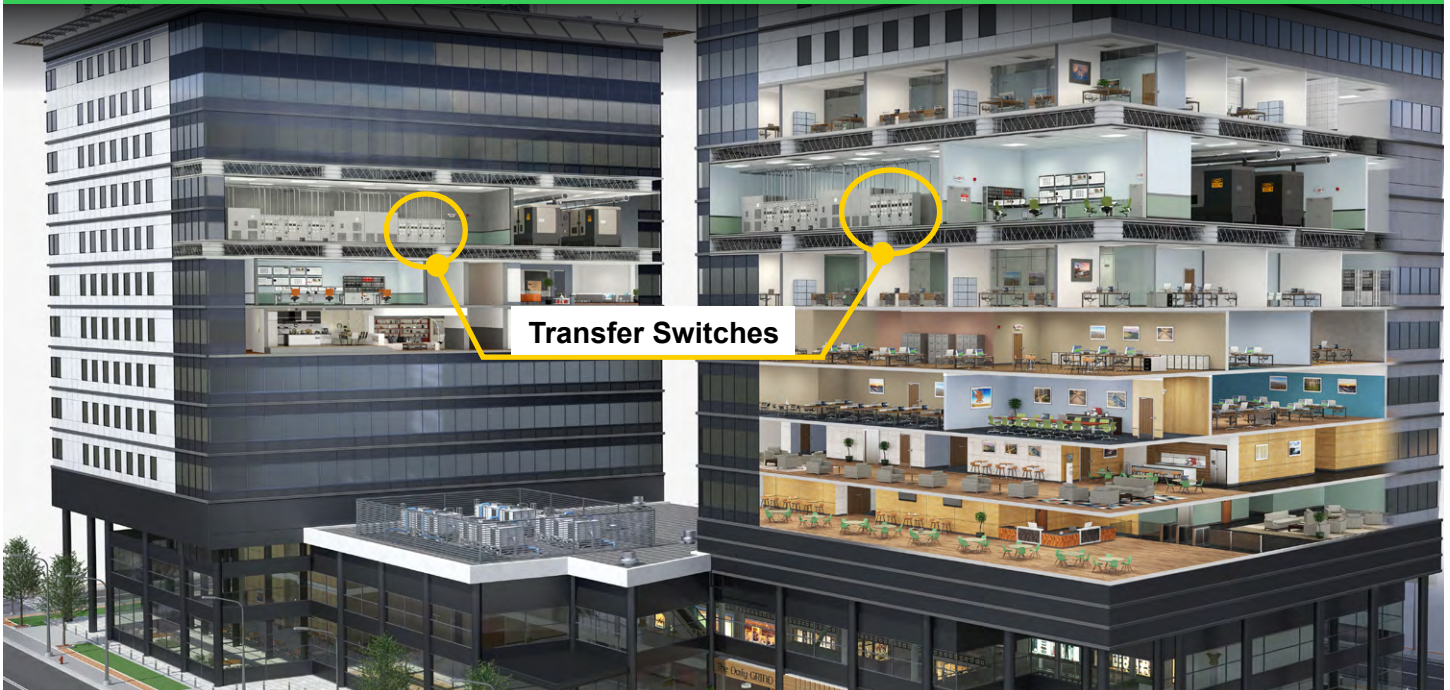
Small Business/Critical Operations

Public Service



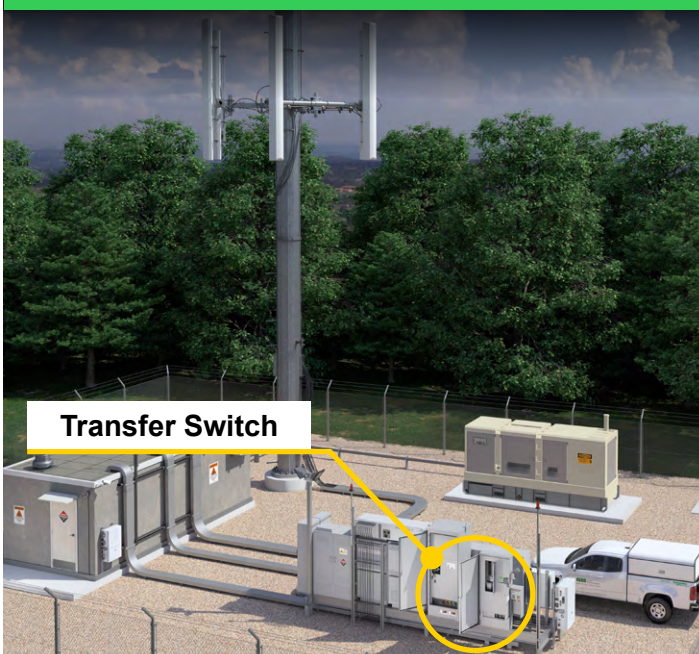
Commercial Building

Business Continuity



Telecom

Public Safety & Consumer Satisfaction



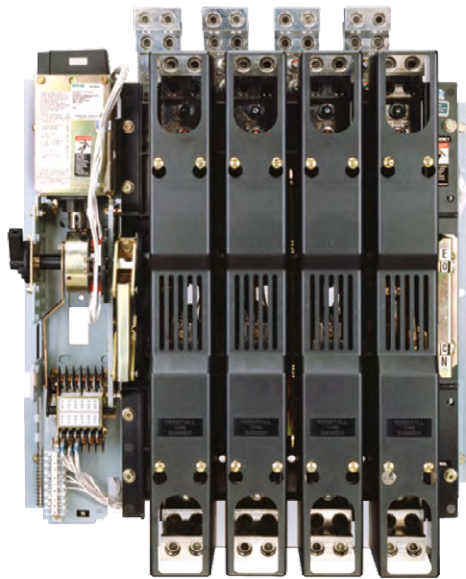
Water Treatment Plant

Environmental Protection

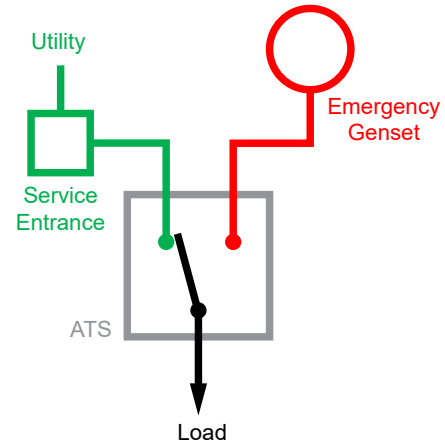


Transfer Switch Basics

Transfer switches are installed in power distribution systems between power sources and electrical loads. Transfer switches safely switch loads between two isolated sources of power.



4-Pole Transfer Switching Mechanism



Automatic transfer switches provide the following essential functions without human intervention:

- Carry rated current continuously
- Detect power failure on primary source
- Start alternate power source
- Transfer load
- Sense restoration of power to primary power source
- Re-transfer load to primary source

Supporting Information: [*Transfer Mechanism Basics*](#)

Listings



Every ASCO Transfer Switch is listed to *UL 1008 – Standard for Safety – Transfer Switch Equipment*. UL 1008 testing requires enduring high overload and fault currents for up to thousands of switching cycles to ensure the highest levels of safety, reliability, and longevity.

Supporting Information: [*UL 1008 Transfer Switch Withstand and Closing Ratings*](#) and [*Performance Testing for Transfer Switches*](#)

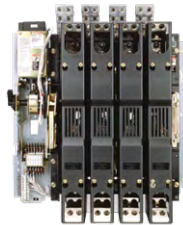
Ratings

Every ASCO Transfer Switch offers Withstand and Closing Ratings indicating that amount of current it can withstand under short circuit conditions. ASCO Transfer Switches offer Time-Based Ratings to support selective coordination of fault-clearing devices used in power distribution systems to obtain these ratings.

Automatic Transfer Switch Components

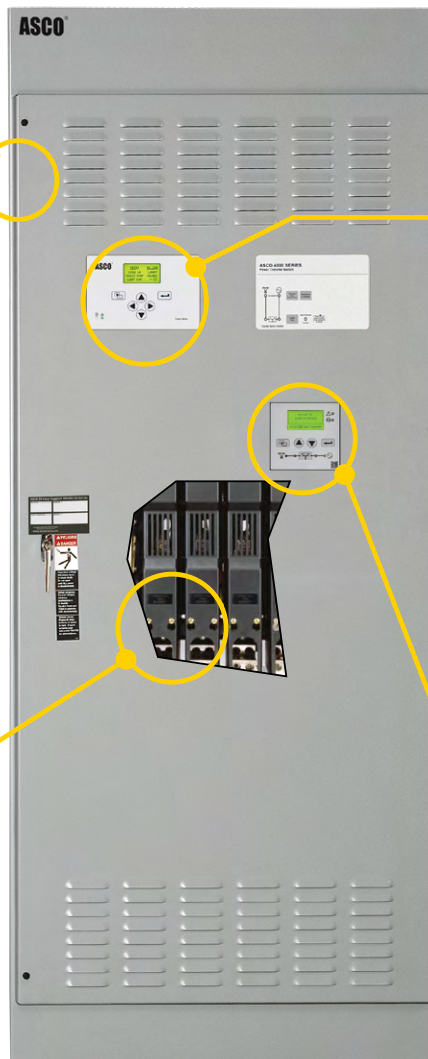
Enclosure

Available in a range of UL-rated types, rugged enclosures protect equipment and ensure promote reliability for a variety of indoor and outdoor environments.



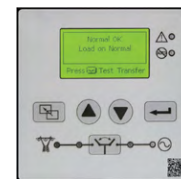
Transfer Mechanism

Electrically operated and mechanically held, solenoid-powered operating mechanisms reliably transfer load quickly for even the most demanding applications.



Communications and Metering

From simple indicators to remote annunciators, from real-time monitoring and control to interfacing building automation systems, communication features increase usability and power availability.



Controller

Electronic controller stores operating criteria, senses electrical conditions, executes transfer sequences, and stores operational data.

Transfer switch models differ by type of operation:



Automatic

Automatic models switch loads to emergency power and back again whenever outages occur, without human intervention.



Non-Automatic

Non-Automatic models use operator initiated, local or remote electrical controls to transfer loads on command.



Manual

The simplest type, manual transfer switches require a person to operate a mechanical switching mechanism.

Design and Integrations

Integrating functions extends transfer switch value

Standard Transfer Switch



Reliably transfer electrical load between sources of power.

Bypass-Isolation Transfer Switch

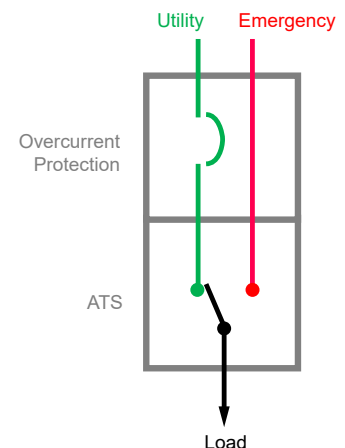
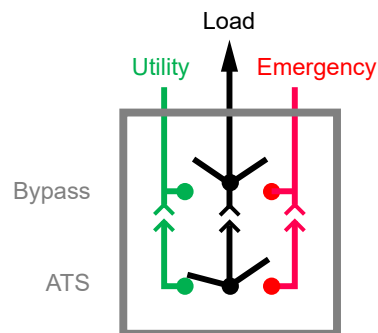
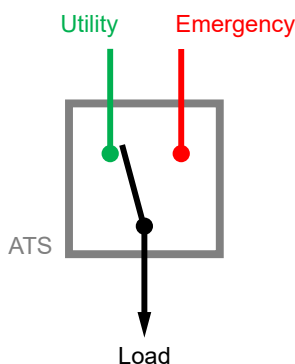


Bypass feature enables concurrent maintainability - Isolation of transfer mechanism facilitates service and repair.

Service Entrance Transfer Switch



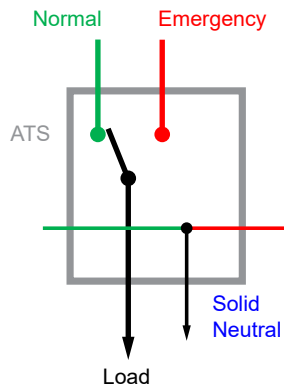
Simplify design, procurement, and installation by incorporating service disconnect in a transfer switch enclosure or lineup.



Neutral Configurations

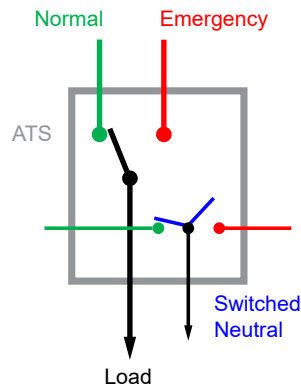
Transfer switches differ by neutral configurations

Solid Neutral



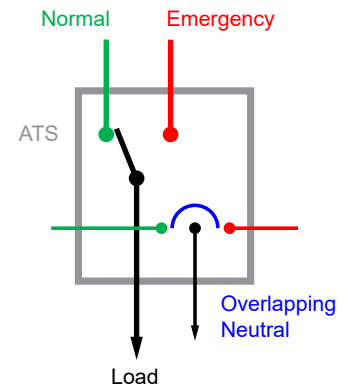
Standard configuration for power distribution systems with a single grounding electrode.

Switched Neutral



Switched neutral for transferring load between separately grounded systems.

Overlapping Neutral



Overlapping neutral for transferring load between separately derived systems without interrupting neutral connectivity.

Supporting Information: [Switching the Neutral Conductor](#)

“With nine hospitals on the line, ASCO helps me sleep well at night.” Tom M., Facility Engineering Director

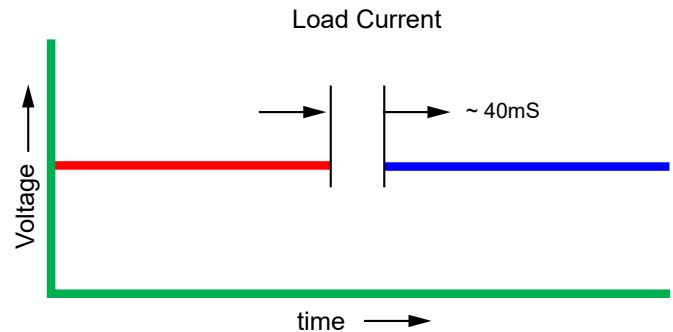


Transition Modes

Switch mechanisms differ by transfer sequence

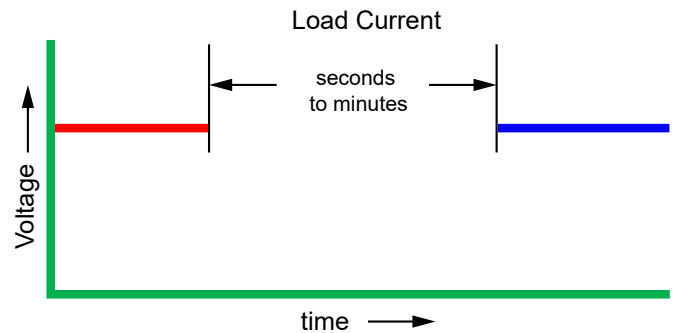
Open Transition

- “Break-Before-Make” Operation
- Popular for Resistive & Mixed Loads
- Used Across a Wide Range of Facilities & Industries
- Standard In-Phase Transfer Capability



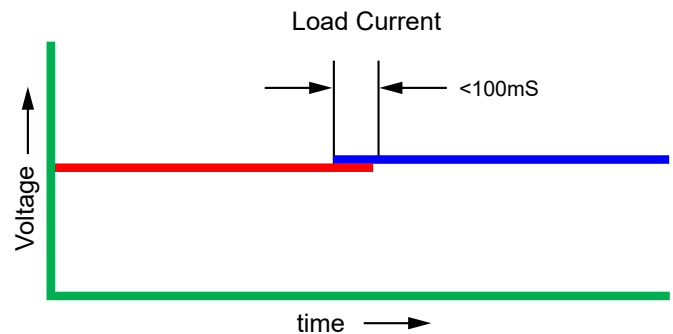
Delayed Transition

- “Break-Wait-Make” Operation
- Inductive & Motor Load Applications
- Allows Residual Voltages of Motors & Inductive Devices to Decay Prior to Avoid Damaging Transient Currents



Closed Transition

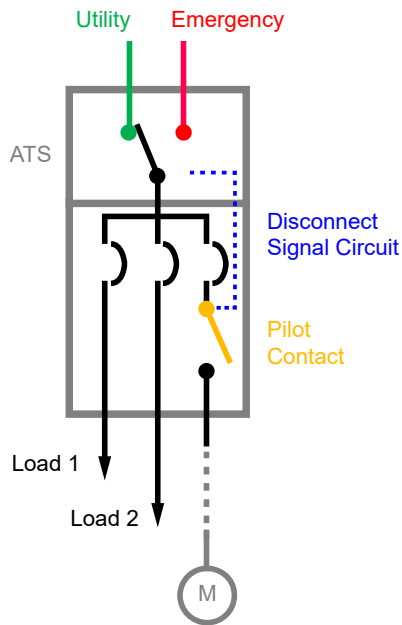
- “Make-Before-Break” Transfers without Momentary Power Interruption
- Reduces Electrical Disturbance to Downstream Loads when Transferring Between Two Live Sources
- For Mission-Critical Operations, Healthcare Facilities, & Data Centers



Custom Engineered Transfer Switch and Distribution

“Value-Added Transfer Switches”

Custom switches increase value by integrating service, distribution, and control features in custom-engineered designs.



Customization options include:

- Integrated Distribution Breakers
- Source Fusing
- Bus Riser

Custom-Engineered Transfer Switches can offer:

- Reduced Space Requirements
- Reduced Lead and Construction Times
- Reduced Installation Labor
- Enhanced Quality Control



Transfer Switch Product Lines

7000 SERIES

Custom engineered for healthcare, data center, and mission critical facilities. They are the industry leading technology for the widest range of applications.

- Hospitals
- Data Centers
- Mission Critical Facilities



SERIES 300

Standard designs for commercial and light industrial facilities that are simple to procure, install and commission.

- Outpatient Healthcare Facilities
- Small & Midsize Businesses
- Light Industrial Applications
- Integrated & Stand-Alone Quick Connects



SERIES 185

Economical designs for homes and small businesses.

- Small Businesses
- Residential Applications



Transfer Switch Product Lines

	Product SERIES		
	7000	300	185
Product Range			
Voltages	115-600 V, 5-15 kV	115-600 V	220-240 V
Ampacities	30-4000 A	30-3000 A	100-400 A
Poles	2, 3, or 4	2, 3, or 4	2
Withstand & Closing Ratings	10-200 kA	22-200 kA	10-200 kA
Time-Based Ratings	36-65 kA	36-65 kA	-
Designs			
Standard Transfer Switch	X	X	X
Bypass-Isolation Transfer Switch	X	-	-
Service Entrance Transfer Switch	X	X	X
Custom Engineered Transfer Switch	X	-	-
Range of Accessories	XXXXX	XXX	X
Transition Modes			
Open Transition	X	X	X
Delayed Transition	X	X	-
Closed Transition	X	-	-
Neutral Configurations			
Solid Neutral	X	X	X
Switched Neutral	X	X	-
Overlapping Neutral	X	-	-
Quick Connects			
Integrated Panel	-	X	-
Stand-Alone Panel	-	X	-

Resource Finder

Product SERIES

	7000	300	185
Product Web Page	Low Voltage Web Page Medium Voltage Web Page	Web Page	Web Page
Product Brochure	Low Voltage Pub.3040 Medium Voltage Pub.2060	Pub.1195	Pub.3214
Available Ratings	View Supporting Documentation		
White Papers	View Transfer Switch Papers		
Technical Articles	View Transfer Switch Articles		
Videos	View Transfer Switch Videos		



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[www.se.com/us/en/brands/ascopower/
customercare@ascopower.com](http://www.se.com/us/en/brands/ascopower/customercare@ascopower.com)

ATS Product SERIES			
			
Comparison Features	185	300	7000
Intended Application	Residential Light Commercial	Commercial Light Industrial	Mission Critical Critical Power
Ampere sizes available	100 - 400	30 - 3,000	30 - 4,000
Phases Available	Single	Single or Three	Single or Three
Pole Counts Available	2	2, 3 or 4	2, 3 or 4
Nominal Voltage (LV)	240V	208 - 600V	208 - 600V
Nominal Voltage (MV)	-	-	2.4KV - 13.8KV
Product Type			
Open Transition Transfer Switch	Yes	Yes	Yes
Service Entrance Rated Transfer Switch	Yes	Yes	Yes
Power Transfer Load Center	-	Yes	Yes
Delayed-Transition Transfer Switch	-	Yes	Yes
Closed-Transition Transfer Switch	-	-	Yes
Open-Transition Bypass-Isolation TS	-	-	Yes
Delayed-Transition Bypass-Isolation TS	-	-	Yes
Closed-Transition Bypass-Isolation TS	-	-	Yes
Withstand and Close-On Ratings			
WCR When Used with Time Based Ratings	-	10 - 100 kA	10 - 100 kA
WCR When Used with Specific Circuit Breakers	10kA - 35kA	22 - 100kA	22 - 100kA
WCR when used with current limiting fuses	100 - 200kA	100 - 200kA	100 - 200kA
Short Time Withstand Rating	-	36 - 65kA	36 - 65kA
Neutral Configuration Options			
Solid	STD	STD	Yes
Switched	-	Yes	Yes
Overlapping	-	-	Yes
Ground Termination	Yes	Yes	Yes

		ATS Product SERIES		
Comparison Features		185	300	7000
Voltage and Frequency Settings				
Phase Selection	Single Phase	Single or Three Phase	Single or Three Phase	Single or Three Phase
Pick up Normal Source Voltage	198 or 209 Volts	85 to 100%	85 to 100%	85 to 100%
Drop out Normal Source Voltage	154 - 198 Volts	70 to 98%	70 to 98%	70 to 98%
Pick up Emergency Source Voltage	198 Volts	85 to 100%	85 to 100%	85 to 100%
Drop out Emergency Source Voltage	165 Volts	70 to 98%	70 to 98%	70 to 98%
Nominal Frequency	50 or 60Hz	50 or 60 Hz	50 or 60 Hz	50 or 60 Hz
Pick up Normal Source Frequency	-	86 to 100%	90 to 100%	90 to 100%
Drop out Normal Source Frequency	-	85 to 98%	85 to 98%	85 to 98%
Pick Up Emergency Source Frequency	48 or 57Hz	86 to 100%	90 to 100%	90 to 100%
Drop out Emergency Source Frequency	43 or 51Hz	85 to 98%	85 to 98%	85 to 98%
Normal Overvoltage Trip	-	102 to 116%	102 to 115%	102 to 115%
Emergency Overvoltage Trip	-	102 to 116%	102 to 115%	102 to 115%
Normal Overfrequency Trip	-	101 to 111%	102 to 110%	102 to 110%
Emergency Overfrequency Trip	-	101 to 111%	102 to 110%	102 to 110%
Normal & Emergency Voltage Unbalance	-	-	Yes	Yes
Time Delay Settings				
Override Normal Source Momentary Outage	1 or 3 Seconds	0 to 6 Seconds	0 to 6 Seconds	0 to 6 Seconds
Transfer to Emergency	10 Seconds	0 to 60 Min 59 Sec	0 to 60 Minutes	0 to 60 Minutes
Re-transfer to Normal Utility Power Loss Mode	5 Minutes	0 to 60 Min 59 Sec	0 to 60 Minutes	0 to 60 Minutes
Engine Cool Down	2 or 5 Minutes	0 to 60 Min 59 Sec	0 to 60 Minutes	0 to 60 Minutes
Override Emergency Source Momentary Outage	4 Seconds	0 to 6 Seconds	0 to 60 Minutes	0 to 60 Minutes
Engine Exerciser	7 Day	Programmable	Programmable	Programmable
Indication and Controls				
Load Connected to Normal	Yes	Yes	Yes	Yes
Load Connected to Emergency	Yes	Yes	Yes	Yes
Normal Source Acceptable	Yes	Yes	Yes	Yes
Emergency Source Acceptable	Yes	Yes	Yes	Yes
Transfer Test Switch	Yes	Yes	Yes	Yes
Terminals For Remote Transfer Control	STD	STD	STD	STD
Bypass Time Delay Switch	Yes	Yes	Yes	Yes
Transfer Inhibit	-	Yes	Yes	Yes
In-Phase Monitor	-	Yes	Yes	Yes
Load Disconnect Contacts with Time Delay	-	STD	Optional	Optional
Event Log	-	Optional	Yes	Yes
Current and Power Metering	-	Optional	Optional	Optional
Transfer Controls Lock Out	-	-	Optional	Optional
Enclosures				
Type 1	STD	STD	STD	STD
Type 3R	Optional	Optional	Optional	Optional
Type 4	-	Optional	Optional	Optional
Type 4X	-	Optional	Optional	Optional
Type 12	-	Optional	Optional	Optional
Connectivity				
RS-485 Serial	-	Optional	Optional	Optional
Ethernet	Optional	Optional	Optional	Optional
Modbus	-	Optional	Optional	Optional
Monitoring and Control via ASCO Products	Optional	Optional	Optional	Optional
Optional Accessories				
Customization Level	Field Kits Only - Limited	Preconfigured accessory portfolio	Custom Specified	



Power Transfer for Mission-Critical Applications

ASCO Power
Technologies™

ASCO 7000 SERIES
Low-Voltage Transfer Switches



se.com

Life Is On

Schneider
Electric

ASCO 7000 SERIES Power Transfer Switches

ASCO 7000 SERIES Power Transfer Switches provide unmatched reliability and sophisticated control for the most demanding mission-critical backup power needs.

ASCO 7000 SERIES Transfer Switches are widely used in the most complex mission-critical hospital and healthcare facilities, enterprise and cloud-based data centers, telecommunication networks, water treatment plants, and any facility that requires the highest levels of power availability.

Every 7000 SERIES transfer switch is engineered-to-order to optimize switch functionality and provide facilities with the best solution for their specific application, and custom-engineering is available to meet any transfer switching need.

Backed by industry-leading technical support and service knowledge derived from a century of critical power switching experience, the 7000 SERIES solves the most demanding critical power challenges facing facilities today.

Power Knowledge



[Transfer Switch
Overview](#)



“

With nine hospitals on the line, ASCO helps me sleep well at night.”

Tom M., Facility Engineering Director

7000 SERIES Power Transfer Switches

ASCO Power Transfer Switches are the standard of the industry. High-speed transfer of loads between alternate sources of power, regardless of ampacity, is achieved using a reliable, field-proven solenoid operating mechanism.

- Listed to UL 1008 Transfer Switch Equipment and Certified to CSA 22.2, No. 178
- Qualified and certified to IEC 60947-6-1, optional CE mark
- Rated up to 600 VAC, 30 through 4000 amps
- 3 to 18-Cycle Withstand and Close-on Rating Standard, 30-Cycle WCR Optional
- High Withstand and Close-on Rating, including Short-Time Ratings, support breaker coordination
- Solid, switched, or overlapping neutral configurations
- Front-replaceable main and arcing contacts on 800-4000 amp models
- Central terminal block for control connections on 260-4000 amp models
- Multiple auxiliary contacts for switch status indication
- Local and remote communications for serial and ethernet monitoring systems such as ASCO monitoring solutions or 3rd party BMS
- Comprehensive 2, 5, or 10 year warranty

Power Knowledge

 [Basic Automatic Transfer Switch Functions](#)



Three Pole 7000
SERIES Automatic
Transfer Switch
rated 1600 amps

7000 SERIES Power Switching Solutions

Automatic and Non-Automatic Transfer Switching

ASCO Transfer Switches are available in automatic and non-automatic types. For automatic transfer switches, the controller initiates transfer. For non-automatic transfer switches, a user initiates transfer between power sources using local or remote switches. ASCO 7000 SERIES Transfer Switches offer the following features:

- Rated up to 600VAC, sizes from 30 through 4000 amps
- Low control circuit currents allow for long distances between remotely control switches and transfer switches
- Non-automatic models provide source acceptability lights to inform operator when sources are available to accept load

Power Knowledge



[Non-Automatic and Manual Transfer Switches for Backup Power Applications](#)



Four Pole, Non-Automatic,
Electrically-Operated 400
Amp Switch in a Type 1
Enclosure

Open Transition Transfer Switching

ASCO Transfer Switches are available with a standard, 2-position, open transition models that reliably transfer loads in a "break-before-make" sequence in less than 50 milliseconds. Open transition switches are suitable for a wide range of applications.

- 30 to 4000 amps
- Fast single-operator switching mechanism prevents simultaneous connection of both sources
- Available In-Phase Monitor can be activated for transferring motor loads

Delayed Transition Transfer Switching

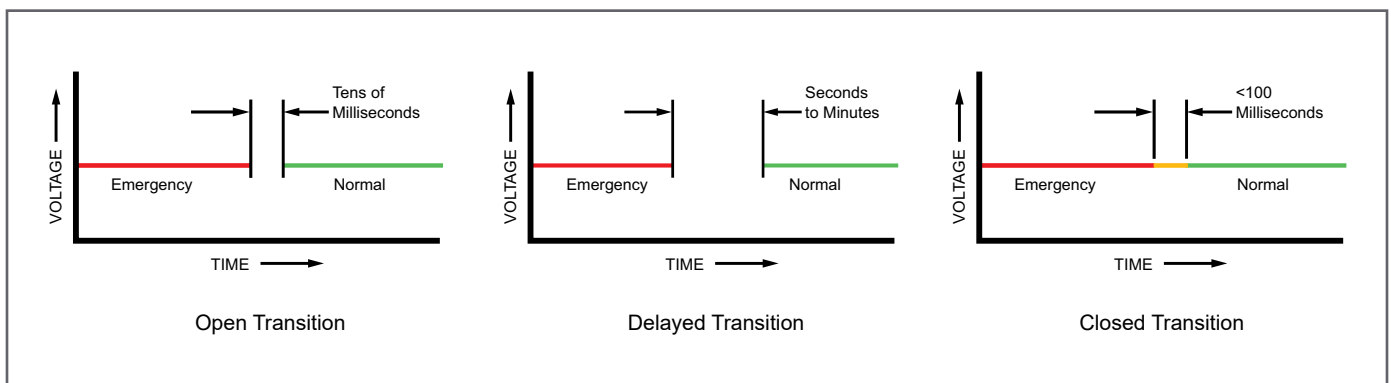
ASCO Delayed Transition Transfer Switches transfer loads between power sources using a timed, load, disconnect position with an adjustable delay. Applications include older variable frequency drives, rectifier banks, and load management applications.

- 150 through 4000 amps
- Mechanical interlocks to prevent interconnection of both sources
- LED Indicator for load disconnect position
- Adjustable time delay for load disconnect position

Closed Transition Transfer Switching

ASCO Automatic Closed Transition Transfer Switches overlap the normal and emergency source to transfer without power interruption. The switch transfers in a make-before-break sequence if both power sources are within acceptable parameters. Control logic continuously monitors source conditions and automatically selects delayed or closed transition according to real-time values.

- Available 150 through 4000 amps
- Closed Transition Transfer occurs passively without directly controlling the engine-generator set
- Overlap time is less than 100 milliseconds
- Indications for failure-to-synchronize and extended parallel time
- Protective circuits and sequences to prevent extended paralleling of sources.



7000 SERIES Bypass-Isolation Switches

Bypass-Isolation Automatic Transfer Switches

ASCO Bypass-Isolation Automatic Transfer Switches are available in open transition, delayed transition, and closed transition designs. The bypass-isolation features allow the primary automatic transfer switch to be inspected, tested, and maintained without interrupting power to the load. They also provide redundant power transfer if the ATS is disabled or removed from service.

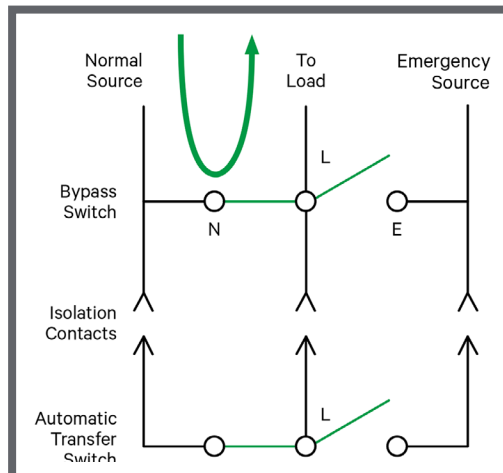
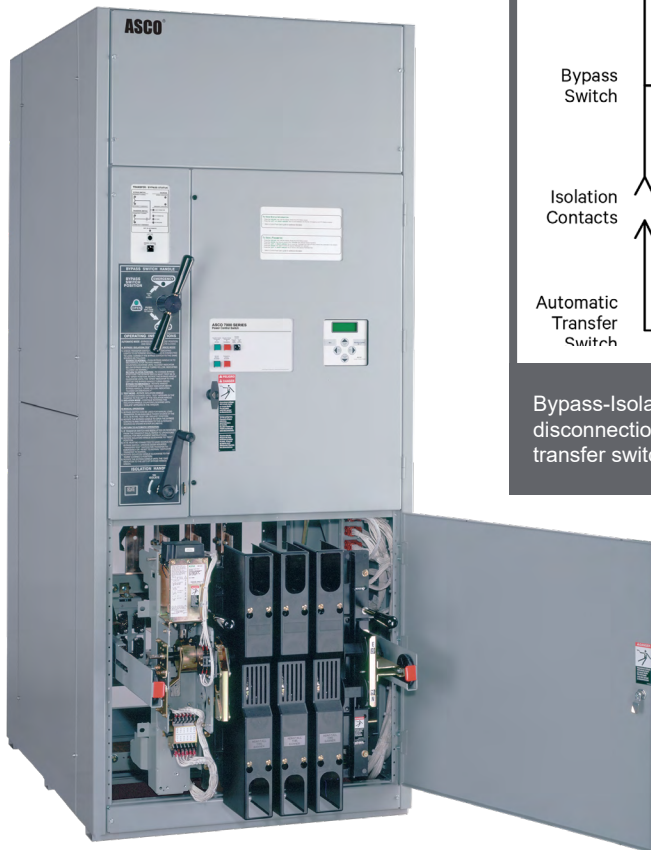
- 150 to 4000 amps
- Bypass switch and transfer switch have identical electrical ratings
- Mechanical interlocks prevent unintended operation
- Bypass contacts carry current only during bypass operation
- Draw-out design eases transfer switch maintenance
- Bypass switch is rated for use as a 3-position manual transfer switch
- Non load break bypass and isolation operations keep continuous power to loads
- Bypass and isolation functions require only two permanently mounted operating handles
- Mechanical indicators show bypass and transfer switch positions
- Shallow depth, front-connected, or rear-connected designs

Power Knowledge

[▶ 3D Bypass Switch Animation](#)

Product Details

[PDF Bypass-Isolation Transfer Switches](#)



Bypass-Isolation Transfer Switch allow disconnection and draw-out of the primary transfer switch without disrupting power to loads.

Bypass-Isolation Transfer Switch, J-Frame, 150-600 amps

7000 SERIES Service Entrance Switches

Service Entrance Power Transfer Switches

The ASCO Service Entrance Power Transfer Switch combines automatic power switching with a disconnect and over-current protection device for the utility source. These switches are installed at facilities that have a single utility feed and a single emergency power source. A circuit breaker serves as the utility disconnect. This product is available up to 600V and 4000 amps in Standard, Delayed, Closed Transition, and Bypass-Isolation configurations.

- Available from 70 to 4000 amps, up to 600V
 - 70 - 400 amp listed to UL 1008
 - 600 - 4000 amp listed to UL 891
- UL 1008 Listed transfer mechanism
- Disconnect links on Neutral and Ground
- Internet-enabled monitoring and control
- ERMS added upon request
- Disconnect and over-current protective device on the utility source. 70 to 2000 amp models use molded case circuit breakers; 2500 to 4000 amp models use insulated case circuit breakers.

Power Knowledge



[Applications for Service Entrance Automatic Transfer Switches](#)

Product Details



[Service Entrance Transfer Switches](#)



Service Entrance Breaker

Custom-Engineered Transfer Switches

Optimized Solutions for Mission-Critical Performance

Create an exact power control solutions by integrating service equipment and protective devices and incorporating distribution equipment while accommodating unique application requirements. Custom engineered devices can save space, reduce delivery times, streamline installation and commissioning, enhance quality control, and reduce overall cost.

Power Knowledge



[Benefits of Custom-Engineered Transfer Switches](#)

Integrated Distribution Breakers

Common distribution breaker applications include:

- Panels to house molded case circuit breakers
- Insulated case circuit breakers, with or without drawout capability
- Manually or electrically operated circuit breakers

Automatic Transfer Switchboard

- Connects multiple automatic transfer switches together in a common switchboard
- Circuit breakers on the normal and load sides of each switch
- An ammeter and voltmeter are also located on the load side of each switch



Transfer Switches can be custom-engineered to integrate service entrance equipment, distribution equipment, and more.



“ The maintenance is top notch and the technical support is amazing. ASCO service techs ... do what's right for the hospital, not just the job.”

Mark Y., Electrical Management Supervisor

Additional Available Custom Features

These examples are just a few of the configurations and features available through custom-engineered solutions. Additional possibilities include:

- Custom Metering
- Bus Riser
- Customized or compression lugs
- Source Fusing
- Utility-Specified Compartments

For more information, contact an authorized ASCO Power Technologies Representative.

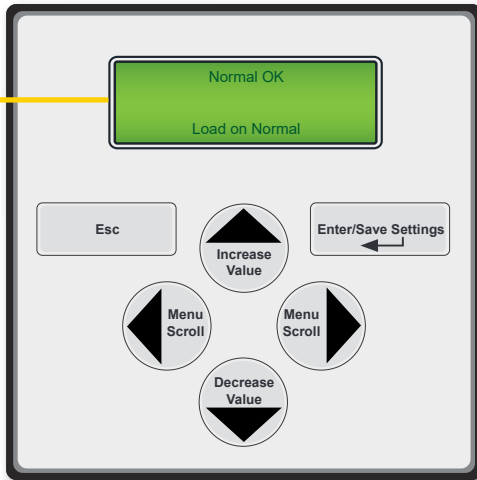
7000 SERIES Controls and Indicators

Group 5 Controller

The 7000 SERIES Group 5 Controller is reliable and field-proven. It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.

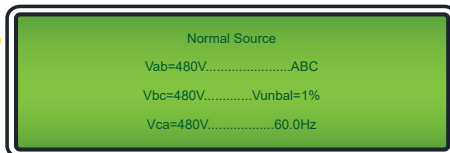
Product Details

 [Group 5 Controller](#)

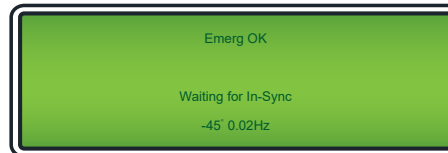


- Touch pad programming
- Displays active timers
- On-board diagnostics
- Password protection
- Voltage and frequency sensing
- Status and control functions

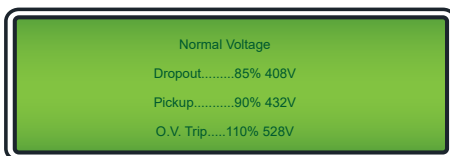
Source Status



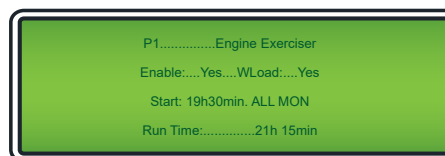
In-phase Transfer Status



Voltage and Frequency Settings

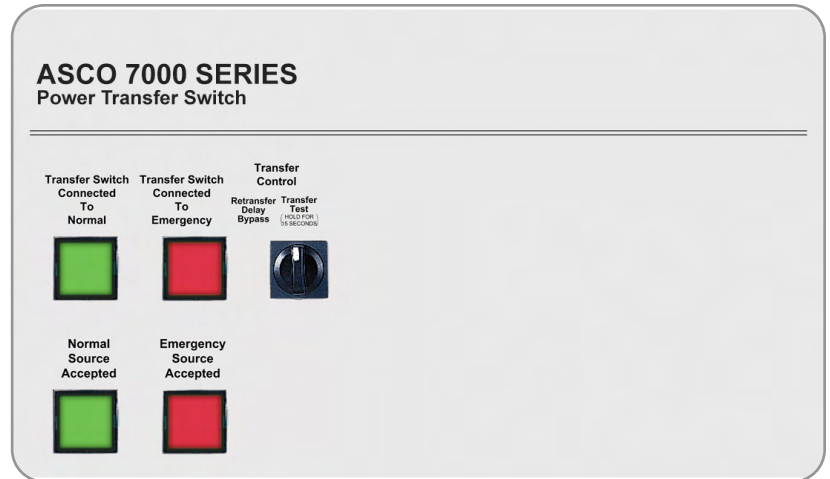


Engine Exerciser



Control Switches and Indicating Lights

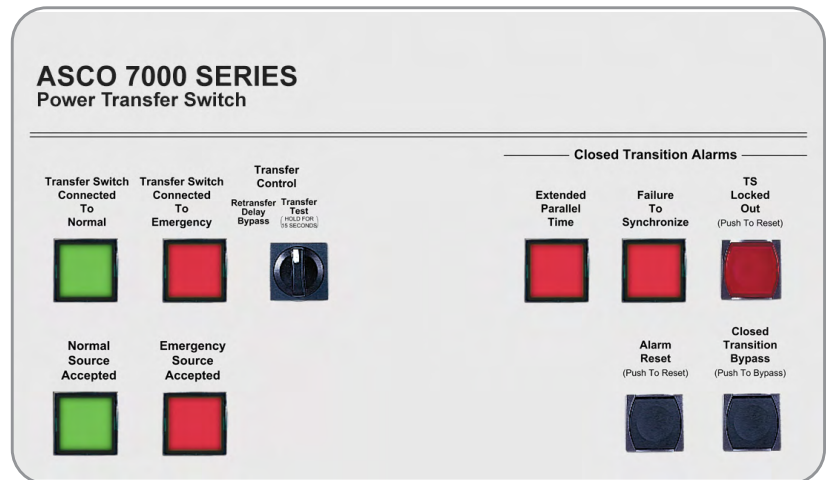
- Switch position indicating lights
- Source acceptability indicator lights
- Three-position selector switch:
 - Automatic: Normal position
 - Test: Simulate normal source failure
 - Reset Delay Bypass: Bypass transfer and re-transfer time delays



Control Switches and Indicating Lights for Closed Transition Switches

Additional controls and Indicators for:

- *Extended Parallel Time* - Provides visual indication when the pre-set extended parallel time has been exceeded. The controls automatically open the emergency or normal main contacts. Separate contact also available to shunt trip external breaker.
- *Failure To Synchronize* - Visually displays a failure to synchronize alarm if the time delay settings are exceeded during closed transition transfer operation.
- *Transfer Switch Locked Out* - Prevents transfer in either direction if the extended parallel time is exceeded.
- *Alarm Reset* - Resets extended parallel and failure to synchronize alarms.
- *Closed Transition Bypass* - Pushbutton allows transfer between sources in an open transition mode.



Transfer Switch Communications and Metering

Options to Customize Functionality and Increase Value

Product Details

 [5300 SERIES Annunciators](#)

 [5700 SERIES Annunciator](#)

Remote Annunciation

Monitor Power Equipment Status from Anywhere

Monitoring and control transfer switches from across the room, building, or from Internet.

5310 – LED annunciator – Single ATS

5350 – LED annunciator – up to 8 ATSS

5705 – Interactive CPMA-based graphical annunciator – up to 8 ATSS



Product Details

 [5170 Connectivity Module](#)

 [5701 Gateway](#)

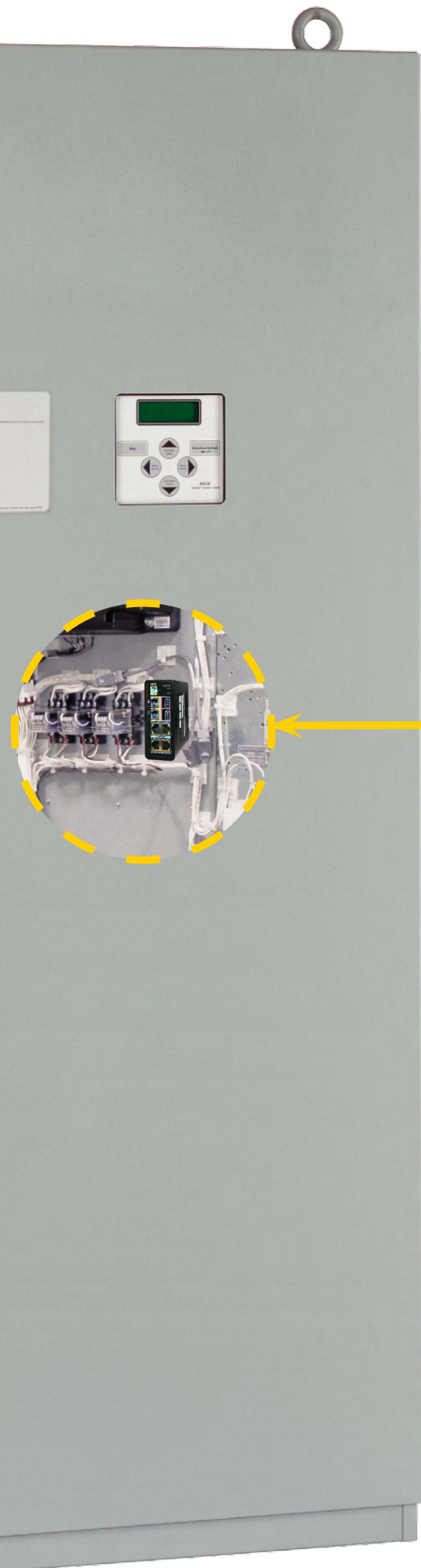
Communication

Turn Transfer Switches into Power Information Portals

5170 Connectivity Module – Makes status and power information from a single switch available to via ModBUS, SNMP, and web pages.

5701 8 Device Gateway – Provides centralized monitoring of up to 8 power devices through a transfer switch. Connects generators, transfer switches, load banks, and more to web pages for increased monitoring and control.





Metering

Transfer Switches are the Perfect Place to Monitor Power Flow, Power Conditions, and Power Events

5210 Power meter – Provides deeper insight into circuit status and conditions. Basic metering for current, voltage, frequency, harmonics, real/reactive/apparent power.

PowerLogic PM 8000 – Schneider Electric's compact, high-performance, power meter simplifies power quality and maximizes versatility. Provides additional insights with waveform capture and individual harmonic metering .



Product Details

[5210 Power Meter](#)

[PowerLogic PM 8000](#)

7000 SERIES Optional Accessories

Time Delays and Extended Control Power	
1G1	Auxiliary power connections provide for external 24VDC source to power control panel and power manager/meter when normal and emergency sources are not present or the switch is in isolation mode. Allows for use of full range of extended engine starting time delay feature 1C (0-60min 59 sec).
1GB1	Same as accessory 1G1 except using 120-volt AC external input.
1PS1	Extended control power ride-through (approx. 25 seconds) for Group 5 ATS controller and select communications and metering accessories, e.g. Acc. 72EE2, 72FC, 135L, etc.
Manual Controls for Automatic Transfer Switches	
6DL	Selector switch for automatic/manual re-transfer to normal. Automatic bypass if emergency fails.
Indicators and Customer Control Circuits	
30A	Load-shed circuit initiated by opening of a customer-supplied contact.
30B3	24 VDC load-shed circuit initiated by removal of customer-supplied control voltage. (6, 12, 48, 120 VDC and 120 VAC also available).
31BG	Provides 2 sets of Form C contacts rated at 6A for each of the following status signals: normal source acceptability, emergency source acceptability, pre/post transfer signal.
99	"Push-to-Test" feature on all pilot light indicators.
Communications	
72EE2	Offers remote Ethernet monitoring via open Mod bus and SNMP protocols, email notifications and embedded monitoring web pages. (Catalog No. 5170 for stand-alone product).
107G	Provides Building Monitoring Systems with transfer switch, bypass, and load power metering information in Modbus TCP/IP, BACnet IP, and SNMP Protocols. Compatible with any Accessory 150 Technology Package or 72EE2.
Surge Protection : ASCO 430 TVSS, rated 200 kA per phase	
73CC1	Normal source protection. (3Ø, 4wire WYE)
73CC2	Emergency source protection. (3Ø, 4wire WYE)
73CC3	Load side protection. (3Ø, 4wire WYE)
Special Applications	
29A	Manual selector switch for designating one of two utility feeds as the preferred source.
111A	Generator - to - Generator for Standby Applications
125A	Seismic Certification to International Building Code for electrical equipment
131	Certification of compliance with the American Recovery & Reinvestment Act (Buy American Provision)
Bypass-Isolation Switch Options	
14A1	Auxiliary contact to close in "Bypass to Normal" position.
14B1	Auxiliary contact to close in "Bypass to Emergency" position.
14T	Bypass Auxiliary contact closed when bypass switch is in auto position.
14U	Isolation Auxiliary contact closed when isolation handle is in closed position.
14V	Isolation Auxiliary contact closed when isolation handle is in open position.
82E	LED Bypass status indicator, optional on G frame, 1600 to 4000 amps only. Standard for all other switches.
Metering	
135L	ASCO Digital Power Meter monitors load source voltage, frequency, and current and calculating Power, Energy, and Power Factor.
135SB	ASCO Digital Power Meter monitors load source voltage, frequency, and current and calculating Power, Energy, and Power Factor. With additional IO for bypass position indication through communications.
Heater	
44A	120VAC, 208-240VAC and/or 440-480VAC Accessory 44 Strip heater designed to keep humidity and/or temperature inside ATS enclosure within acceptable levels. Includes mounting bracket with strip heater, thermostat, and terminal block.
Bundles	
150A	ASCO Digital Power Meter (Acc. 135L), Backup Power Source (Acc. 1PS1), Communications Module (Acc. 72EE2)
150B	5210 Power Meter with Moxa IO (Acc. 135SB), Backup Power Source (Acc. 1PS1), Comm. Module (Acc. 72EE2)

Withstand and Close-on Ratings

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short Time Ratings ³ (sec)							
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	480V Max.				600V Max.			
														.13	.2	.3	.5	.1	.13	.3	.5
D	30	-	100kA	-	300	J	22kA	25kA	10kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	70, 100	-	200kA	35kA	200	J	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	150	-	35kA	35kA	200	RK1	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	200	-	200kA	35kA	200	J	200kA	85kA	14kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	230	-	100kA	-	300	J	200kA	85kA	14kA	0.025	10kA	10kA	-	-	-	-	-	-	-	-	-
E	260, 400	-	200kA	-	600	J	65kA	42kA	22kA	0.05	35kA	35kA	22kA	-	-	-	-	-	-	-	-
J	150, 200, 230, 260	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA	-	-	-	-	-	-	-
J	400	400	200kA	200kA	800	J	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA	-	-	-	-	-	-	-
J	600	600	200kA	200kA	800	L	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA ⁸	-	-	-	-	-	-	-
H ⁸	600	600	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	-	36kA	-	-	-	-	-
P ⁸	600	600	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-	-	-	-	-
P ⁸	800	800 - 1200	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-	-	-	-	-
H	800 - 1200	800 - 1200	200kA	200kA	1600 ⁴	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-	36kA	-	-	-	-	-
Q ⁸	600-1600	600-1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50kA	-	50kA	-	-	-	-	-
S ⁸	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65kA	-	65kA	-	-	-	-	-
G ⁸	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-	-	-	-	-	-	-	-
G	1600 - 2000 (Front Connected TS Only)	-	200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA	36kA	-	-	-	-	-	-
G ⁸	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
S ⁸	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA	65kA	85kA	65kA	85kA	65kA	65kA	65kA
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA ⁶	125kA ⁶	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
G ⁸	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-	-	-	-	-	-	-	-
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85kA	65kA	-	-	-	-	-	-
U ⁸	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100kA	-	-	-	-	-	-	-

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCR for certain switch sizes.
3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Max fuse rating is 1200A on front connected H frame switches
5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
7. See ASCO for Service Entrance Switch ratings
8. These frames are only available on the 7000 Series product
9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see **ASCO Publication 1128** for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes. Contact ASCO Power Technologies for more information.

Contact ASCO for Service Entrance Switch ratings.

Power Knowledge

 [UL 1008 Transfer Switch Withstand and Closing Ratings](#)

 [Performance Testing for Transfer Switches](#)

Additional 7000 SERIES Transfer Switch Information

Transfer Switches	Controls	Technical Information	
Bypass-Isolation	Group 5 Controller & Power Control Center	Drawings	Withstand and Closing Ratings
Service Entrance		Wiring Diagrams	Weights, Dimensions & Ordering Info

Life Is On



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ASCO 7000 SERIES
Power Transfer Switches
Technical Data and Ordering
Information



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ASCO 7000 SERIES ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

J	+	07ATS	+	A	+	3	+	0600	+	N	+	5X	+	C
Frame		Transition Type		Neutral Code		Phase Poles		Amperes		Voltage Code		Group Code		Enclosure
D¹ = 30A-230A ATS & NTS Only		Automatic 07ATS Automatic, Conventional 2 - position		0 = No Neutral		2		0030		C = 208		50 No Optional Accessories		0 = Open Type (zero)
J = 150A-600A		7ACTS Automatic, Closed Transition		A = Solid Neutral		3		0070		D = 220				C = Type 1 Enclosure
H = 800A-1200A								0100		E = 230		5X Optional Accessories		F = Type 3R³ Enclosure
G = 1600A-4000A		7ADTS Automatic, Delayed Transition		B² = Switched Neutral				0150		F = 240				G = Type 4 Enclosure
		07ATB Automatic, Open Transition Bypass		C =Overlapping Neutral				0200¹		H = 380		5Z VATS		L = Type 12 Enclosure
		7ACTB Automatic, Closed Transition Bypass						0230¹		J = 400		5D VATS with Distribution Breakers		M = Type 3R³ Secure Double Door⁴ Enclosure
		7ADTB Automatic, Delayed Transition Bypass						0260		K = 415				N = Type 4 Secure Double Door⁴ Enclosure
								0400		L = 440				Q =Type 12 Enclosure Double Door⁴ Enclosure
								0600		M = 460				S = Type 3RX Secure Double Door⁴ Enclosure (316 Stainless Steel)
		Non-Automatic 07NTS Non Automatic, Conventional 2 - position						0800		N = 480				U = Type 4X Enclosure (316 Stainless Steel)
		7NCTS Non Automatic, Closed Transition						1000		P = 550				V = Type 4X Secure Double Door⁴ Enclosure (316 Stainless Steel)
		7NDTS Non Automatic Delayed Transition						1200		Q = 575				
		7NTB Non Automatic, Open Transition Bypass						1600		R = 600				
		7NDTB Non Automatic Delayed Transition						2000						
		7NTB Non Automatic, Open Transition Bypass						2600						
		7NCTB Non Automatic, Closed Transition Bypass						3000						
		7NDTB Non Automatic, Delayed Transition Bypass						4000						

Notes:

1. 225 and 230 amp switch limited to 480 volts maximum, for D7ATS only.
2. Conventional switched neutral is provided on closed and delayed transition transfer products when specified. Overlapping neutral not available on delayed and closed transition designs.
3. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
4. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is J07ATSA30600N5XC

ASCO 7000 SERIES ORDERING INFORMATION — POWER CONNECTION DETAILS

Transfer Switch Configurations 7ATS, 7NTS, 7ADTS, 7ACTS, 7NDTS, 7NCTS

Sizes of UL-Listed Solderless Screw-Type Terminals for External Power Connections

Switch Rating Amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes	
		Open Type	Enclosed Type
D ¹ Frame 30-230A ATS & NTS Only	One	#14 to 4/0 AWG	#14 to 4/0 AWG
J Frame 150 - 400A	One	#4 AWG to 600 MCM	#4 AWG to 600 MCM
	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
J Frame 600A	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame 600A	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1000 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 - 2000A	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 - 4000A ²	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:

1. 200 and 230 amp rating for copper conductors only for transfer switch configurations only.
2. All main terminals are rear connected. All other units are front connected as standard, rear connected optional via accessory.

Transfer Switch Configurations 7ATB, 7NTB, 7ADTB, 7ACTB, 7NDTB, 7NCTB

Sizes of UL-Listed Solderless Screw-Type Terminals for Power Connections

Switch Rating Amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes	
		Open Type	Enclosed Type
J Frame 150 - 400A	One	#4 AWG to 600 MCM	#4 AWG to 600 MCM
	Two	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
J Frame 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
H Frame (Front & Rear Connected) 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
H Frame (Front Connected) 800 - 960A	Three	#1/0 AWG to 600 MCM	#1/0 AWG to 600 MCM
H Frame (Rear Connected) 800 – 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1000 - 1200A ¹	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 – 2000A ¹	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 – 3000A ¹	Ten	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 4000A ¹	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:

1. All main terminals are rear connected

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Automatic Transfer Switching – Open Transition: 7ATS and 7NTS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure ¹				Open Switch Configuration			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Open ² lb (kg)
D	30, 70, 100	02 or A2	18 (457)	48 (1219)	13 (330)	70 (32)	10 (260)	10 (260)	5.5 (140)	30 (14)
		03 or A3				80 (36)				35 (16)
		B3 or C3				85 (39)				40 (18)
D	150, 200, 230	02 or A2	18 (457)	48 (1219)	13 (330)	115 (52)	10 (260)	10 (260)	5.5 (140)	35 (16)
		03 or A3				120 (55)				40 (18)
		B3 or C3				130 (59)				45 (21)
J	150, 260, 400	02 or A2	24 (610)	56 (1422)	14 (356)	270 (123)	19 (470)	25 (635)	8 (203)	220 (100)
		03 or A3				280 (128)				230 (105)
		B3 or C3				290 (132)				240 (109)
J	600	02 or A2	24 (610)	63 (1600)	17 (432)	270 (123)	19 (470)	30 (762)	10 (251)	260 (119)
		03 or A3				280 (128)				270 (123)
		B3 or C3				290 (132)				280 (128)
H	600, 800, 1000	02 or A2	34 (864)	72 (1829)	20 (508)	470 (214)	27 (686)	31 (787)	13 (327)	260 (119)
		03 or A3				480 (219)				270 (123)
		B3 or C3				490 (223)				280 (128)
H	1200	02 or A2	38 (965)	87 (2210)	23 (584)	670 (308)	27 (686)	31 (787)	13 (327)	300 (137)
		03 or A3				680 (310)				310 (141)
		B3 or C3				690 (315)				320 (146)
G	1000, 1600 ³ , 2000 ³	02 or A2	38 (965)	91 (2311)	48 (1219)	1330 (606)	33 (845)	28 (711)	26 (667)	450 (205)
		03 or A3				1350 (616)				470 (214)
		B3 or C3				1400 (638)				500 (228)
G	1600, 2000 (Front Connected) ⁴	02 or A2	38 (965)	87 (2210)	23(584)	1300 (590)	33 (845)	28 (711)	26 (667)	450 (205)
		03 or A3				1345 (612)				470 (214)
		B3 or C3				1390 (635)				500 (228)
G	2600 ³ , 3000 ³	02 or A2	38 (965)	91 (2311)	60 (1524)	2150 (980)	33 (845)	29 (711)	31 (781)	890 (406)
		03 or A3				2180 (994)				920 (420)
		B3 or C3				2230 (1017)				1000 (456)
G	4000 ³	02 or A2	60 (1524)	92 (2311)	72 (1829)	2250 (1026)	60 (1524)	70 (1778)	53 (1272)	990 (451)
		03 or A3				2280 (1040)				1020 (465)
		B3 or C3				2330 (1062)				1100 (502)

Notes:

1. Consult ASCO for dimensions on enclosures other than UL type 1.
2. Open weights include transfer switch and controller. 1200-4000 amp enclosures require ventilation openings, refer to drawing for details.
3. Enclosures are free-standing with removable top, sides, and back.
4. Order accessory 40MY for 1600A and 40NY for 2000A Front Connected (F/C) design.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Automatic Transfer Switching – Closed and Delayed Transition: 7ACTS, 7ADTS, 7NCTS, 7NDTS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure ¹				Open Switch Configuration ²			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400	03	24 (610)	56 (1422)	14 (356)	320 (146)	18.5 (470)	25 (635)	8 (203)	220 (100)
		B3				330 (150)				230 (105)
J	600	03	24 (610)	63 (1600)	17 (432)	380 (173)	19 (483)	30 (762)	10 (251)	260 (119)
		B3				390 (178)				270 (123)
H	600, 800, 1000	03	34 (864)	72 (1829)	20 (508)	480 (219)	27 (686)	31 (787)	13 (327)	360 (164)
		B3				490 (223)				370 (169)
H	1200	03	38 (965)	87 (2210)	23 (584)	680 (310)	27 (686)	31 (787)	13 (327)	360 (164)
		B3				690 (315)				380 (173)
G	1000, 1600 ³ , 2000 ³	03	38 (965)	91 (2311)	48 (1219)	1350 (616)	33 (845)	28 (711)	26 (667)	580 (264)
		B3				1400 (638)				600 (274)
G	1600, 2000 (Front Connected) ⁴	03	38 (965)	87 (2210)	23.5 (597)	1345 (612)	33 (845)	28 (711)	26 (667)	580 (264)
		B3				1390 (635)				600 (274)
G	2600 ³ , 3000 ³	03	38 (965)	91 (2311)	60 (1524)	2180 (994)	33 (845)	29 (711)	31 (781)	1060 (483)
		B3				2230 (1017)				1100 (502)
G	4000 ³	03	60 (1524)	92 (2311)	72 (1829)	2290 (1044)	60 (1524)	70 (1778)	53 (1272)	1060 (483)
		B3				2380 (1085)				1140 (520)

Notes:

1. Consult ASCO for dimensions on enclosures other than UL type 1.
2. Open weights include transfer switch and control panel. 1200-4000 amp enclosures require ventilation openings, refer to drawings for details.
3. Enclosures are free-standing with removable top, sides, and back.
4. Order accessory 40MY for 1600A and 40NY for 2000A front connected design.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Automatic Transfer Bypass-Isolation – Open Transition: 7ATB, 7NTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure ¹				Open Switch Configuration ²			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1230 (561)	34 (864)	85 (2159)	28 (711)	1100 (502)
		03 or A3				1240 (565)				1110 (506)
		B3 or C3				1260 (575)				1130 (515)
J	600 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1290 (588)	34 (864)	85 (2159)	28 (711)	1190 (543)
		03 or A3				1300 (593)				1200 (547)
		B3 or C3				1320 (602)				1220 (556)
H	600, 800 (Front Connected) ³	03 or A3	38 (965)	91 (2311)	32 (813)	1400 (638)	38 (965)	72 (1829)	38 (965)	1260 (575)
		B3 or C3				1420 (648)				1280 (584)
H	1000, 1200 (Front Connected) ³	03 or A3	38 (965)	91 (2311)	34 (864)	1430 (650)	38 (965)	72 (1829)	38 (965)	1290 (588)
		B3 or C3				1450 (659)				1310 (597)
H	600, 800, 1000 (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1720 (784)	38 (965)	72 (1829)	38 (965)	1260 (575)
		B3 or C3				1740 (793)				1280 (584)
H	1200 (Rear Connected) ⁴	03 or A3	38 (965)	91 (2311)	48 (1219)	1820 (830)	38 (965)	72 (1829)	38 (965)	1290 (588)
		B3 or C3				1840 (839)				1310 (597)
G	1000, 1600, 2000 (Front Connected) ⁴	03 or A3	38 (965)	91 (2311)	48 (1524)	2360 (1076)	38 (965)	72 (1829)	38 (965)	1500 (684)
		B3 or C3				2540 (1158)				1680 (766)
G	2600, 3000 (Rear Connected) ⁴	03 or A3	38 (965)	91 (2311)	72 (1829)	2730 (1245)	38 (965)	72 (1829)	38 (965)	1690 (771)
		B3 or C3				3360 (1532)				2290 (1044)
G	4000 (Rear Connected) ⁴	03 or A3	60 (1524)	92 (2311)	96 (2438)	6300 (2873)	60 (1524)	91 (2311)	96 (2438)	5153 (2338)
		B3 or C3				6900 (3146)				5500 (2495)

Notes:

- Handles extend 6-1/4 inches (159mm).
- Open weights include transfer switch, bypass-isolation switch and controller. 1600-4000 amp enclosures require ventilation openings, refer to drawings for details.
- Specify optional accessory 40J Y for 800 Amp front, 40KY for 1000 Amp, and 40LY for 1200 Amp - front connected arrangement. All service and load cables limited to top entry only.
- Recommended clearance to enclosure: 3 feet (914mm) from rear, 4 feet (1219mm) from front (25 inches required for transfer switch draw out). Side or rear access required.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Automatic Transfer Bypass-Isolation: Closed and Delayed Transition: 7ACTB, 7ADTB, 7NCTB, 7NDTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Neutral Type & Poles	Type 1 Enclosure ¹				Open Switch Configuration ²			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
J	150, 200, 230, 260, 400 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1255 (572)	34 (864)	85 (2159)	28 (711)	1125 (513)
		03 or A3				1265 (577)				1135 (518)
		B3 or C3				1285 (586)				1155 (527)
J	600 (Front Connected)	02 or A2	34 (864)	85 (2159)	28 (711)	1315 (600)	34 (864)	85 (2159)	28 (711)	1215 (554)
		03 or A3				1325 (604)				1225 (559)
		B3 or C3				1345 (613)				1245 (568)
H	600 ³ , 800 ³ (Front Connected)	03 or A3	38 (965)	91 (2311)	32 (813)	1425 (650)	38 (965)	72 (1829)	38 (965)	1285 (586)
		B3 or C3				1445 (659)				1280 (595)
H	1000 ³ , 1200 ³ (Front Connected)	03 or A3	38 (965)	91 (2311)	34 (864)	1425 (650)	38 (965)	72 (1829)	38 (965)	1315 (600)
		B3 or C3				1445 (659)				1335 (609)
H	600 ⁴ , 800 ⁴ , 1000 ⁴ (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1745 (796)	38 (965)	72 (1829)	38 (965)	1285 (586)
		B3 or C3				1765 (805)				1280 (595)
H	1200 ⁴ (Rear Connected)	03 or A3	38 (965)	91 (2311)	48 (1219)	1845 (841)	38 (965)	72 (1829)	38 (965)	1315 (600)
		B3 or C3				1865 (850)				1335 (609)
G	1000, 1600 ⁴ , 2000 ⁴ (Rear Connected)	03 or A3	38 (965)	91 (2311)	60 (1524)	2385 (1088)	38 (965)	72 (1829)	38 (965)	1525 (695)
		B3 or C3				2565 (1170)				1705 (777)
G	2600 ⁴ , 3000 ⁴ (Rear Connected)	03 or A3	38 (965)	91 (2311)	72 (1829)	2755 (1256)	38 (965)	72 (1829)	38 (965)	1715 (782)
		B3 or C3				3385 (1544)				2315 (1056)
G	4000 ⁴ (Rear Connected)	03 or A3	60 (1524)	91 (2311)	96 (2438)	6325 (2884)	60 (1524)	91 (2311)	96 (2438)	6280 (2849)
		B3 or C3				6925 (3158)				6450 (2926)

Notes:

- Handles extend 6-1/4 inches (159mm).
- Open weights include transfer switch, bypass-isolation switch and controller. 1600-4000 amp enclosures require ventilation openings, refer to drawings for details.
- Specify optional accessory 40J Y for 800 Amp front, 40KY for 1000 Amp, and 40LY for 1200 Amp - connected arrangement. All service and load cables limited to top entry only.
- Recommended clearance to enclosure: 3 feet (914mm) from rear, 4 feet (1219mm) from front (25 inches required for transfer switch draw out). Side or rear access required.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 SERIES 30 CYCLE ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

P	+	07ATS	+	A	+	3	+	0600	+	N	+	5X	+	C
Frame		Transition Type		Neutral Code		Phase Poles		Amperes		Voltage Code		Group Code		Enclosure
P = 600A - 800A ATS/CTS/DTS		Automatic 07ATS Automatic , Conventional 2 - position		0 = No Neutral		3		0600		C = 208		50 No Optional Accessories		0 = Open Type (zero)
P = 600A - 1200A ATB/ACTB/ADTB		7ACTS Automatic, Closed Transition		A = Solid Neutral				0800		D = 220				C = Type 1 Enclosure
Q = 600A - 1600A		7ADTS Automatic, Delayed Transition		B' = Switched Neutral				1000		E = 230		5X Optional Accessories		M = Type 3R ² Secure Double Door ³ Enclosure
S = 800A - 2000A		07ATB Automatic, Open Transition Bypass						1200		F = 240				N = Type 4 Secure Double Door ³ Enclosure
G = 1600A - 4000A		7ACTB Automatic, Closed Transition Bypass						1600		H = 380		5Z VATS		Q = Type 12 Enclosure Double Door ³ Enclosure
U = 2600A - 4000A		7ADTB Automatic, Delayed Transition Bypass						2000		J = 400		5D VATS with Distribution Breakers		S = Type 3RX ² Secure Double Door ³ Enclosure (316 Stainless Steel)
		Non-Automatic 07NTS Non Automatic, Conventional 2 - position						2600		K = 415				V = Type 4X Secure Double Door ³ Enclosure (316 Stainless Steel)
		7NCTS Non Automatic, Closed Transition						3000		L = 440				
		7NDTS Non Automatic, Delayed Transition						4000		M = 460				
		7NTB Non Automatic, Open Transition Bypass								N = 480				
		7NCTB Non Automatic, Closed Transition Bypass								P = 550				
		7NDTB Non Automatic, Delayed Transition Bypass								Q = 575				
										R = 600				

Notes:

1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is P07ATSA30600N5XC

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

30 Cycle Automatic Transfer Switch (Non-Bypass) & Bypass - Isolation Switch

7ATS, 7NTS, 7ACTS, 7ADTS, 7NCTS, 7NDTS, 7ATB, 7NTB, 7ACTB, 7ADTB, 7NCTB, 7NTB

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Switch Configuration	Type 1 Enclosure ^{1, 2}			
			Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
P	600 - 800A (Front Connected ATS)	ATS/NTS	34 (864)	72 (1829)	20 (508)	470 (214)
		ACTS, ADTS, NCTS, NDTS				480 (219)
	600 - 800A (Front Connected BPS)	ATB/NTB	38 (965)	91 (2311)	48 (1219)	1420 (648)
		ACTB, ADTB, NCTB, NDTB				1445 (659)
Q	600 - 1600A (Front Connected ATS)	ATS/NTS	38 (965)	87 (2210)	23 (584)	1005 (458)
		ACTS, ADTS, NCTS, NDTS				1105 (504)
	600 - 1600A (Rear Connected BPS)	ATB/NTB	38 (965)	91 (2311)	60 (1524)	2385 (1086)
		ACTB, ADTB, NCTB, NDTB				2485 (1131)
S ³	800 - 2000A (Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	60 (1524)	1645 (749)
		ACTS, ADTS, NCTS, NDTS				1745 (794)
	800 - 2000A (Rear Connected BPS)	ATB/NTB	38 (965)	87 (2210)	23.5 (597)	2890 (1318)
		ACTB, ADTB, NCTB, NDTB				2990 (1364)
G ³	1600 - 2000A (Front & Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	48 (1219)	1350 (616)
		ACTS, ADTS, NCTS, NDTS				1400 (638)
	1600 - 2000A (Rear Connected BPS)	ATB/NTB	38 (965)	91 (2311)	60 (1524)	2385 (1088)
		ACTB, ADTB, NCTB, NDTB				2565 (1170)
	2600 - 3000A (Rear Connected ATS)	ATS/NTS	38 (965)	91 (2311)	60 (1524)	2180 (994)
		ACTS, ADTS, NCTS, NDTS				2230 (1017)
	2600 - 3000A (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	72 (1829)	2930 (1329)
		ACTB, ADTB, NCTB, NDTB				3360 (1532)
	4000A (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	2290 (1044)
		ACTS, ADTS, NCTS, NDTS				2380 (1085)
	4000A (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6325 (2884)
		ACTB, ADTB, NCTB, NDTB				6925 (3158)
U ³	2600 ¹ , 3000A ¹ (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	5200 (2373)
		ACTS, ADTS, NCTS, NDTS				5300 (2418)
	2600 ⁴ , 3000A ⁴ (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6700 (3057)
		ACTB, ADTB, NCTB, NDTB				6725 (3069)
U ³	4000 A (Rear Connected ATS)	ATS/NTS	60 (1524)	91 (2311)	72 (1829)	5400 (2464)
		ACTS, ADTS, NCTS, NDTS				5600 (2555)
	4000A ⁴ (Rear Connected BPS)	ATB/NTB	60 (1524)	91 (2311)	96 (2438)	6900 (3149)
		ACTB, ADTB, NCTB, NDTB				6925 (3160)

Notes:

1. Consult ASCO for dimensions on enclosure other than UL Type 1.
2. For Bypass-Isolation Switches Only: handles extend 6-1/4 inches (159 mm).
3. Enclosures are free standing with removable top, sides and back.
4. Recommended clearance to enclosure: 3 feet (914 mm) from rear, 4 feet (1219 mm) from front (25 inches required for transfer switch draw out).

30 Cycle Automatic Transfer Switch Configurations

7ATS, 7NTS, 7ACTS, 7ADTS, 7NCTS, 7NDTS, 7ATB, 7NTB, 7ACTB, 7NCTB, 7ADTB, 7NDTB

Sizes of UL - Listed Solderless Screw - Type Terminals for External Power Connections

Switch Rating Amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes	
		Open Type	Enclosed Type
P Frame 600A	Two	#2 AWG to 600 MCM	#2 AWG to 600 MCM
P Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
Q Frame 600 - 1200A	Four	300 MCM to 600 MCM	300 MCM to 600 MCM
Q Frame 1600A	Six	300 MCM to 600 MCM	300 MCM to 600 MCM
S Frame 800 - 1200A	Four	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
S Frame 1600 - 2000	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 1600 - 2000A	Six	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
G Frame 2600 - 3000A	Ten	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM
U Frame 2600 - 4000 ²	Twelve	#1/0 AWG to 750 MCM	#1/0 AWG to 600 MCM

Notes:

1. Unit is designed for top cable entry of emergency and load and bottom entry of normal
2. All main terminals are rear connected.

* All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

ASCO 7000 SERIES SERVICE ENTRANCE POWER TRANSFER SWITCHES ORDERING INFORMATION

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

J	+	07AUS	+	A	+	3	+	0600	+	N	+	5X	+	C
Frame	Transition Type ⁵		Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure						
D = 70A - 225A AUS/NUS Only	Automatic 07AUS Automatic, Conventional 2 - position		A = Solid Neutral	2	0070	C = 208	50 No Optional Accessories	C = Type 1 Enclosure						
J = 150A - 600A 150A - 225A: DTTS / CTTS Only	7ACUS Automatic, Closed Transition		B ¹ = Switched Neutral	3	0100	D = 220	5X Optional Accessories	M = Type 3R ² Secure Double Door ⁴ Enclosure						
	7ADUS Automatic, Delayed Transition		C = Overlapping Neutral		0150	E = 230		N = Type 4 Secure Double Door ⁴ Enclosure						
H = 600-1200A					0200	F = 240	5Z VATS	Q = Type 12 Enclosure Double Door ⁴ Enclosure						
G = 1000-4000A	07AUB Automatic, Open Transition Bypass				0225	H = 380		5D VATS Distribution	S = Type 3RX ³ Secure Double Door ⁴ Enclosure (316 Stainless Steel)					
	7ACUB Automatic, Closed Transition Bypass				0260	J = 400	V = Type 4X Secure Double Door ⁴ Enclosure (316 Stainless Steel)							
	7ADUB Automatic, Delayed Transition Bypass				0400	K = 415								
					0600	L = 440								
					0800	M = 460								
					1000	N = 480								
					1200	P = 550								
					1600	Q = 575								
					2000	R = 600								
					2500									
				3000										
				4000										

Notes:

1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. CAUTION: Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Type 3RX limited to 1600 - 4000 amperes only.
4. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.
5. AUS represents a switch with a utility service entrance breaker. In addition to the AUS, ASCO offers AGS - Generator breaker, APS - Utility and Generator breaker, and ARS - Utility and Generator breaker, dual service entrance.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warrants the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is J07AUSA30600N5XC
(X is used to specify optional accessories).

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

Service Entrance Power Transfer Switches (Non-Bypass):

7AUS, 7NUS, 7ADUS, 7NDUS, 7ACUS, 7NCUS

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Type 1 Enclosure ¹				Open Switch Configuration ²			
		Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
D	70, 100, 150, 200, 225 7AUS/7NUS Only	36.5 (927)	48.5 (1232)	13.25 (337)	490 (226)	36 (914)	48 (1219)	16 (406)	540 (249)
J	150, 250, 400	38 (965)	91 (2311)	28 (711)	880 (407)	41 (1041)	95 (2426)	33 (838)	1880 (544)
J	200, 225 7ADUS/7NDUS and 7ACUS/7NCUS only	38 (965)	91 (2311)	28 (711)	880 (407)	41 (1041)	95 (2426)	33 (838)	1880 (544)
J	600 ²	38 (965)	91 (2311)	28 (711)	980 (452)	41 (1041)	95 (2426)	33 (838)	1280 (590)
H	600, 800 ²	38 (965)	91 (2311)	28 (711)	1280 (590)	41 (1041)	95 (2426)	33 (838)	1480 (683)
H	1000 ²	38 (965)	91 (2311)	48 (1219)	1280 (590)	41 (1041)	95 (2426)	62 (1575)	1480 (683)
H	1200 ²	38 (965)	91 (2311)	48 (1219)	1480 (683)	41 (1041)	95 (2426)	62 (1575)	1940 (895)
G	1000, 1600 ² , 2000 ²	38 (965)	91 (2311)	48 (1219)	1800 (831)	41 (1041)	95 (2426)	62 (1575)	2200 (1015)
G	2600 ² , 3000 ²	38 (965)	91 (2311)	72 (1829)	2180 (1006)	41 (1041)	95 (2426)	85 (2159)	2854 (1317)
G	4000 ²	60 (1524)	91 (2311)	72 (1829)	3485 (1606)	63 (1600)	100 (2540)	91 (2311)	4300 (1981)

Notes:

1. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
2. Unit is designed for top and bottom cable entry for all services and load.

*All dimensions and weights shown are approximate and should not be used for construction purposes. Verified dimensions can be furnished upon request.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warranties the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

ASCO 7000 SERIES SERVICE ENTRANCE POWER TRANSFER SWITCH 30 CYCLE ORDERING INFORMATION

To order an ASCO 7000 SERIES 30 Cycle Service Entrance Power Transfer Switch, complete the following catalog number:

P	+	07AUS	+	A	+	3	+	0600	+	N	+	5X	+	C
Frame	Transition Type		Neutral Code	Phase Poles	Amperes	Voltage Code	Group Code	Enclosure						
P = 600A - 800A AUS/CUS/DUS Only	Automatic 07ATS Automatic , Conventional 2 - position		A = Solid Neutral	2	0600	C = 208	50 No Optional Accessories	C = Type 1 Enclosure						
P = 600A - 1200A AUB/CUB/DUB Only	7ACTS Automatic, Closed Transition		B¹ = Switched Neutral	3	0800	D = 220	5X Optional Accessories	M = Type 3R² Secure Double Door⁴ Enclosure						
					1000	E = 230								
					1200	F = 240								
Q = 600A - 1600A	7ADTS Automatic, Delayed Transition				1600	H = 380		5Z VATS	N = Type 4 Secure Double Door⁴ Enclosure					
S = 800A - 2000A	07ATB Automatic, Open Transition Bypass				2000	J = 400		5D VATS with Distribution Breakers	Q = Type 12 Double Door⁴ Enclosure					
G = 1600A - 4000A	7ACTB Automatic, Closed Transition Bypass			2600	K = 415									
				3000	L = 440		S = Type 3RX² Secure Double Door⁴ Enclosure (316 Stainless Steel)							
U = 2600A - 4000A	7ADTB Automatic, Delayed Transition Bypass			4000	M = 460									
	Non-Automatic 07NTS Non Automatic, Conventional 2 - position				N = 480		V = Type 4X Secure Double Door⁴ Enclosure (316 Stainless Steel)							
	7NCTS Non Automatic, Closed Transition				P = 550									
	7NDTS Non Automatic, Delayed Transition				Q = 575									
	7NTB Non Automatic, Open Transition Bypass				R = 600									
	7NCTB Non Automatic, Closed Transition Bypass													
	7NDTB Non Automatic, Delayed Transition Bypass													

Notes:

1. Conventional switched neutral is provided on closed and delayed transition transfer products when specified.
2. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.
3. Double door enclosures are door over internal dead front panels/doors. All controls are mounted on internal panel/door. External door is pad-lockable for secure applications.

A comprehensive ASCO Limited Guardian Warranty covers 7000 SERIES Power Transfer Switch(s) and warrants the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is P07AUSA30600N5XC

ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE

30 Cycle Service Entrance Power Transfer Switch (Non-Bypass Configurations)

Dimensions and Shipping Weights*

Frame	Switch Ratings Amp	Type 1 Enclosure ¹				Type 3R Enclosure ¹			
		Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)	Width In (mm)	Height In (mm)	Depth In (mm)	Weight lb (kg)
P	600 - 1200A (Front Connected)	38 (965)	91 (2311)	48 (1219)	1800 (821)	41 (1041)	95 (2426)	62 (1575)	2000 (912)
Q	600 - 1600A (Front Connected)	38 (965)	91 (2311)	48 (1219)	2000 (912)	41 (1041)	95 (2426)	62 (1575)	2200 (1004)
S	800 - 2000A (Front Connected)	38 (965)	91 (2311)	72 (1829)	2800 (1278)	41 (1041)	95 (2426)	86 (2184)	3010 (1374)
G	1600 - 2000A (Rear Connected)	38 (965)	91 (2311)	48 (1219)	1800 (831)	41 (1041)	95 (2426)	86 (2184)	2200 (1015)
G	2600 - 3000A (Rear Connected)	38 (965)	91 (2311)	72 (1829)	2180 (1006)	41 (1041)	95 (2426)	62 (1575)	2854 (1317)
G	4000A (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	3485 (1606)	63 (1600)	100 (2538)	91 (2311)	4300 (1981)
U	2600 ¹ , 3000 ¹ (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	4850 (2213)	60 (1523)	100 (2538)	91 (2311)	5160 (2354)
U	4000 ¹ (Rear Connected)	60 (1524)	91 (2311)	72 (1829)	4850 (2213)	60 (1523)	100 (2538)	91 (2311)	6800 (3103)

Notes:

1. Type 3R enclosures are not suitable for installations likely to experience windblown snow or rain conditions.

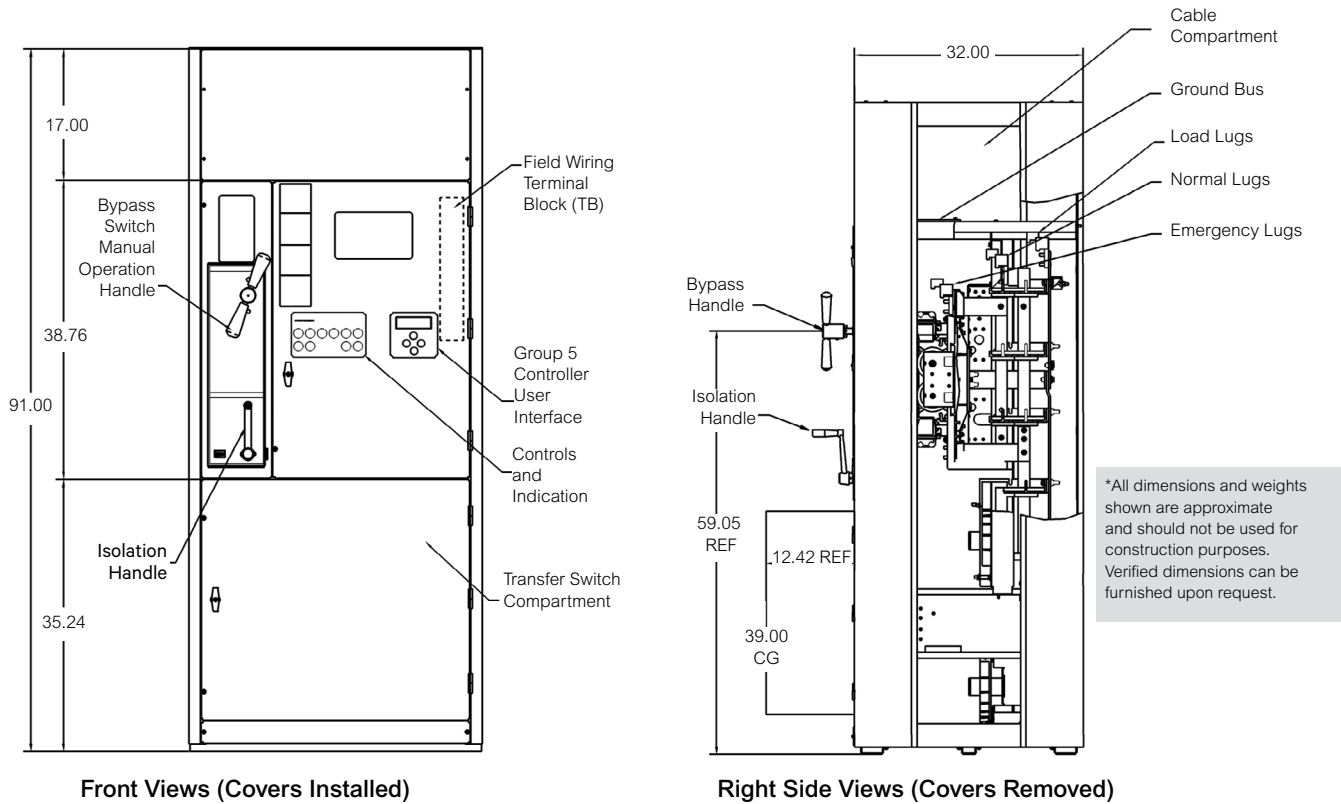
*Dimensional data is approximate and subject to change. Verified dimensions available upon request.

All 30 cycle service entrance enclosures are freestanding and designed for top and bottom cable entry for all services and load.

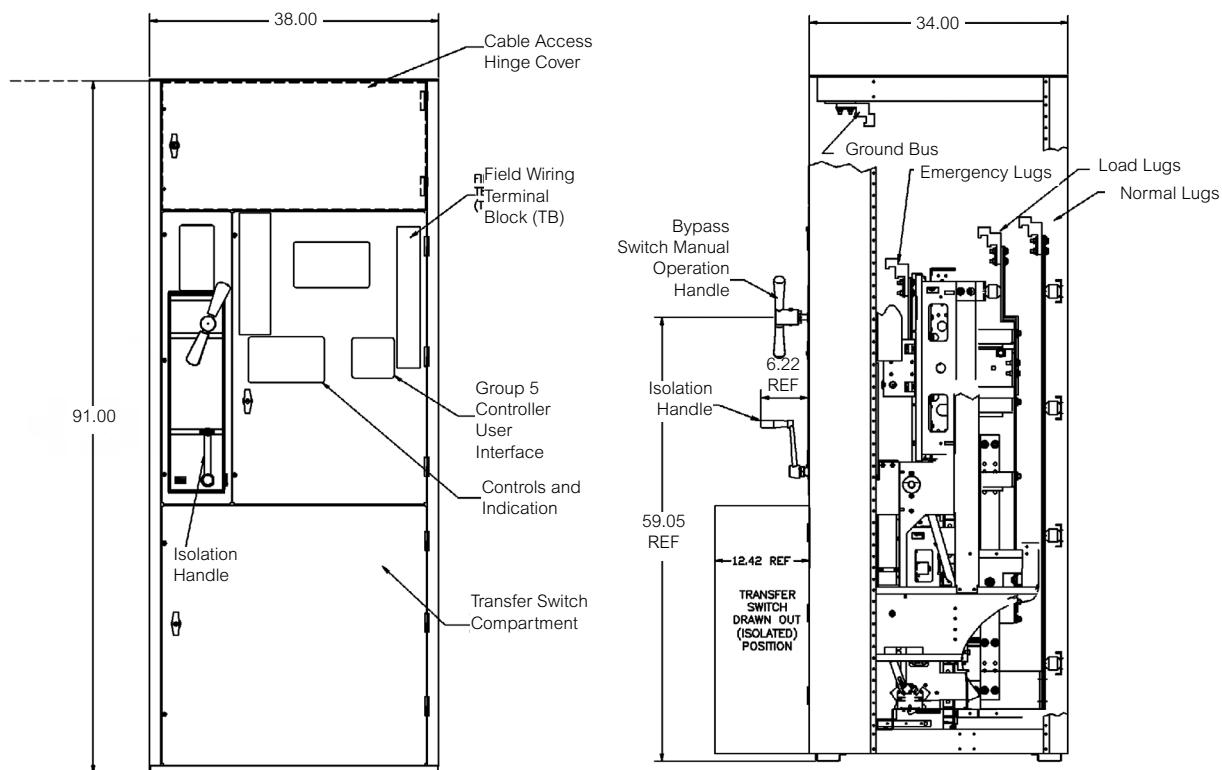
ASCO 7000 SERIES DESIGNED TO FIT ANYWHERE*

Optional Front Connected Design Saves Valuable Space

H Frame 800 Amp Optional Front Connected Design



H Frame 1000-1200 Amp Optional Front Connected Design



WITHSTAND AND CLOSING RATINGS

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short Time Ratings ³ (sec)								
	Transfer Switches	Bypass Switches												480V Max.				600V Max.				
			480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	.13	.2	.3	.5	.1	.13	.3	.5	
D	30	-	100kA	-	300	J	22kA	25kA	10kA	0.025	10kA	10kA	10kA	-				-				
D	70, 100	-	200kA	35kA	200	J																
			35kA	35kA	200	RK1																
			35kA	35kA	200	RK1																
D	150	-	200kA	35kA	200	J	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-				-				
D	200	-	200kA	35kA	200	J																
			35kA	35kA	200	RK1																
			35kA	35kA	200	RK1																
D	230	-	100kA	-	300	J	200kA	85kA	14kA	0.025	10kA	10kA	-	-				-				
E	260, 400	-	200kA	-	600	J																
			600	J																		
			800	L																		
J	150, 200, 230, 260	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA	-		-					
J	400	400	200kA	200kA	600	J																
			800	L																		
			200kA	200kA	600	J																
J	600	600	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA ⁹	-		-					
H ⁸	600	600	200kA	200kA	1600	L																
			65kA	150kA ⁶	65kA	0.05															50kA	50kA
			P ⁸	600	600	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-		
P ⁸	800	800 - 1200	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-					
H	800 - 1200	800 - 1200	200kA	200kA	1600 ⁴	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-		36kA	-				
Q ⁸	600-1600	600-1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50kA				50kA				
S ⁸	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65kA	65kA				65kA			
G ⁸	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-				-				
G	1600 - 2000 (Front Connected TS Only)		200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA	36kA		-					
G ⁸	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA	36kA		42kA	-				
S ⁸	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA	65kA		65kA	85kA	65kA			
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA ⁶	125kA ⁶	100kA	0.05	100kA	100kA	100kA	42kA	36kA		42kA	-				
G ⁸	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-				-				
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85kA	65kA		65kA					
U ⁸	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100kA				100kA				

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCR for certain switch sizes.
3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Max fuse rating is 1200A on front connected H frame switches
5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
7. See ASCO for Service Entrance Switch ratings
8. These frames are only available on the 7000 Series product
9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see **ASCO Publication 1128** for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes.

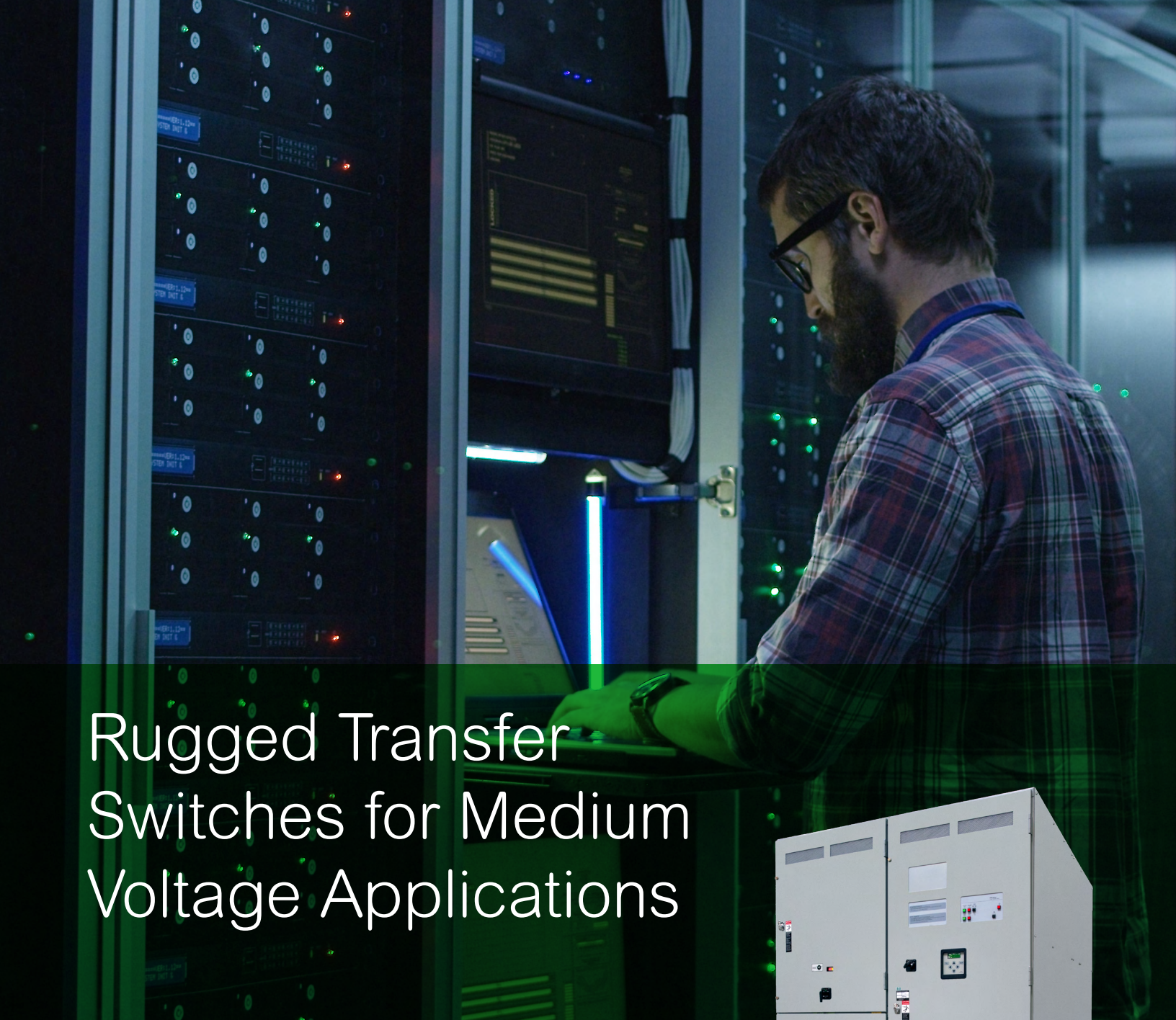
Contact ASCO Power Technologies for more information.

Contact ASCO for Service Entrance Switch ratings.



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Rugged Transfer Switches for Medium Voltage Applications

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Medium-Voltage Transfer Switches



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Medium Voltage Transfer Switches

ASCO 7000 SERIES Medium Voltage Transfer Switches are custom engineered to reliably transfer medium voltage loads under demanding conditions.

ASCO 7000 SERIES Transfer Switches use two vacuum circuit breakers to transfer medium voltage loads between power sources. They offer metal-clad construction and barriered controls to withstand the rigors of medium voltage applications, and removable element circuit breakers and voltage transformers to facilitate inspection, maintenance, and repair. These switches are available with open transition, delayed transition, and closed transition switching sequences for use in a wide range of medium voltage applications.

Product Details



[Transfer Switch Overview](#)



Pioneering technology, unsurpassed technical support, and around-the-clock service make ASCO Medium Voltage Transfer Switches easy to procure and simple to own.

7000 SERIES Medium Voltage Transfer Switches

1200 Ampere models consist of a minimum of two equipment sections. 2000 and 3000 Amp models require a minimum of three sections. Seismic certification, secure outdoor enclosures, and many other features can be provided to meet exact customer specifications.

Key components and features include:

- ASCO 7000 SERIES Transfer Control Center
- Standard, Bypass, and Dual-Switch Configurations
- Transfer Mechanism comprised of two draw-out and shuttered Vacuum Circuit Breakers (VCBs) with optional protective relay:
 - One Normal Source VCB
 - One Emergency Source VCB
- Two Fused, Draw-Out Voltage Transformers with Open Delta wiring on the normal and emergency power sources
- Epoxy-insulated copper bus
- ANSI C37.20.2 and UL 1008A protective barriers isolate major components
- Type SIS control wire with durable wire markings printed directly on insulation
- Fully integrated, multi-section, metal-clad assembly
- Available Seismic Certification
- Available Arc-Resistant Construction

Power Knowledge

 [Basic Automatic Transfer Switch Functions](#)



ASCO 7000 SERIES
1200 Amp Medium
Voltage Transfer Switch

7000 SERIES Power Switching Solutions

Automatic and Manual Transfer Switching

Using a transfer mode selector switch it is possible to select automatic or manual control modes. Automatic control options include open, delayed, and closed transition control. Electrically interlocked manual controls on the front door permit user-supervised operation in non-automatic mode.

- Rated 5kV or 15kV
- Capacities from 1 through 3000 amps
- Controller prevents inadvertent operation under low voltage conditions
- Standard in-phase monitor for transferring motor loads



ASCO 7000 SERIES
3000 Amp Medium Voltage
Transfer Switch

Power Knowledge

 [Transferring Motor Loads Between Power Sources](#)

 [Transition Mode Basics](#)

 [Transferring Motor Loads with Zero Power Interruption](#)

Open Transition Transfer Switching

ASCO Open Transition Transfer Switches feature non-overlapping breaker operation, assuring that electrical power sources remain isolated and effectively interrupt the flow of power. The switch transfers in a 'break-before-make' mode.

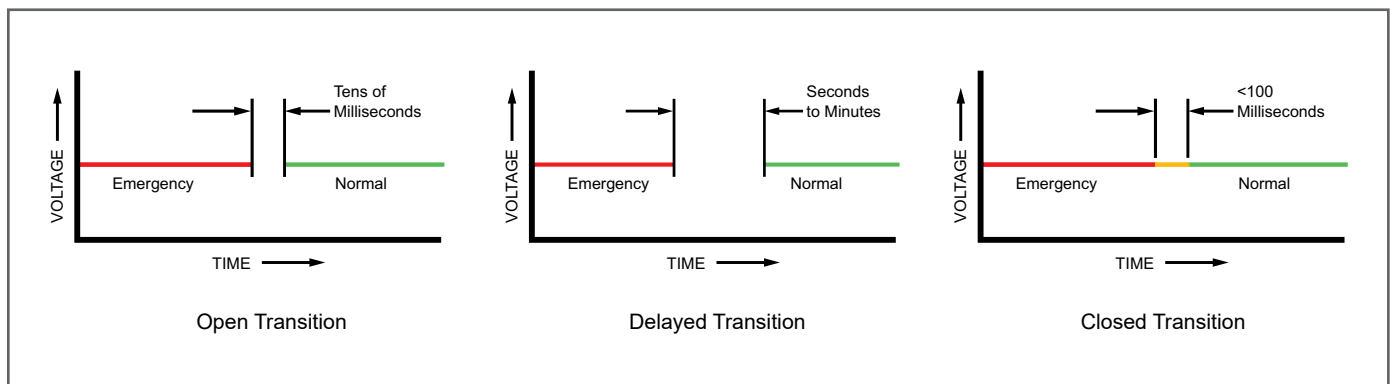
Delayed Transition Transfer Switching

ASCO Delayed Transition Transfer Switches provide a prescribed disconnect time for load transfers between power sources. The adjustable period of delay allows stored energy loads to dissipate power. Stored energy loads may include motors and drives, rectifier banks, power correction and filtration devices, and load management applications. Interlocking prevents direct simultaneous connection of both sources to the load.

Closed Transition Transfer Switching

ASCO Closed Transition Transfer Switches feature overlapping breaker operation, permitting the transfer of electrical loads while maintaining electrical continuity. The switch transfers in a 'make-before-break' mode if all synchronization parameters for both sources are within acceptable ranges. Control logic in the ASCO 7000 SERIES Transfer Control Center monitors source conditions and automatically determines if the transfer is allowed.

Closed transition transfers within 5 electrical degrees is achieved passively, without control of the engine generator set. Therefore, no additional control wire runs are required between the Automatic Transfer Switch and engine generator set governor or voltage regulator. Prescribed overlap time in a closed transition transfer typically is less than 100 milliseconds.



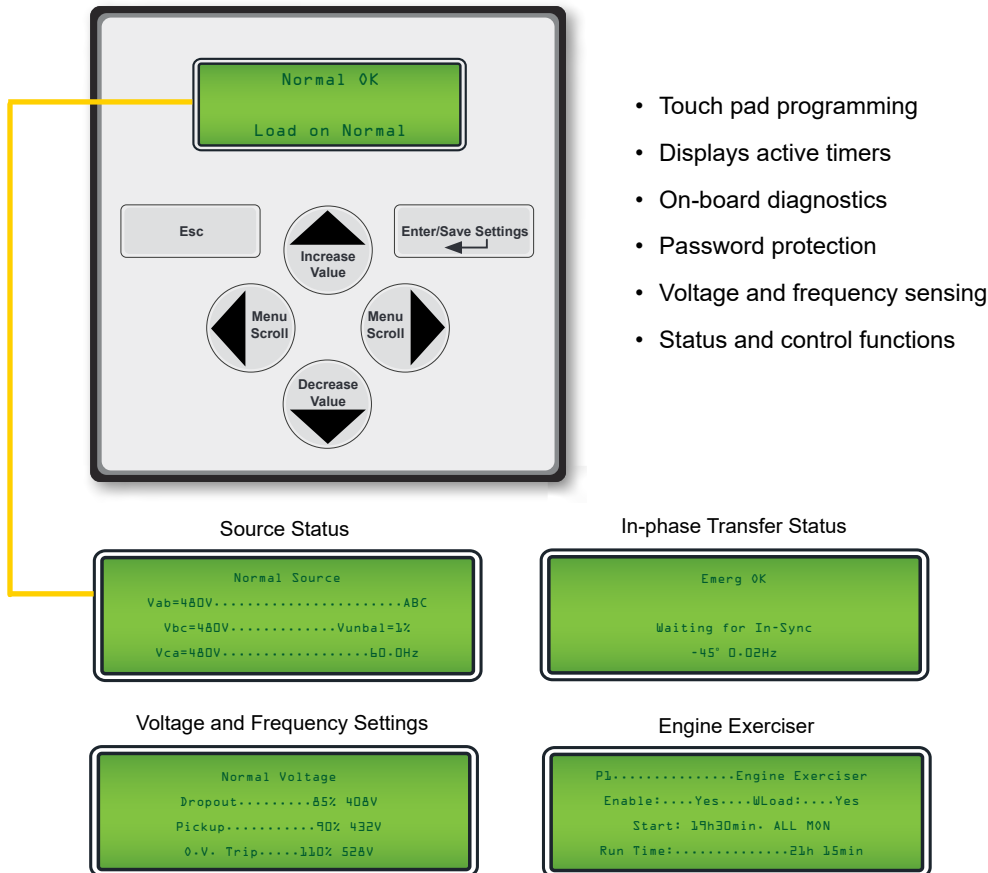
7000 SERIES Controls

Group 5 Controller

The 7000 SERIES Group 5 Controller is reliable and field-proven. It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.

Product Details

 [Group 5 Controller](#)

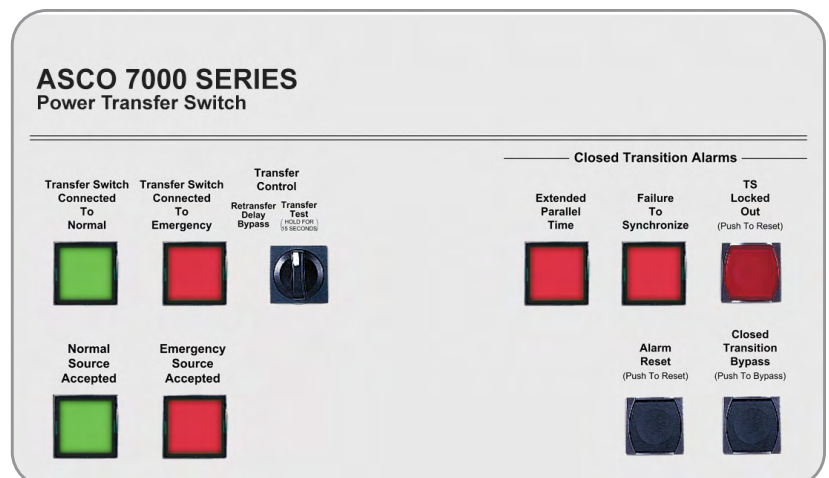


- Touch pad programming
- Displays active timers
- On-board diagnostics
- Password protection
- Voltage and frequency sensing
- Status and control functions

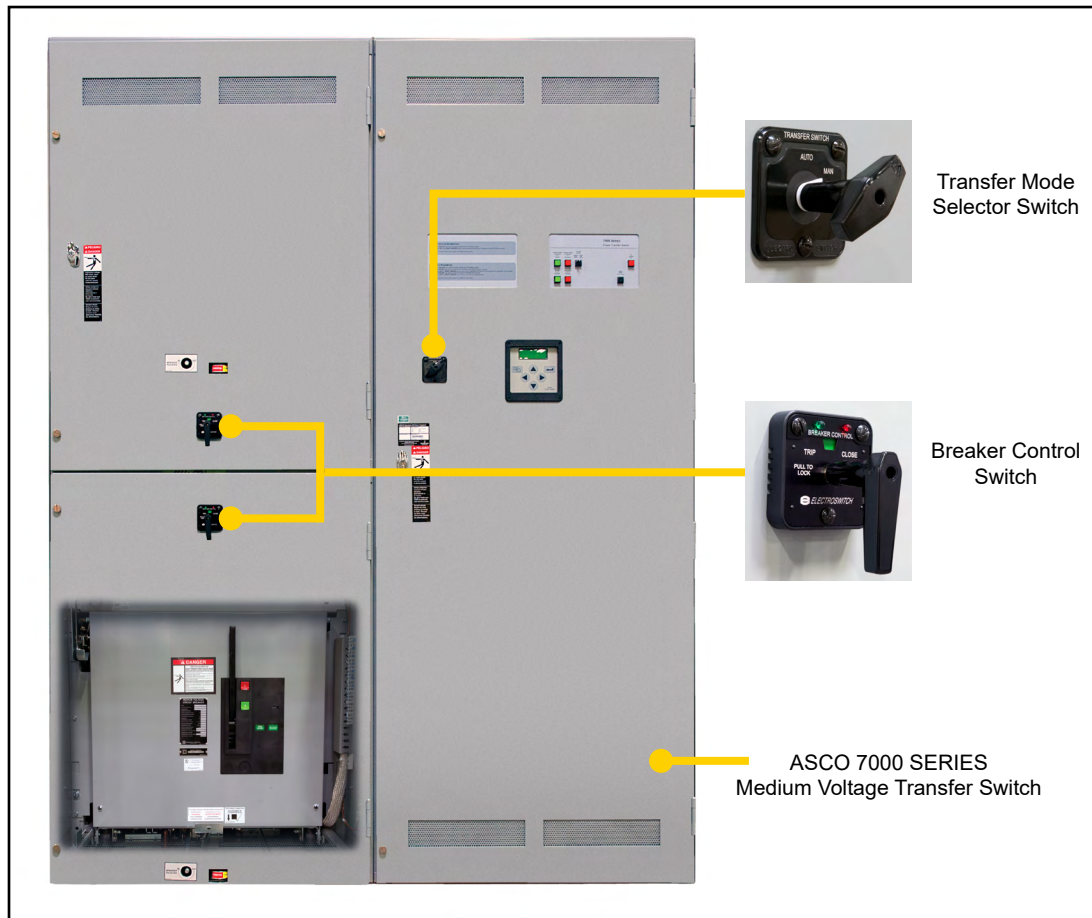
Instrumentation, Control and Metering

Available equipment includes:

- Digital power meters for current, voltage, power, power factor, and frequency.
- Discrete indicator lights for status and control information at a glance
- Multi-ratio Potential Transformers and Current Transformers



7000 SERIES Manual and Mode Controls



Breaker Control Switch



- Every circuit breaker includes a breaker control switch for manually opening and closing breakers
- Allows an operator to open the breaker in any control mode
- Enables an operator to close the breaker in manual mode with interlock protection
- "Trip", "Close", and "Pull to Lock" handle positions
- Indicator LEDs show the status of the breaker

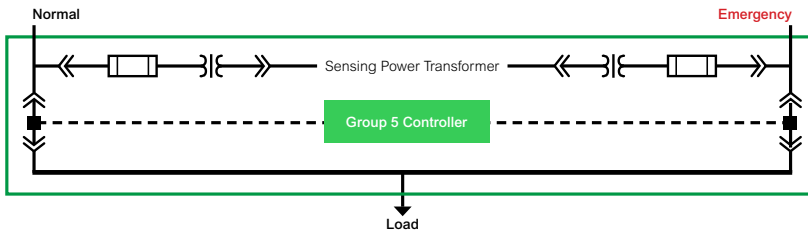
Transfer Mode Selector Switch



- Allows an operator to change between automatic and manual modes of operation
- An operator can open breakers using the breaker control switch in any control mode
- An operator can close breakers using the breaker control switch only when in manual mode

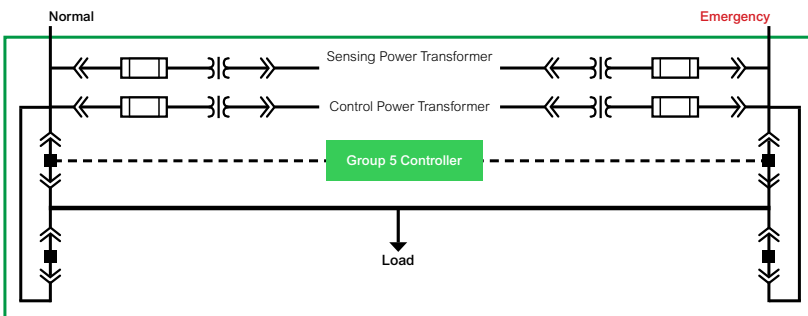
Flexible Configurations for Advanced Redundancy

A Standard Two-Breaker Transfer Switch for Transferring Loads Between Two Sources



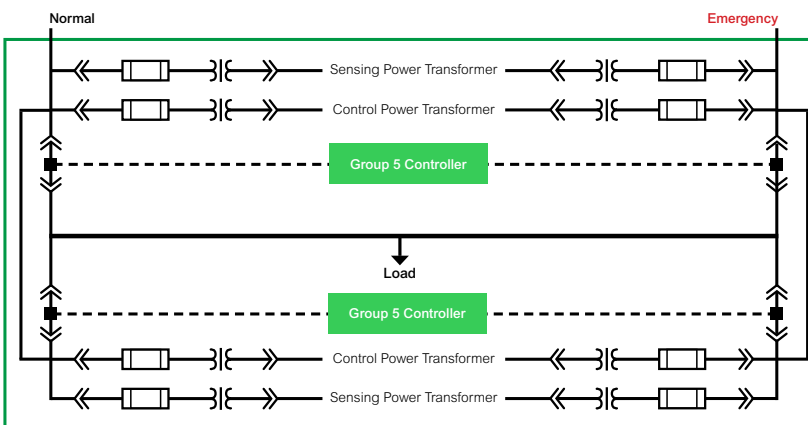
- Two breakers and controller transfer load to either of two power sources
- Two Open Delta Power Transformers provide breaker charging power, control power, and source voltage measurements
- Control power derives from the destination source

A Two-Breaker Transfer Switch with Bypass-Isolation Capability that Avoids Interruptions to Loads and Facilitates Testing and Maintenance



- One Automatic or Non-Automatic Transfer Switch and two additional breakers serve as a Bypass
- Additional Control Power Transformers provide charging power for breakers
- Enables servicing primary switching devices without disrupting power to load
- Provides manual transfer when in bypass mode

A Two-Breaker Transfer Switch that Bypasses to a Second Two-Breaker Transfer Switch, Enabling Load Transfer Between Sources Even in Bypass Mode



- Two automatic or non-automatic two-breaker transfer switches with a manual selector.
- Provides automatic transfer when in bypass position

Circuit Breakers

Dual-breaker configuration provides higher reliability for medium-voltage applications. Each circuit breaker contains three separately mounted vacuum interrupters with an integral contact wear gap indicator. Stored energy devices provide fast operation to interrupt and isolate faults and include electric motor charging and manual charging handle.



- ASCO 7000 SERIES Medium Voltage Transfer Switches utilize Square-D VR Vacuum Breakers
- Horizontal draw-out breaker for non-disruptive testing or removal, designed for use with metal-clad switchgear
- Hermetically sealed vacuum breakers
- Matched circuit breakers for Interchangeability
- Short mechanical stroke for fast operation

Protective Relays

Protective relays are used to protect and coordinate equipment and circuits between the medium and low voltage systems in a facility's power distribution system. Available circuit protections include:

- Three-stage overcurrent protection
- Zero-sequence overcurrent protection
- Overload protection

Available Protective Relays include:

- ANSI Device 32 – Directional Power
- ANSI Device 50 – Instantaneous Overcurrent
- ANSI Device 51 – AC Time Overcurrent
- ANSI Device 46 – Reverse Phase/Phase-Balance Current
- ANSI Device 47 – Phase Sequence/ Phase-Balance Voltage
- ANSI Device 86 – Lockout: Assures fault acknowledgement by locking a breaker open after a fault trip, then requires manual intervention to reset the breaker for automatic control.

Instrument Transformers

Voltage Transformers and Current Transformers signal circuit voltage and current. Standard construction includes ANSI C57.13 metering class transformers for consistent and reliable performance. These include grounded truck-mounts for safe withdrawal and maintenance, as well as fusing for circuit protection. Revenue-grade instruments, test blocks, and additional protective relays are available.

Transfer Switch Communications and Metering

Communication



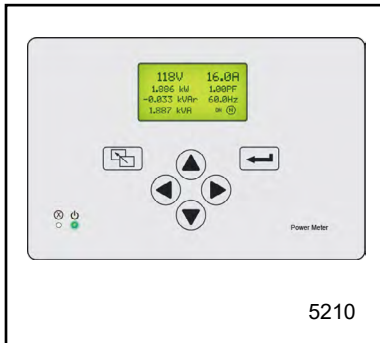
Turn Transfer Switches into Power Information Portals

- Monitor transfer switch status and statistics
- Remotely exercise and test engine-generators
- Use open Modbus and SNMP protocols to share data with power and building monitoring systems

Product Details

 [5170 Connectivity Module](#)

Metering



Transfer Switches are the Perfect Place to Monitor Power Flow, Power Conditions, and Power Events

5210 Power Meter – Provides deeper insight into circuit status and conditions.

Product Details

 [5210 Power Meter](#)

 [PowerLogic PM 8000](#)



PowerLogic PM 8000 – Schneider Electric's compact, high-performance, power meter simplifies power quality and maximizes versatility.

PM 8000

Optional Accessories

Time Delays and Extended Control Power	
1G	External 24VDC auxiliary power connections (Standard on MVATS)
Indicators and Customer Control Circuits	
30B	Load shed circuit
31BG	Provides 2 sets of Form C contacts rated at 6A for each of the following status signals: normal source acceptability, emergency source acceptability, pre/post transfer signal.
Special Applications	
138B	TOC Breaker truck-operated contact switch
136A	3" Infrared viewports

Notes:

Contact ASCO for information about available Protective Relays

Available Medium Voltage Transfer Switch Ratings

Voltage Class	Interrupt Classes (kA Symm.)	Rated Current (A)
15 kV	25	1200
	40	2000
	50	3000
5kV	40	1200
	50	2000
		3000

Construction, testing, and safety conform to the following standards:

- ANSI/IEEE C37.20.2 – Standard for Metal-Clad Switchgear
- ANSI/NEMA C37.55 – Switchgear – Medium Voltage Metal-Clad Assemblies – Conformance Test Procedures
- UL 1008A Listed – Standard for Medium Voltage Transfer Switches

Additional Information

Controls	Technical Information
Group 5 Controller & Power Control Center	Outline Drawings & Wiring Diagrams

Life Is On



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Florham Park, NJ 07932
Tel: 800 800 ASCO

[www.se.com/us/en/brands/ascopower/
customer care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer care@ascopower.com)

ASCO Bypass-Isolation Automatic Transfer Switches are available in open transition, closed transition, and delayed transition designs. The bypass-isolation features allow the primary automatic transfer switch to be inspected, tested, and maintained without interrupting power to the load. They also provide redundant power transfer if the ATS is disabled or removed from service.



J-Frame
150-600 amps



H-Frame
600-1200 amps



G-Frame
1000-3000 amps

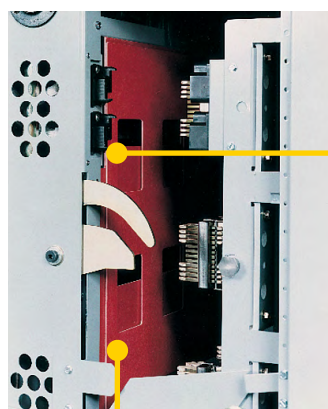


G-Frame
4000 amps

- Available 150 to 4000 amps
- Bypass switch and transfer switch have identical electrical ratings
- Mechanical interlocks prevent unintended operation
- Bypass contacts carry current only during bypass operation
- Draw-out design eases transfer switch maintenance
- The bypass switch has dead-front quick-make, quick-break operation for transferring loads between live sources
- Bypass switch is rated for use as a 3-position manual transfer switch
- Bypass and isolation functions are simple, requiring only two operating handles
- Bypass-Isolation Handles are permanently mounted
- No toggle switches, push buttons, selector switches, or levers are required for bypass-isolation operation
- Mechanical indicators show bypass and transfer switch positions
- 800 to 1200 amp models available in shallow depth, front-connected, or rear-connected designs

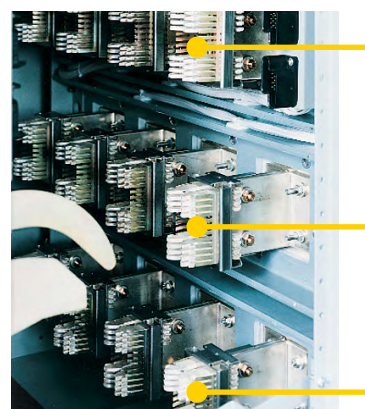
Transfer Switch Draw-out Features

- Automatic secondary disconnects remove control power as switch is withdrawn
- Draw-out carriage eases switch mechanism maintenance and removal via commercially available breaker hoists
- Optional transfer switch lifting yoke kit
- Optional automatic shutters isolate bus when the transfer switch is withdrawn, 1600-3000 Amp only



Optional Automatic Shutters
(1600-3000 amps)

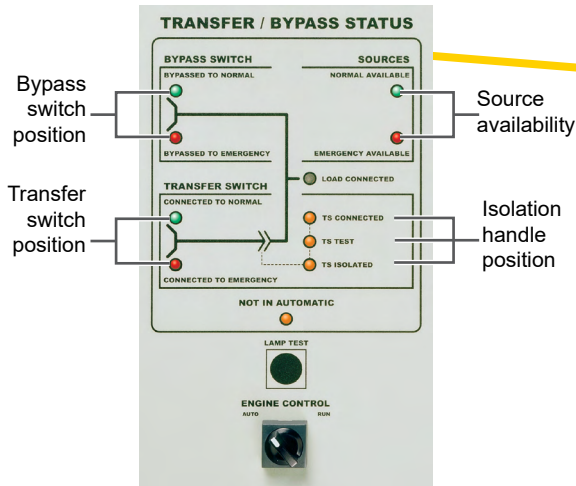
Automatic
Secondary
Disconnects



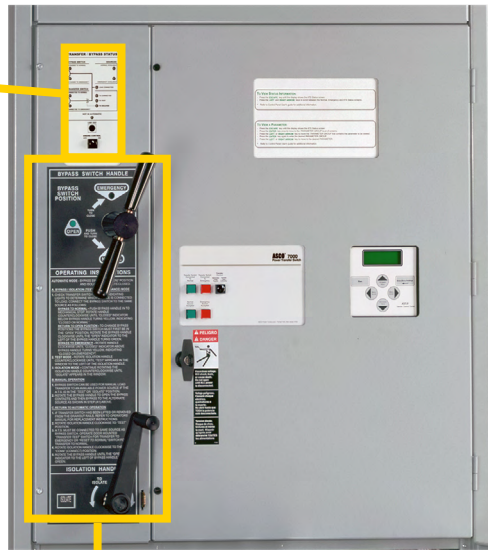
Self-Aligning Jaws

ASCO 7000 SERIES Bypass-Isolation Transfer Switches

Transfer / Bypass Status Panel



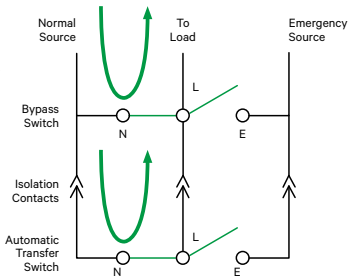
Instantly see the status of power availability and switch positions.



Bypass and Isolation - Simple as 1, 2, 3

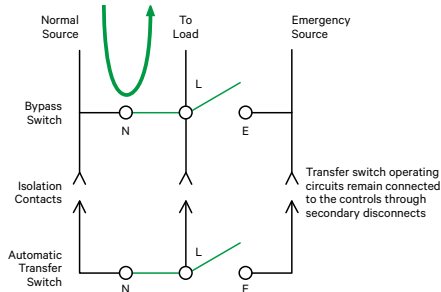
1 Bypass

Push in the transfer switch bypass handle and turn it counter clockwise



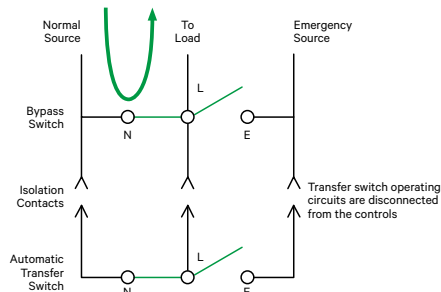
2 Set in Test Position

Turn isolation handle counter clockwise until window shows "Test"



3 Isolation Position

Turn isolation handle counter clockwise until window shows "isolate"



Power Knowledge

Application and Design Factors for Automatic Transfer and Bypass-Isolation Switches

[Part 1](#)

[Part 2](#)

[3D Bypass Switch Animation](#)

The ASCO Service Entrance Power Transfer Switch combines automatic power switching with a disconnect and overcurrent protection device for the utility source.



Service Entrance Breaker.
Ground and neutral disconnect links.

It meets all National Electric Code requirements for main utility service entrance use. Service entrance transfer switches are installed at facilities that have a single utility feed and a single emergency power source. A circuit breaker serves as the utility disconnect and links are provided to disconnect both neutral and ground connections. This product is available up to 600V and 4000 amps in Standard, Delayed, Closed Transition, and Bypass-Isolation configurations.

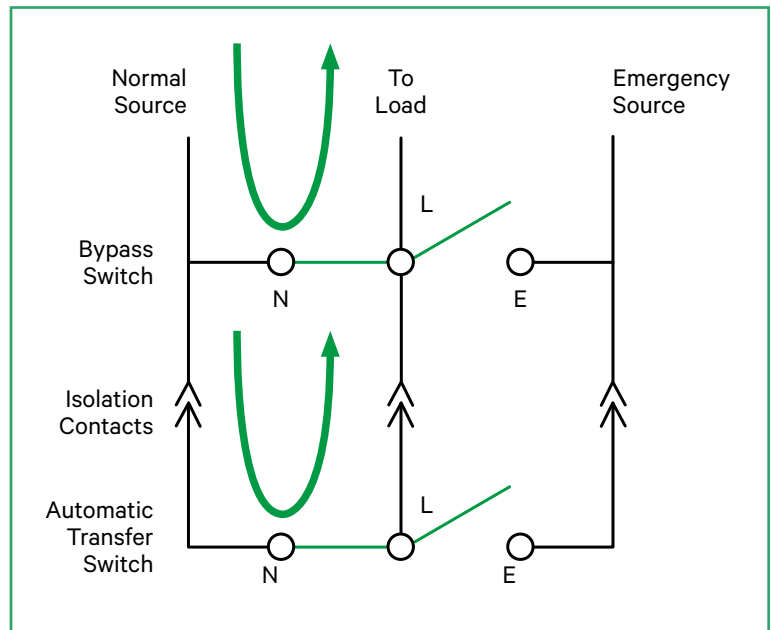
Standard Features

- Available from 70 to 4000 amps
 - 70 - 400 amp listed to UL 1008
 - 600 - 4000 amp listed to UL 891
- UL 1008 Listed transfer mechanism
- Disconnect links on Neutral and Ground
- Disconnect and overcurrent protective device on the utility source. 70 to 2000 amp models use molded case circuit breakers; 2500 to 4000 amp models use insulated case circuit breakers.
- Silver-plated copper Ground and Neutral Bus are silver-plated copper
- Solderless screw-type terminals for External Power Connection
- Ethernet-enabled monitoring and control optional
- Service Entrance Continuous Breaker Ratings: 80% for standard transfer switches below 2500 amps and Bypass Isolation Switches below 1000 amps, otherwise 100%

ASCO 7000 SERIES Service Entrance Transfer Switches

Common Options

- Enclosures - Secure Door Over Door/Panel
 - UL Type 3R w/strip heater & thermostat
 - UL Type 4 or 4X
 - UL Type 12
- Connections
 - Crimp lugs
 - Bus Riser on Normal, Emergency or Load
- Metering
 - Accessory 135L
- Surge Suppression
 - Accessory 73, Surge protector
- Additional Breakers
 - Circuit Breaker on Emergency
 - Load Distribution Panel
- Optional High AIC Ratings on Breakers
- Technology Packages including
 - Bundle Package
 - Includes 5210 power meter
 - Includes 72EE2 communication modules
 - Includes 1PS1 ride through power module
 - Includes 1G1 external 24VDC auxiliary input



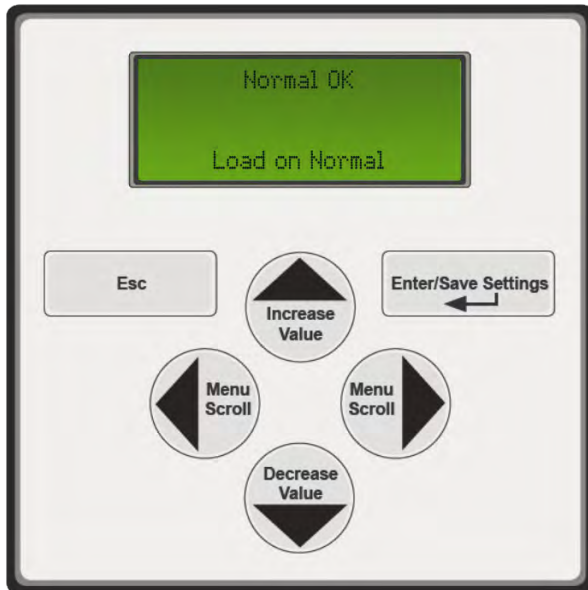
Service Entrance switches provide disconnect links for ground and neutral conductors.*Ground fault trip protection provided on models of 1000 amps and above

Power Knowledge



[Applications for Service Entrance Automatic Transfer Switches](#)

The Group 5 Controller is the most reliable and field-proven transfer switch controller in the industry.



It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.

Because severe voltage transients are frequently encountered in industrial distribution systems, the controller's logic board is separated and isolated from its power board. This enhances electrical noise immunity and helps assure compliance with the transient suppression standards shown in the table below.

Control Features

- Touch pad programming
- Sixteen selectable operating voltages
- On-board diagnostics provide control panel and ATS status information
- Displays active timing functions
- Selectable multi-language display (English, German, Portuguese, Spanish, or French)
- Password protection to prevent unauthorized tampering of settings
- Remote monitoring and control with ASCO Critical Power Monitoring Appliances CPMA
- Load shed option for bus optimization
- Statistical ATS systems monitoring information

Voltage and Frequency Sensing

- 3-Phase under-voltage and over-voltage settings on normal and emergency sources
- Under-frequency and over-frequency settings on normal and emergency
- True RMS Voltage Sensing with +/- 1% accuracy; Frequency Sensing Accuracy is +/- 0.2%
- Selectable settings single or 3-phase voltage sensing on normal and emergency; 50 or 60Hz
- Phase sequence sensing for phase-sensitive loads
- Voltage imbalance detection between phases

ASCO Group 5 Controller

Time Delays

- Engine start time delay - 0 to 6 seconds
- Transfer to emergency delay - 0 to 60 minutes
- Emergency source stabilization delay - 0 to 6 seconds
- Retransfer to normal delay with two settings:
 - Power failure mode - 0 to 60 minutes
 - Test mode - 0 to 10 hours
- Unloaded running delay for engine cool down - 0 to 60 minutes
- Pre-transfer and post-transfer signal delay - 0 to 5 minutes. This signal can drive a customer-furnished relay, or be used for two sets of double-throw contacts. Specify ASCO optional Accessory 31BG.
- Programmable engine exerciser with seven independent routines to exercise an engine-generator, with or without loads, on a daily, weekly, bi-weekly, or monthly frequency
- Alarm signals, logic, and time delays for use with closed transition switches
 - In synch delay - 0 to 3 seconds
 - Failure to synchronize - 1 to 5 minutes
 - Extended parallel - 0.1 to 1.0 seconds
- Delayed transition load disconnect delay - 0 to 5 minutes

Status and Control Functions

- Output contact (N/O or N/C) for engine-start signals
- Selection between “commit/no-commit” on transfer to emergency when engine starts and normal restores before transfer
- Advanced inphase initiates transfer at appropriate phase angles to minimize disturbances
- Standard event log displays 99 logged events with the time and date of the event, event type and event reason
- Indicators for normal and emergency source acceptability
- Data screens provide:
 - Total number of transfers
 - Number of transfers caused by power source failure
 - Number of days ATS has been in operation
 - Total hours of normal and emergency source availability

Microprocessor Controller

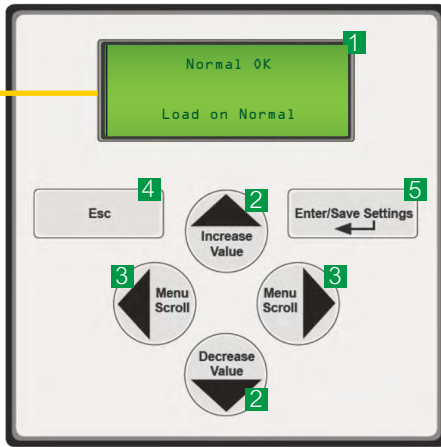
Emission Standard - Group 1, Class A	EN 55011
Generic Immunity Standard:	EN 50082-2
• Electrostatic Discharge (ESD) Immunity	EN 61000-4-2
• Radiated Electromagnetic Field Immunity	EN 61000-4-3
• Electrical Fast Transient (EFT) Immunity	EN 61000-4-4
• Surge Transient Immunity	EN 61000-4-5
• Conducted Radio-Frequency Field Immunity	EN 61000-4-6
• Voltage Dips, Interruptions and Variations Immunity	EN 61000-4-11

Power Knowledge



[Timing Delays
for ATS Transition
Modes](#)

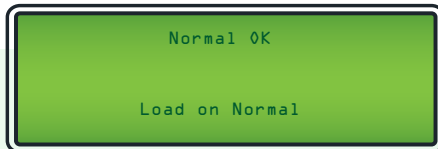
ASCO Group 5 Controller



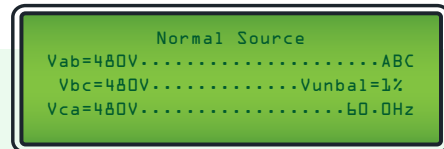
Door-Mounted Control & Display Panel

- 1 Display Screen
- 2 Scroll, Up/Down Arrows
- 3 Scroll, Left/Right Arrows
- 4 Escape Key
- 5 Enter/Save Key

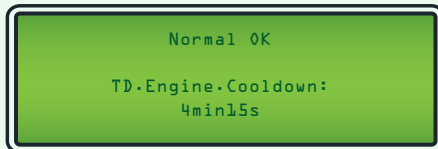
Status



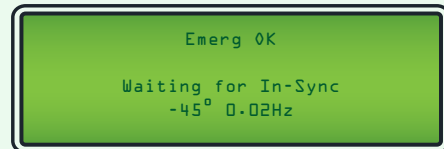
System Status. Displays system status in clear, concise language.



Source Status. Displays voltage, frequency, phase rotation, and voltage imbalance.

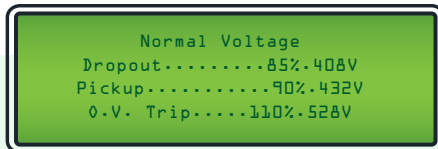


Active Time Delay Status. Displays time remaining until next control event.

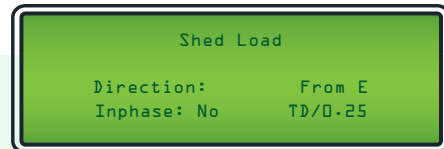


In-Phase Transfer Status. Displays the relative phase angle and frequency differences between sources.

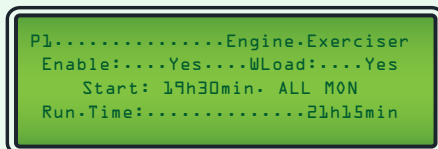
Settings



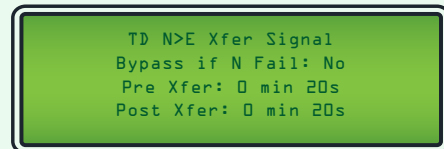
Voltage & Frequency Settings. Voltage and frequency settings for normal and emergency sources. Voltage pick-up, dropout, and trip settings shown as percentages of nominal voltage and as rms voltages.



Feature Settings. Standard features are activated with a keypad. For example, enabling the “shed load” option causes the transfer switch to transfer the load off of the specified source.

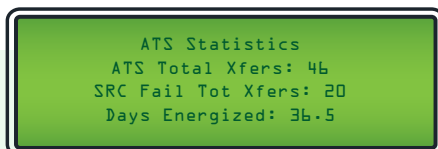


Engine Exerciser. Seven independent programs, load/no load selection, flexible run times, and daily, weekly, bi-weekly, and monthly exercise routines.

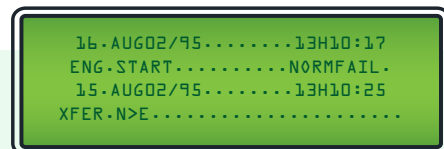


Time Delay Settings. Provides direct reading display for setting time delays.

Data Logging



ATS Statistics. Statistics on total number of transfers, transfers caused by power failures, and total days controller has been energized.



Historical Event Log. Displays detailed information for 99 events, including time of occurrence, duration, date, and reason.



Flexible Power Transfer Solutions for Commercial & Industrial Applications

ASCO Power
Technologies™

ASCO SERIES 300
Power Transfer Switches



se.com

Life Is On

Schneider
Electric

ASCO SERIES 300 Automatic Transfer Switches

Power outages impact small and large facilities alike. ASCO SERIES 300 Automatic Transfer Switches offer rugged design and reliable performance to small and mid-size commercial and industrial facilities in packaged solutions that are easy to select, procure, install, and operate.

Every SERIES 300 generator transfer switch is engineered with ASCO's reliability expertise in a package that makes backup power accessible for small and mid-size facilities. Leveraging knowledge derived from a century of critical power transfer experience, each SERIES 300 is backed by the same ASCO technical support and service that solves the most demanding critical power challenges facing facilities today.

Product Details

 [Transfer Switch
Overview](#)



ASCO's SERIES 300 lineup offers flexible backup power solutions for businesses of every size.

SERIES 300 Automatic Transfer Switches

Designed to Fit Anywhere

The ASCO SERIES 300 product line provides the most compact design of generator power transfer switches in the industry.

Available to mount on walls or floors, all models through 2000 amperes are designed to be completely front-accessible. This permits installation flush against walls while allowing installation of cabling and connections from the front of the switch. Cable entrance plates are standard on 1600 and 2000 amperes units; these allow use of optional side-mounted pull boxes for additional cable bending space.

- 30 through 3000 amperes in compact designs
- Up to 600 VAC, single or three phase
- Listed to UL 1008 - Standard for Safety - Transfer Switch Equipment
- True double-throw operation: The single solenoid design is inherently interlocked to prevent simultaneous connections of two power sources.
- Will not transfer to a dead source - single solenoid operator derives power from the destination source
- Easy-to-navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not-in-auto mode, and alert conditions.
- Integrated, multilingual, user interface for configuration and monitoring
- Available Delayed Transition operation
- Optional Relay Expansion Module with extra relays for accessory outputs
- Soft keys for test function and time delay bypass
- Emergency source failure alert indication
- Optional Historical Event Log
- Displays statistical ATS monitoring information
- Built-in diagnostic functions
- Password protection to prevent unauthorized actions
- Adjustable delay feature prevents nuisance transfer due to momentary utility power outages and generator dips
- ASCO's patented Predictive Outage Detection feature senses voltage instability conditions or flickers and proactively starts the generator for protection of equipment and reduction of downtime
- Auxiliary contacts signal position of main contacts - two for normal and two for emergency position
- Standard solid neutral terminals
- Restriction of Hazardous Substances (RoHS) compliant controller
- Standard 2 year warranty. Optional 1, 2, and 3 year extensions

Power Knowledge

 [Basic Automatic Transfer Switch Functions](#)



SERIES 300 Power
Transfer Switch
rated 200 amps

SERIES 300 Automatic Switching Solutions

Automatic and Non-Automatic Transfer Switching

ASCO Transfer Switches are available in both automatic and non-automatic types. Both are electrically operated. For automatic transfer switches, the controller initiates transfer between power sources. For non-automatic transfer switches, a user initiates transfer using local or remote controls.

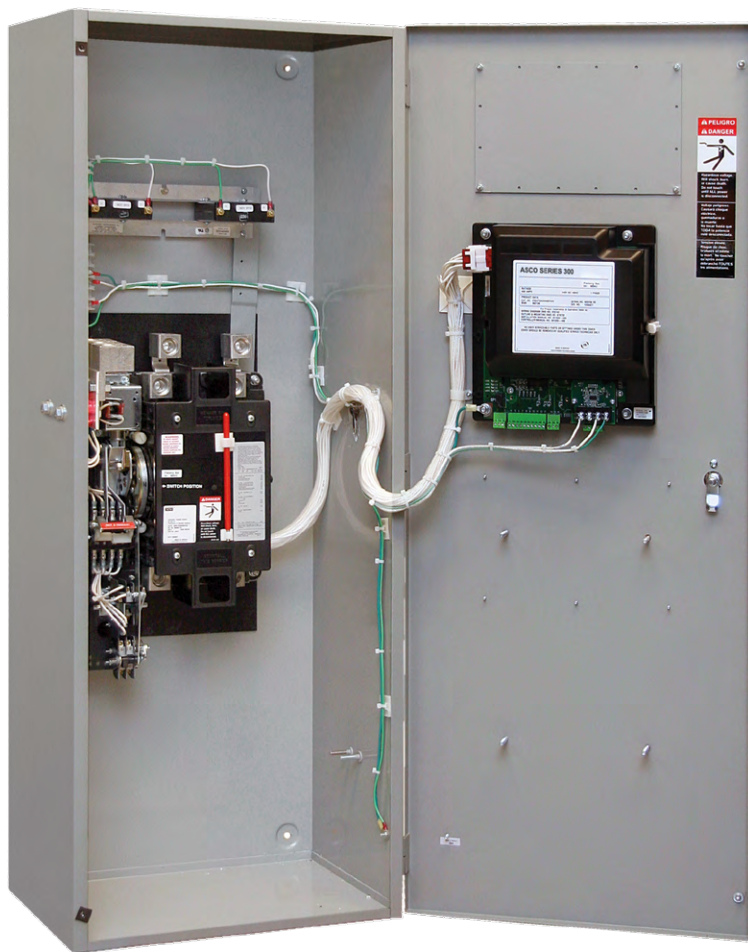
SERIES 300 non-automatic transfer switches offer the following features:

- Models range from 30 through 3000 amperes, up to 600V
- Controller prevents inadvertent operation under low voltage conditions
- Source acceptability lights inform operator when sources are available to accept load
- Standard in-phase monitor for transferring motor loads between live sources

Power Knowledge



Non-Automatic and Manual Transfer Switches for Backup Power Applications

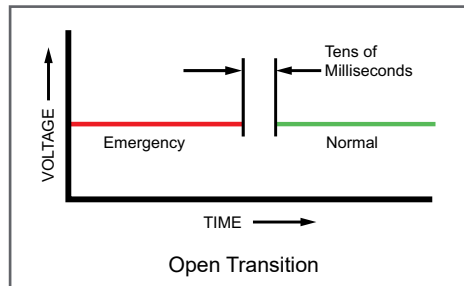


400 Amp, Type 1 Enclosure

Open Transition Transfer Switching

ASCO Transfer Switches are available with a standard, 2-position, open transition models that reliably transfer loads in less than 50 milliseconds. Open transition switches are suitable for a wide range of applications.

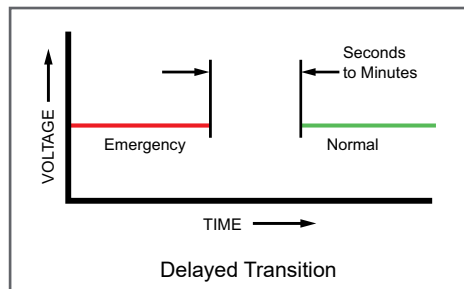
- 30 to 3000 amps
- Single-operator switching mechanism prevents simultaneous connection of both sources
- Available In-Phase Monitor can be activated for transferring motor loads



Delayed Transition Transfer Switching

ASCO Delayed Transition Transfer Switches transfer loads between power sources using a timed load disconnect position with an adjustable delay.

- 150 through 3000 amps
- Reliable, field-proven, dual-solenoid operating mechanism
- Mechanical interlocks to prevent simultaneous connection of both power sources
- Adjustable delay for load disconnect - 0 to 5 minutes
- Non-automatic models available in manual operation configuration
- Automatic models available with load shed feature



Power Knowledge

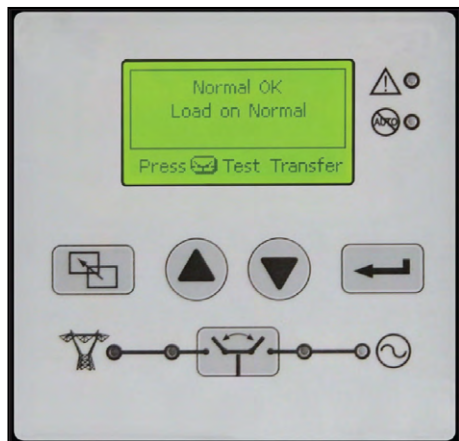
[Transition Mode Basics](#)

[Transferring Motor Loads between Power Sources](#)

[Transferring Loads with Zero Power Interruption](#)

SERIES 300 Group G Controller

The SERIES 300 Group G Controller is reliable and field-proven. It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.



- Touch pad programming
- Displays active timers
- On-board diagnostics
- Password protection
- Voltage and frequency sensing
- Status and control functions
- Patented Predictive Outage Detection feature

Product Details

[Group G Controller](#)

Transfer Switch Communications and Metering

Options to Customize Functionality and Increase Value

Product Details

 [5300 SERIES Annunciators](#)

Remote Annunciation

Monitor Power Equipment Status from Anywhere

Monitoring and control transfer switches from across the room, building, or from Internet.

5310 – LED annunciator – Single ATS

5350 – LED annunciator – up to 8 ATSS



Product Details

 [5140 Connectivity Module](#)

Communication

Turn Transfer Switches into Power Information Portals

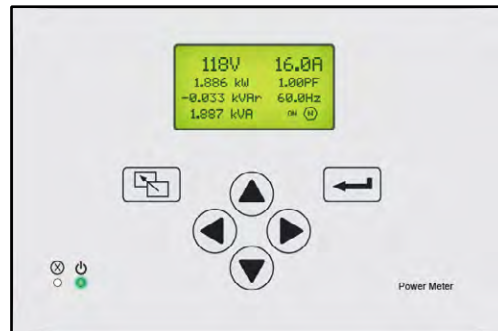
5140 Connectivity Module – Makes status and power information from a single switch available to via ModBUS, SNMP, and web pages.



Metering

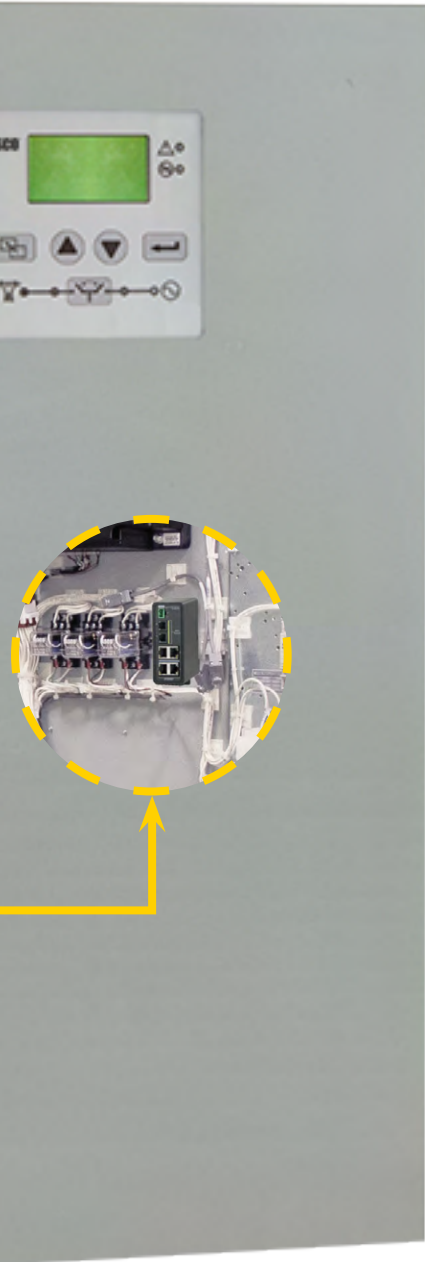
Transfer Switches are the Perfect Place to Monitor Power Flow, Power Conditions, and Power Events

5210 Power Meter – Provides deeper insight into circuit status and conditions.



Product Details

 [5210 Power Meter](#)



SERIES 300 Optional Accessories

Communications	
11BE	Feature Bundle. Programmable engine exerciser with seven independent routines run the generator with or without loads, on a daily, weekly, bi-weekly, or monthly basis. Controlled from the user interface keypad. - Event log display shows the event number, time and date, type and reason (if applicable). - Stores up to 300 events - RS485 Communication Port enabled common alarm output contact - On three-phase systems, Accessory 11BE enables line-to-line voltage imbalance sensing and three-phase sensing capabilities for the Emergency power source as well as the Phase Rotation checking for both power sources.
18RX	Relay Expansion Module provides accessory relays and includes one Form C contact for normal source availability (18G), and one Form C contact for emergency source availability (18B) (contact rating 5 amperes @ 30 VDC or @ 125 VAC resistive) (100 ma, 4 VDC min) Additional output relay is provided the default is to indicate a common alarm.
72EE	Connectivity module provides remote monitoring and control capabilities and includes accessory 11BE feature bundle
Environment and Power	
44A	Strip heater with thermostat for cold environment to prevent internal condensation and icing. External 120-volt AC power source required.
44G	Strip heater with thermostat, wired to load terminals on 208-240, 360-380, 460-480, 550-600 volt models. Contains wiring harnesses for all transfer switch sizes.
1UP	UPS back up power runs controller and LCD display for 30 seconds without AC power
Extension Harness	
37B	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch
37C	Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch
Indicators	
62W	Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).
Customer Control Circuits	
30A	Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)
30B	Load-shed circuit initiated by removal of customer-supplied control voltage (Open Transition model only)
30AA	Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)
30BA	Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)
Surge Protection	
73	Surge suppressor rated 65 kA
Metering	
23GA, 23GB	Load Current Metering card measures either single or three-phase load current. Not available with Power Meter option 135L. Use 23GA for Single-Phase, 23GB for Three-Phase.
135L	Power Meter on load side (includes shorting block and current transformers). Not available with Load Current Metering options 23GA or 23GB.

Field Conversion Kits

Kit No.	Description
935147	Advanced Function Bundle Retrofit Kit (11BE) - See above accessory 11BE description for details.
935148	REX Module with Source Availability Contacts (Acc. 18RX)
935149	UPS to allow controller to run for 30 seconds minimum without AC Power (Acc. 1UP)
935150	1/3 Phase load current sensing card only (Acc. 23GA/GB)
K613127-001	Strip Heater (125 watt) 120 volt (Acc. 44A)
K613127-002	Strip Heater (125 watt) 208-480 volt (Acc. 44G)
948551	Quad-Ethernet Module (Acc. 72EE)
K609027	Cable Pull Box (1600-2000 amperes)

Withstand and Close-on Ratings

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short Time Ratings ³ (sec)							
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	480V Max.				600V Max.			
														.13	.2	.3	.5	.1	.13	.3	.5
D	30	-	100kA	-	300	J	22kA	25kA	10kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
			35kA	35kA	200	RK1															
D	70, 100	-	35kA	35kA	200	RK1	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-				-			
			200kA	35kA	200	J															
			35kA	35kA	200	RK1															
D	150	-	200kA	35kA	200	J	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-				-			
			35kA	35kA	200	RK1															
			200kA	35kA	200	J															
D	200	-	200kA	35kA	200	J	200kA	85kA	14kA	0.025	10kA	10kA	10kA	-				-			
			35kA	35kA	200	RK1															
			200kA	35kA	200	J															
D	230	-	100kA	-	300	J	200kA	85kA	14kA	0.025	10kA	10kA	-	-				-			
E	260, 400	-	200kA	-	600	J	65kA	42kA	22kA	0.05	35kA	35kA	22kA	-				-			
J	150, 200, 230, 260	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA	-	-	-	-	-	-	-
					800	L															
					600	J															
J	400	400	200kA	200kA	800	L	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA	-	-	-	-	-	-	-
					600	J															
					800	L															
J	600	600	200kA	200kA	800	L	200kA	200kA	100kA	0.05	65kA	42kA ⁵	35kA	7.5kA ⁸	-	-	-	-	-	-	-
H ⁸	600	600	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	-	-	36kA	-	-	-	-
P ⁸	600	600	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-	-	-	-	-
P ⁸	800	800 - 1200	200kA	200kA	1600	L	65kA	150kA ⁶	65kA	0.05	50kA	50kA	50kA	36kA	30kA	36kA	-	-	-	-	-
H	800 - 1200	800 - 1200	200kA	200kA	1600 ⁴	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-	-	36kA	-	-	-	-
Q ⁸	600-1600	600-1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50kA				50kA			
S ⁸	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65kA				65kA			
G ⁸	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-				-			
G	1600 - 2000 (Front Connected TS Only)	1600 - 2000	200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA	36kA	-	-	-	-	-	-
G ⁸	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
S ⁸	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA	65kA	85kA	65kA	85kA	65kA	85kA	65kA
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA ⁶	125kA ⁶	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
G ⁸	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-				-			
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85kA	65kA	-	-	65kA	65kA	65kA	65kA
U ⁸	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100kA				100kA			

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCR for certain switch sizes.
3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Max fuse rating is 1200A on front connected H frame switches
5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
7. See ASCO for Service Entrance Switch ratings
8. These frames are only available on the 7000 Series product
9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see **ASCO Publication 1128** for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes. Contact ASCO Power Technologies for more information.

Power Knowledge



[UL 1008 Transfer Switch Withstand and Closing Ratings](#)



[Performance Testing for Transfer Switches](#)

Additional SERIES 300 Product Information

Transfer Switches and Panels	Controls	Technical Information
Manual Transfer Switch	Group G Controller	Withstand and Closing Ratings
Manual Transfer Switch with Quick Connects		Weights and Dimensions and Ordering Info
Quick Connect Power Panel		Drawings
Dual Purpose Quick Connect Power Panel		Wiring Diagrams

SERIES 300 Manual Transfer Switching and Quick Connection Solutions

ASCO SERIES 300 Manual Transfer Switching and Quick Connection Solutions offer reliable service and application flexibility for a wide range of facilities.

Manual Transfer Switches



- Three-position, easy-to-use center-off switch
- Compact design - easy to install and maintain
- Designed to handle demands of motors and inrush currents

Power Knowledge

 [Differences Between Manual, Non-Automatic, & Automatic Transfer Switches](#)

Product Details

 [SERIES 300 Manual Transfer Switch](#)

Manual Transfer Switches with Quick Connects



- The ASCO SERIES 300 Manual Transfer Switch with Integrated Quick Connects provides a total temporary power connection and transfer solution
- Enables connection and control of a temporary or portable generator
- Provides a complete UL 1008-listed solution in a single unit

Product Details

 [SERIES 300 Manual Transfer Switch with Quick Connects](#)

Quick Connect Panels



- Listed to UL 1008 Transfer Switch Accessory standard
- Utilizes standard Cam-Lok™ receptacles for quick connections
- Standard Type 3R construction is weatherproof with or without cable
- Utilizes standard Series 16 Single Pole quick connect receptacles

Power Knowledge

 [NEC Requirement for Permanent Manual Switching Means](#)

Product Details

 [SERIES 300 Quick Connect Power Panel](#)

Dual-Purpose Manual Transfer Switches with Quick Connects



- Provides both supplemental backup power and load testing connectivity through a single device.
- Listed by ETL to UL 891
- Utilizes standard Series 16 Single Pole quick connect receptacles

Product Details

 [SERIES 300 Dual Purpose Quick Connect Power Panel](#)

Life Is On



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ASCO Power Technologies™

ASCO SERIES 300
Power Transfer Switches
Technical Data and Ordering
Information



ascopower.com

Life Is On

Schneider
Electric

ASCO SERIES 300 ORDERING INFORMATION

To order an ASCO SERIES 300 Power Transfer Switch, complete the following catalog number:

J	+	03ATS	+	A	+	3	+	0600	+	N	+	GX	+	C
FRAME		TRANSITION TYPE		NEUTRAL CODE		PHASE POLES		AMPERES		VOLTAGE CODE		GROUP CODE		ENCLOSURE
Open Transition D = 30A - 230A		Automatic 03ATS Open Transition		A = Solid Neutral		2		0030 ¹		C = 208		G0 No Optional Accessories		0 = Open Type (zero)
						3		0070 ¹		D = 220				C = Type 1 Enclosure
Open/Delayed Transition J = 150A - 600A H = 800A - 1200A G = 1600A - 3000A		3ADTS Delayed Transition Non Automatic 03NTS Open Transition 3NDTS Delayed Transition		B = Switched Neutral				0104 ¹		E = 230		GX Optional Accessories		F = Type 3R ⁷ Enclosure
								0150 ^{1,3}		F = 240				G = Type 4 ⁷ Enclosure
								0200 ^{1,2,3}		H = 380				L = Type 12 Enclosure
								0230 ^{1,2,3}		J = 400				M = Type 3R ⁷ Secure Double-Door Enclosure
								0260 ^{1,3}		K = 415				N = Type 4 ⁷ Secure Double-Door Enclosure
								0400 ^{1,3}		L = 440				Q = Type 12 Secure Double-Door Enclosure
								0600 ¹		M = 460				S = Type 3RX ^{6,7} Secure Double-Door Enclosure (316 Stainless Steel)
								0800 ³		N = 480				U = Type 4X ⁷ Enclosure (316 Stainless Steel)
								1000 ³		P = 550				V = Type 4X ⁷ Secure Double-Door Enclosure (316 Stainless Steel)
								1200 ^{3,4}		Q = 575				
								1600 ^{3,4}		R = 600				
								2000 ^{3,4}						
								2600 ^{3,4}						
								3000 ^{3,4}						

Notes:

- Switch sizes 30-600 amperes supplied in non-secure enclosures as standard.
- 200 and 230 amperes rated switches for use with copper cable only.
- Switch sizes 800-3000 amperes, and 150-400 amperes 3ADTS/3NDTS provided in secure type outdoor enclosures when required.
- Use Type 3R secure for 1200, 2000, 2600, and 3000.
- Available on switches rated 1200, 2000, 2600, and 3000 amperes.
- When temperatures below 32°F can be experienced, special precautions should be taken, such as the inclusion of strip heaters, to prevent condensation and freezing of this condensation. This is particularly important when environmental enclosures (Type 3R, 4) are ordered for outdoor applications.
- Type 3R enclosures are not suitable for installations subject to wind blown rain or snow. Use Type 4 enclosures where available or install supplemental shelter protection around the 3R enclosure.

SERIES 300 EXTERNAL POWER CONNECTIONS

Size UL Listed Solderless Screw-Type Terminals

SWITCH RATING (AMPERES)	RANGES OF AL-CU WIRE SIZES (UNLESS SPECIFIED COPPER ONLY)
30-230 ¹ ATS and NTS only	One #14 to 4/0 AWG
150 ² , 260, 400	Two 1/0 AWG to 250 MCM or One #4 AWG to 600 MCM
600	Two 2/0 AWG to 600 MCM
800, 1000, 1200	Four 1/0 to 600 MCM
1600, 2000	Six 1/0 to 600 MCM
2600, 3000	Twelve 1/0 to 750 MCM

Notes:

All SERIES 300 switches default to a solid neutral assembly unless a switched neutral is specified.
If no neutral is required, order as solid neutral and left unwired.
Use wire rated 75°C minimum for all power connections.

- 200 and 230 amperes rated switches for use with copper cable only. Refer to paragraph 310.15 of the NEC for additional information.
- 150 for DTS only.

Series 300 Transfer Switch Dimensions and Shipping Weights (Type 1)

SWITCH RATING AMPS	PHASE POLES	NEUTRAL CODE ¹	DIMENSIONS, IN. (MM) ²			APPROX. SHIPPING WEIGHT LB.
			WIDTH	HEIGHT	DEPTH	
30 ³ , 70 ³ , 104 ³ , 150 ³ , 200 ³	2	A	18	31	13	69
	2	B	18	31	13	72
	3	A	18	31	13	72
	3	B	18	31	13	75
230	2	A	18	48	13	117
	2	B	18	48	13	125
	3	A	18	48	13	125
	3	B	18	48	13	133
260, 400	2	A	24	56	14	250
	2	B	24	56	14	260
	3	A	24	56	14	260
	3	B	24	56	14	270
150, 200, 230 SERIES 3ADTS/3NDTS Only	2	A	24	56	14	250
	2	B	24	56	14	260
	3	A	24	56	14	260
	3	B	24	56	14	270
600	2	A	24	63	17	300
	2	B	24	63	17	320
	3	A	24	63	17	320
	3	B	24	63	17	320
800, 1000	2	A	34	72	20	431
	2	B	34	72	20	460
	3	A	34	72	20	460
	3	B	34	72	20	489
1200	2	A	38	87	23	581
	2	B	38	87	23	611
	3	A	38	87	23	611
	3	B	38	87	23	639
1600, 2000	3	A	38	87	23	1160
	3	B	38	87	23	1160
2600, 3000 ⁴	3	A	38	91	60	1430
	3	B	38	91	60	1495

Notes:

1. Neutral Codes: A=Solid, B=Switched
2. Dimensional data is approximate and subject to change. Certified dimensions available upon request.
3. Dimensions for 30-200 ampere models when furnished with accessory 135L power meter are 18"W x 41"H x 13"D.
4. Enclosures for 2600, 3000 amperes are free-standing with removable top, sides and back.

* Unit is designed for top cable entry of emergency and load, and bottom entry of normal.

A cable pull box is also available for all top or bottom cable access when required (optional accessory kit #K609027).

Not required for type 3R, 4X, and 12 enclosures where available.

Series 300 Transfer Switch Dimensions and Shipping Weights (Type 3R)

SWITCH RATING AMPS	PHASE POLES	NEUTRAL CODE ¹	DIMENSIONS, IN. (MM) ²			APPROX. SHIPPING WEIGHT LB.
			WIDTH	HEIGHT	DEPTH	
30 ³ , 70 ³ , 104 ³ 150 ³ , 200 ³	2	A	18	35	14	86
	2	B	18	35	14	88
	3	A	18	35	14	88
	3	B	18	35	14	90
230	2	A	18	35	14	86
	2	B	18	35	14	88
	3	A	18	35	14	88
	3	B	18	35	14	90
260, 400	2	A	24	64	18	206
	2	B	24	64	18	206
	3	A	24	64	18	212
	3	B	24	64	18	218
150, 200, 230 SERIES 3ADTS/3NTS only	2	A	24	64	18	222
	2	B	24	64	18	222
	3	A	24	64	18	228
	3	B	24	64	18	224
600 (Non-Secure Enclosure)	2	A	24	64	18	247
	2	B	24	64	18	247
	3	A	24	64	18	234
	3	B	24	64	18	241
800, 1000 (Non-Secure Enclosure)	2	A	34	75	20	560
	2	B	34	75	20	576
	3	A	34	75	20	576
	3	B	34	75	20	580
1200 (Secure Enclosure)	2	A	41	96	33	717
	2	B	41	96	33	717
	3	A	41	96	33	717
	3	B	41	96	33	717
1600, 2000 (Secure Enclosure)	3	A	41	96	62	1700
	3	B	41	96	62	1700
2600, 3000 (Secure Enclosure)	3	A	41	74	96	2150
	3	B	41	74	96	2230

Notes:

When climate conditions at installation site present condensation risk, special precautions should be taken, such as the inclusion of space heaters, to prevent interior condensation and freezing of this condensation.

1. Neutral Codes: A=Solid, B=Switched
2. Dimensional data is approximate and subject to change. Certified dimensions available upon request.
3. Dimensions for 30-200 ampere models when furnished with a power meter are 18"W x 48"H x 13"D.

WITHSTAND AND CLOSING RATINGS

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses				Specific Breaker			Time Based				Short Time Ratings ¹ (sec)							
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	480V Max.				600V Max.			
														0.13	0.2	0.3	0.5	0.1	0.13	0.3	0.5
D	30	-	100kA	-	300	J	22kA	22kA	10kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	70, 100	-	200kA	35kA	200	J	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	150	-	35kA	35kA	200	RK1	150kA	85kA	25kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	200	-	200kA	35kA	200	J	200kA	85kA	14kA	0.025	10kA	10kA	10kA	-	-	-	-	-	-	-	-
D	230	-	35kA	35kA	200	RK1	200kA	85kA	14kA	0.025	10kA	10kA	-	-	-	-	-	-	-	-	-
J	150, 200, 260	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA	42kA	0.05	65kA	42kA ²	35kA	7.5kA	-	-	-	-	-	-	-
J	400	400	200kA	200kA	800	L	65kA	50kA	42kA	0.05	65kA	42kA ²	35kA	7.5kA	-	-	-	-	-	-	-
J	600	600	200kA	200kA	800	L	65kA	85kA	42kA	0.05	65kA	42kA ²	35kA	7.5kA ³	-	-	-	-	-	-	-
H ⁴	600	600	200kA	200kA	600	J	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-	-	36kA	-	-	-	-
H	800 - 1200	800 - 1200	200kA	200kA	1600 ⁵	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA	-	-	36kA	-	-	-	-
G ⁴	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-	-	-	-	-	-	-	-
G	1600 - 2000 (Front Connected TS Only)	1600 - 2000	200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA	36kA	-	-	-	-	-	-
G ⁴	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA ⁶	125kA ⁵	100kA	0.05	100kA	100kA	100kA	42kA	36kA	42kA	-	-	-	-	-
G ⁴	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-	-	-	-	-	-	-	-	-
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85kA	65kA	-	-	65kA	-	-	-

Notes:

1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
2. Application requirements may permit higher WCR for certain switch sizes.
3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
4. Max fuse rating is 1200A on front connected H frame switches
5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
7. See ASCO for Service Entrance Switch ratings
8. These frames are only available on the 7000 Series product
9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see **ASCO Publication 1128** for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes.

EXTENDED WARRANTIES FOR SERIES 300 TRANSFER SWITCHES (3ATS/3NTS/3ADTS/3NDTS)

DESCRIPTION
1 Year Extension (Total of 3 Years)
2 Year Extension (Total of 4 Years)
3 Year Extension (Total of 5 Years)

Notes:

Standard warranty is (24) months, 2 years from date of shipment, extended warranty is in addition to the two years, for a total of, 3, 4, or 5 years.

Refer to Publication 3223 for warranty terms and conditions.

For more details, please contact customercare@ascopower.com



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Rugged Construction
Proven Performance
Simple Deployment

ASCO Power Technologies™

ASCO SERIES 300
Manual Transfer Switches



se.com

Life Is On

Schneider
Electric

ASCO SERIES 300 Manual Transfer Switches

Flexibility for Every Manual Backup Power Switching Application

When power fails, businesses suffer. For some organizations, a permanent generator is too costly. Instead, a permanent means for quickly connecting a portable or temporary generator that can make economic sense. The ASCO SERIES 300 Manual Transfer Switch, SERIES 300 Quick Connect Panel and SERIES 300 Manual Transfer Switch with Integrated Quick Connects provide flexible solutions for temporary backup power applications, including NEC® 700.3(F) requirements.

Manual Transfer Switch



The ASCO SERIES 300 **Manual Transfer Switch** is the perfect load transfer solution for commercial and municipal applications.

Quick Connect Power Panel



The ASCO SERIES 300 **Quick Connect Power Panel** provides reliable, convenient, and economical connection for a standby generator.

Manual Transfer Switch with Integrated Quick Connects



The ASCO SERIES 300 **Manual Transfer Switch with Integrated Quick Connects** provides a total temporary power connection and transfer solution.

SERIES 300 Manual Transfer Switches

Features

Every ASCO SERIES 300 Manual Transfer Switch provides the following capabilities and features:

- Three-position center-off switch
- Uses ASCO's reliable field-proven technology
- Modular compact design is easy to install and maintain
- Designed to handle motor loads and large inrush currents
- UL 1008 Listing
- Service Entrance models listed to UL 891
- Capacities from 150 to 3000 Amps, up to 600 VAC single or three phase
- Three position switching with center-off position:
 - Switch design prevents simultaneous connection to two power sources
 - Pad-lockable in any position
- Available solid or switched neutral
- Available stainless steel enclosure
- When equipped with a connecting means, complies with NEC® 700.3(F)
- One contact for switch connected to Normal, one contact for switch connected to Emergency.
- Optional features:
 - LED indicators and Form C contacts indicate switch position and source availability
 - Phase rotation monitor ensures proper connections
 - Two-wire engine start switch
 - IO Module for building management system communications
 - Transfer Switch Position
 - Source Availability
 - Engine Start Signal Monitor
 - Phase rotation
- Restriction of Hazardous Substance (RoHS) compliant

Power Knowledge

 [Differences Between Manual, Non-Automatic, and Automatic Transfer Switches](#)



SERIES 300 Manual Transfer Switch

SERIES 300 Quick Connect Panel

Features

Whether stand-alone or integrated into a Manual Transfer Switch, ASCO Quick Connect Panels offer the following:

- Input Panels are UL 1008 Listed (400A-800A) and ETL Listed to UL 1008 standards as a Transfer Switch Accessory (1200A-4000A)
- Output Panels are UL 891 Listed (400A-800A) and ETL Listed to UL 891 standards for Switchboards (1200A-4000A)
- Utilizes standard 16 Series Cam-Lok™ quick connectors
- Standard Type 3R enclosure is weather-resistant with or without cables
- Available stainless steel enclosure
- Lockable doors prevent unauthorized entry
- 400 to 4000 Amp models rated up to 600 volts
- Convenient, economical, and reliable connection of alternate power
- Provisions for Trap Key interlocks

Product Details



[SERIES 300 Quick Connect Power Panel](#)



[SERIES 300 Dual Purpose Quick Connect Power Panel](#)



[SERIES 300 Manual Transfer Switch with Quick Connects](#)



Quick-connect panels makes it easy to add a supplement power source.

SERIES 300 Manual Transfer Switch with Integrated Quick Connections

Features

Every ASCO SERIES 300 Manual Transfer switch with integrated quick connections provides the following capabilities and features:

- Enables connection and control of a secondary power source
- Provides a complete UL 1008-listed solution in a single unit
- Standard Type 3R cabinet is weatherproof with or without temporary power cables connected
- Utilizes standard 16 Series Cam-Lok™ quick connectors

Product Details



SERIES 300
Manual Trans-
fer Switch with
Integrated Quick
Connect



Simple and Effective 3-Position Switch



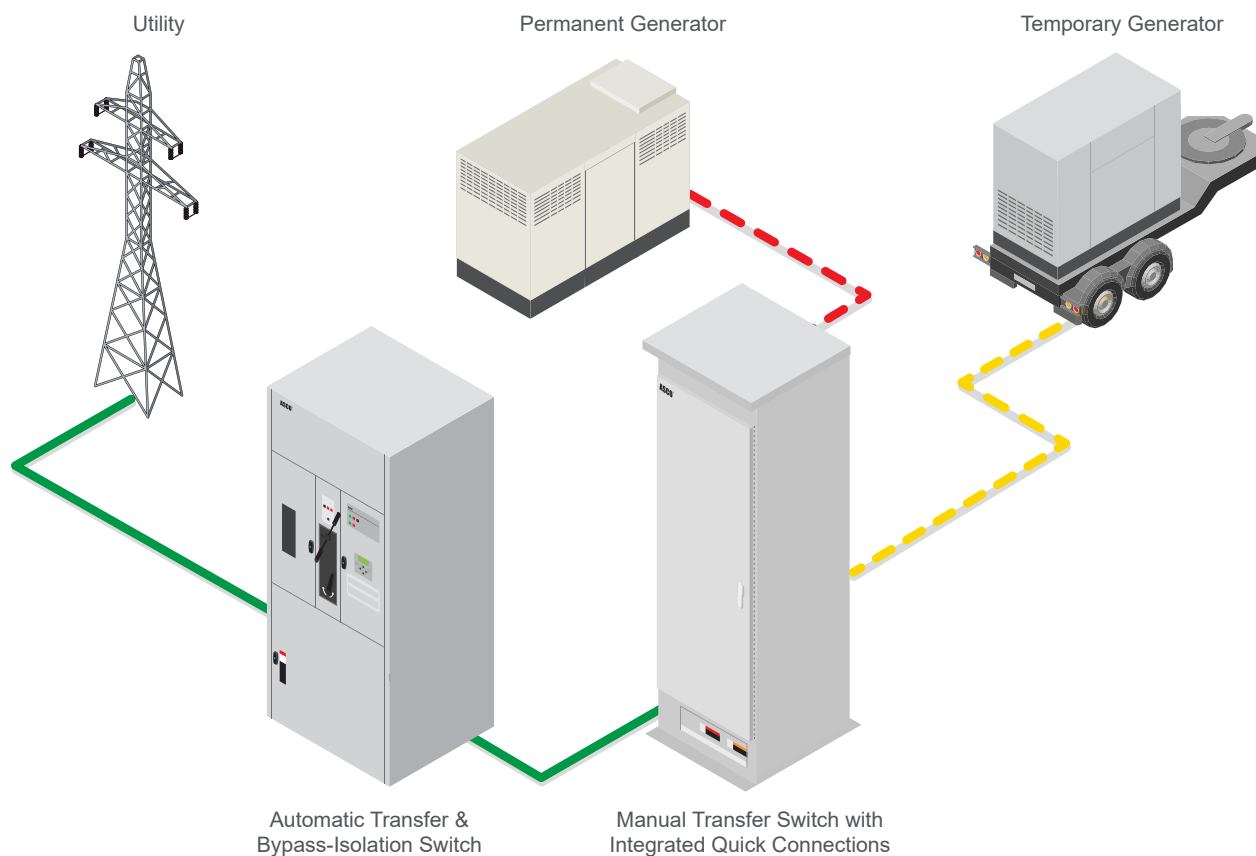
Please note the handle shown above represents 150-1200 Amp models.

The Perfect Solution for NEC® 700.3 Requirements

At facilities where backup power must be available even when servicing a facility's sole generator, National Electrical Code® Article 700.3(F) requires that a permanent switching means be provided to connect an interim source of secondary power. For facilities without a permanent backup generator, a Manual Transfer Switch and a connecting means would allow the connection of a temporary or portable generator when needed, without the cost of a permanent engine-generator.

Power Knowledge

 NEC Requirement for Permanent Manual Switching Means



SERIES 300 Applications



Healthcare

When only a single permanent generator provides backup power, the NEC® now requires a means for connecting a portable generator.



Telecom

Lost power disrupts critical services to customers and businesses.



Municipal

A power interruption can hinder emergency response and interrupt municipal utility services.



Commercial, Retail, Light Industrial

Power interruptions disrupt operations, damage equipment and ruin refrigerated inventory.

SERIES 300 Ordering Information

MTS Ordering Information

J	+	03MTS	+	A	+	3	+	0600	+	N	+	0X	+	M
Frame		Product		Neutral Code		Phase Poles		Amperes		Voltage Code		Group Code		Enclosure ^{3,4}
J = 150 - 600A H = 800 - 1200A G = 1600 - 3000A		03MTS ¹ - Manual Transfer Switch 03MUS - Service Entrance Manual Transfer Switch 03MTQ - Manual Transfer Switch with Quick Connects 03MUQ - Service Entrance Manual Transfer Switch with Quick Connects		A - Solid Neutral B - Switched Neutral		2 3		0150 0200 0230 ² 0260 ³ 0400 0600 0800 1000 1200 1600 2000 2600 3000		C - 208 D - 220 E - 230 F - 240 H - 380 J - 400 K - 415 L - 440 M - 460 N - 480 P - 550 Q - 575 R - 600		00 - No Accessory 0X - Accessory 0Z - Custom Accessory		C - Type 1 M - Type 3R Secure N - Type 4 Secure O - Open Type S - Type 3RX Secure (316) SS V - Type 4X Secure (316) SS

Notes:

1. Voltage code is not required for 03MTS without 170 accessory.
2. For Service Entrance switches, rating is 225 Amps.
3. MTQ with quick connects are available only in M and S enclosure
4. Type 4 Enclosures are available up to 800A

Catalog Information

3QC	+	N	+	C	+	A		A		3		0400		F		00		F
SERIES		Input/Output		Connector Type		Ground ¹		Neutral		Poles/Phase ²		Amps		Volts/Color Code		Accessories		Enclosure
3QC		N = Input U ³ = Output		C = Cam-Lok		A = 100% N = minimum of 25% grounding ampacity		0 = none A = 100% Rated Neutral		2 3		0400 0800 1200 1600 2000 ³ 2400 ³ 2800 ³ 3200 ³ 4000 ³		F ≤ 240V Black, Red, Blue N ≤ 480V Brown, Orange, Yellow R ≤ 600V Black, Black, Black		00 = None		F = Type 3R Secure S = 316 Stainless Steel Type 3R Secure

Notes:

1. 100% Rated ground standard on 400A-1600A units. Minimum of 25% rated ground on models 2000A and above.
2. 2-Pole only available for 240V up to 1600A.
3. Output Panels contain female connectors with flip covers.

SERIES 300 Accessories

ASCO SERIES 300 Manual Transfer Switch Accessories

Accessories	Description
44A	Strip heater with thermostat prevent condensation and ice formation of water. External 120V power source required
44G	Strip heater with thermostat wired to load terminals
73	Surge Suppressor Rated 65kA

ASCO 300 Manual Transfer Switch User Interface/Annunciation Accessories

170	+	B	+	P	+	1
Accessory Description		User Interface/Controls		Phase Rotation		IO Module
All 170 Accessories Include LEDs and Form C Contacts For: - Source 1 Available - Source 2 Available - Connected to Source 1 - Connected to Source 2 - Disconnected Position - External 24 VDC Connection		B – Base (Source Indication Only. No engine start switch or common alarm) E – Maintained Engine Start Switch/Output With Common Alarm Input/LED/Contact K – Keyed Maintained Engine Start Switch/Output with Common Alarm Input/LED/Contact		P = Phase Rotation Monitor (LED) Blank = none		1 = IO Module Blank = None

Quick Connect Panel Information

Rating	Standard Connection Type	Mounting	Dimensions	Shipping Weight (lbs)	Internal Connection
400A	Cam-Lok (1 row)	Wall Mount	24"w x 32"h x 11"d	85	Dual 2 AWG - 600 MCM Lugs
800A	Cam-Lok (2 rows)	Wall Mount	24"w x 32"h x 11"d	95	Dual 2 AWG - 600 MCM Lugs
1200A	Cam-Lok (3 rows)	Floor Mount	35"w x 56"h x 28"d	475	Copper Bus with ½" holes
1600A	Cam-Lok (4 rows)	Floor Mount	35"w x 56"h x 28"d	495	Copper Bus with ½" holes
2000A	Cam-Lok (5 - 9 rows)	Pad Mount	31"w x 39"h x 50"d	205	Single 2 AWG - 600 MCM Lugs
2400A - 4000A	Cam-Lok (6 - 10 rows)	Pad Mount	48"w x 39"h x 50"d	Varies based on Amperage	Single 2 AWG - 600 MCM Lugs



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customer care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer care@ascopower.com)

The ASCO Service Entrance Power Transfer Switch combines automatic power switching with the disconnecting, grounding, and bonding required for use as service entrance equipment. It meets all National Electrical Code® requirements for service entrance use.



ASCO SERIES 300
SE Rated 800 amperes Type 1 enclosure



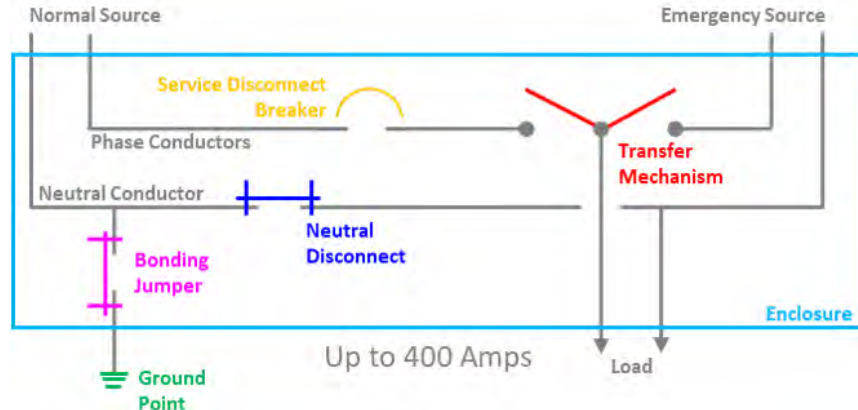
ASCO SERIES 300
SE Rated 200 amperes in Type 3R enclosure

Product Features:

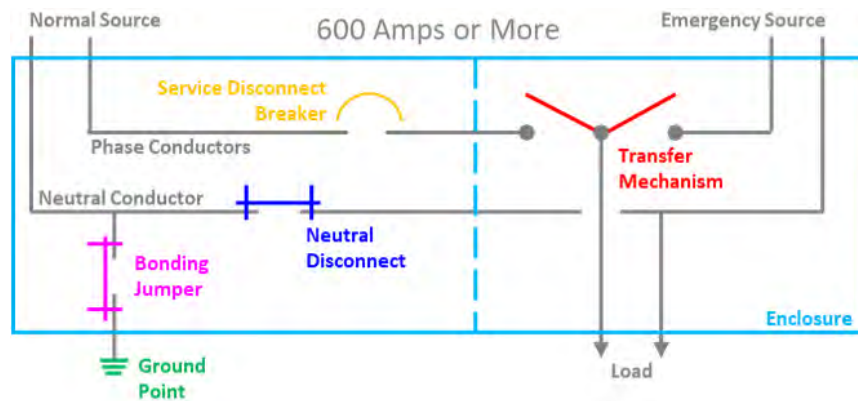
- Sizes available from 70 - 3000 amps, 600 VAC, 50 or 60 Hz, single or 3-phase
- 70 - 400 Ampere listed to UL 1008
- 600 - 3000 Ampere listed to UL 891
- Automatic Transfer Switch is listed to UL 1008 for total system loads
- Silver plated copper ground and neutral bus with solderless screw type terminals
- Ground fault trip protection provided on 1000 amps and above
- Available with solid or switched neutral
- Line side breaker barriers available in compliance with NEC2020

Construction

Products 400 amperes or less, utilize a single enclosure, including a service disconnect circuit breaker, as well as the transfer switch and grounding and bonding provisions.



Products 600 amperes and above provide a service equipment section containing the service disconnect circuit breaker as well as grounding and bonding provisions. A second section contains the power transfer switch.



For additional detail, see the [interactive 3-D view](#) in the [ASCO Digital Hub](#).

Order Information

To order an ASCO SERIES 300SE Power Transfer Switch, complete the following catalog number:

J	+	03AUS	+	B	+	3	+	0600	+	N	+	GX	+	C
Frame		Product Type		Neutral Code		Phase Poles		Amperes Continuous Rating		Voltage Code		Controller Code		Enclosure
D = 70 - 225 Amp		03AUS = Automatic		A = Solid Neutral		2		0070, 0100, 0150, 0200, 0225 ¹ , 0250 ³ ,		C = 208 D = 220 E = 230 F = 240 H = 380 J = 400 K = 415 L = 440 M = 460 N = 480 P = 550 Q = 575 R = 600		G = No Optional Accessories GX = Optional Accessories		C = Type 1 (Standard) M = Type 3R Secure Double Door N = Type 4 ¹ Secure Double Door Q = Type 12 ¹ Secure Double Door V = Type 4X ^{4,5} Secure Double Door 316 SS
J = 150 - 600 Amp 150A - 225A: 3ADUS/3NDUS Only		03NUS = Non-Automatic 3ADUS = Automatic Delayed Transition		B = Switched Neutral		3		0400, 0600, 0800, 1000, 1200, 1600, 2000 2500, 3000						
H = 800 - 1200 Amp														
G = 1600 - 3000 Amp		3NDUS = Non-Automatic, Delayed Transition												

Notes:

1. Available for 70-1600 amperes, use type 3R for 2000-3000 ampere applications.
2. A solid neutral is provided as standard.
3. 200, 225 ampere rated switches suitable for use with copper cable only. Refer to paragraph 310.15 of the NEC for additional information.

4. Type 316 stainless steel is the standard. It provides an improved reduction in corrosion of salt and some chemicals. It is the preferred choice for marine environments.
5. Available only on switches rated 70 - 1600 amperes.

Specifications

ASCO SERIES 300SE Power Transfer Switch Dimensions and Shipping Weights

UL Type 1 Enclosure⁴

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
70, 100, 150, 200, 225	2	A	36 (914)	48 (1219)	13 (330)	400 (185)
	2	B	36 (914)	48 (1219)	13 (330)	410 (189)
	3	A	36 (914)	48 (1219)	13 (330)	410 (189)
	3	B	36 (914)	48 (1219)	13 (330)	430 (198)
150, 200, 225, SERIES 3ADUS/3NDUS Only	2	A	36 (914)	48 (1219)	13 (330)	400 (185)
	2	B	36 (914)	48 (1219)	13 (330)	408 (188)
	3	A	36 (914)	48 (1219)	13 (330)	408 (188)
	3	B	36 (914)	48 (1219)	13 (330)	420 (193)
2501, 4001	2	A	42 (1067)	48 (1219)	15.5 (394)	420 (193)
	2	B	42 (1067)	48 (1219)	15.5 (394)	430 (198)
	3	A	42 (1067)	48 (1219)	15.5 (394)	430 (198)
	3	B	42 (1067)	48 (1219)	15.5 (394)	450 (207)
6001	2	A	38 (965)	91 (2311)	28 (711)	860 (396)
	2	B	38 (965)	91 (2311)	28 (711)	870 (401)
	3	A	38 (965)	91 (2311)	28 (711)	870 (401)
	3	B	38 (965)	91 (2311)	28 (711)	880 (405)
8001	2	A	38 (965)	91 (2311)	28 (711)	1460 (673)
	2	B	38 (965)	91 (2311)	28 (711)	1470 (677)
	3	A	38 (965)	91 (2311)	28 (711)	1470 (677)
	3	B	38 (965)	91 (2311)	28 (711)	1480 (682)
10001, 12001	2	A	38 (965)	91 (2311)	48 (1218)	1460 (673)
	2	B	38 (965)	91 (2311)	48 (1218)	1470 (677)
	3	A	38 (965)	91 (2311)	48 (1218)	1470 (677)
	3	B	38 (965)	91 (2311)	48 (1218)	1480 (682)
16001, 20001	3	A	38 (965)	91 (2311)	48 (1218)	1580 (727)
	3	B	38 (965)	91 (2311)	48 (1218)	1680 (773)
25001, 30001	3	A	38 (965)	91 (2311)	72 (1829)	4590 (2111)
	3	B	38 (965)	91 (2311)	72 (1829)	4690 (2157)

- Notes:**
- Unit is designed for top and bottom cable entry for all services and load.
 - Enclosures for 600 – 3000 amps are freestanding.
 - A space heater accessory 44G is required with all service entrance (Type 3R) switches to help reduce condensation and protect the circuit breaker. It is recommended when environmental enclosures (Type 4, 12) are ordered for installation outdoors. See Optional Accessories page for space heater options (acc. 44G).
 - Dimensional data is approximate and subject to change. Certified dimensions available upon request.

SERIES 300SE External Power Connections
Sizes UL-Listed Solderless Screw-Type Terminals

Switch Rating	Ranges of AL-CU Wire Sizes
70, 100, 150, 200 ² , 225 ²	One #14 to 4/0 AWG
150 ³ , 200 ³ , 225 ³ , 250, 400	One #4 AWG to 600 MCM Two 1/0 to 250 MCM
600	Two 1/0 to 600 MCM
800, 1000, 1200	Four 1/0 to 600 MCM
1600, 2000	Six 1/0 to 600 MCM
2500	Twelve 3/0 to 750 MCM
3000	Twelve 3/0 to 750 MCM

- Notes:**
- All SERIES 300 switches default to a solid neutral assembly unless a switched neutral is specified. If no neutral is required, order as solid neutral and left unwired.
 - 200 and 225 ampere rated switches for use with copper cable only. Refer to paragraph 310.15 of the NEC for all additional information.
 - J 150-225 ampere for SERIES 3ADUS/3NDUS only.
 - Use wire rated 75 degrees minimum for all power connections.
 - Refer to the outline drawing for maximum power cable connections for circuit breaker.

UL Type 3R Enclosure⁴

Switch Rating Amps	Phase Poles	Neutral Code	Dimensions, In. (mm)			Approx. Shipping Weight Lb. (kg)
			Width	Height	Depth	
70, 100, 150, 200, 225	2	A	36 (914)	48 (1219)	16 (406)	500 (232)
	2	B	36 (914)	48 (1219)	16 (406)	520 (241)
	3	A	36 (914)	48 (1219)	16 (406)	520 (241)
	3	B	36 (914)	48 (1219)	16 (406)	530 (246)
150, 200, 225, SERIES 3ADUS/3NDUS Only	2	A	41 (1041)	95.5 (2424)	33 (838)	500 (232)
	2	B	41 (1041)	95.5 (2424)	33 (838)	520 (241)
	3	A	41 (1041)	95.5 (2424)	33 (838)	520 (241)
	3	B	41 (1041)	95.5 (2424)	33 (838)	530 (246)
2501, 4001	2	A	42 (1067)	48 (1219)	18 (487)	500 (232)
	2	B	42 (1067)	48 (1219)	18 (487)	520 (241)
	3	A	42 (1067)	48 (1219)	18 (487)	520 (241)
	3	B	42 (1067)	48 (1219)	18 (487)	530 (246)
6001	2	A	41 (1041)	95.5 (2425)	33 (838)	1200 (555)
	2	B	41 (1041)	95.5 (2425)	33 (838)	1220 (564)
	3	A	41 (1041)	95.5 (2425)	33 (838)	1220 (564)
	3	B	41 (1041)	95.5 (2425)	33 (838)	1240 (574)
8001	2	A	38 (965)	91 (2311)	28 (711)	1520 (703)
	2	B	38 (965)	91 (2311)	28 (711)	1540 (712)
	3	A	38 (965)	91 (2311)	28 (711)	1540 (712)
	3	B	38 (965)	91 (2311)	28 (711)	1580 (731)
10001, 12001	2	A	38 (965)	91 (2311)	48 (1218)	1520 (703)
	2	B	38 (965)	91 (2311)	48 (1218)	1540 (712)
	3	A	38 (965)	91 (2311)	48 (1218)	1540 (712)
	3	B	38 (965)	91 (2311)	48 (1218)	1580 (731)
16001, 20001	3	A	38 (965)	91 (2311)	48 (1218)	2200 (1018)
	3	B	38 (965)	91 (2311)	48 (1218)	2240 (1036)
25001, 30001	3	A	38 (965)	91 (2311)	72 (1829)	5280 (2479)
	3	B	38 (965)	91 (2311)	72 (1829)	5380 (2475)

Extended Warranties for SERIES 300SE Transfer Switches
(3AUS/3NUS/3ADUS/3NDUS)

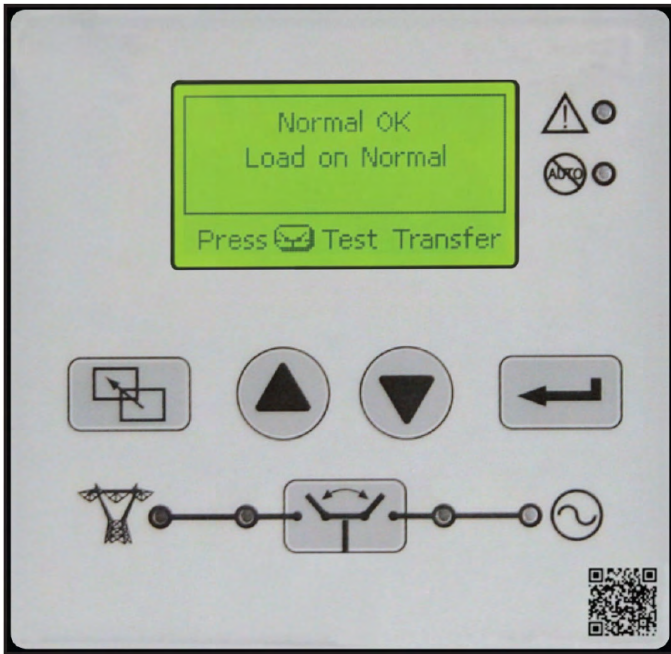
Description
1 Year Extension (Total of 3 Years)
2 Year Extension (Total of 4 Years)
3 Year Extension (Total of 5 Years)

- Notes:**
- Standard warranty is (24) months, 2 years from date of shipment, extended warranty is in addition to the two years, for a total of 3, 4 or 5 years, except where the warranty period for the circuit breaker shall be limited to 24 months from date of shipment from ASCO.
 - Refer to Publication 3223 for warranty terms and conditions.

SERIES 300SE AIC Breaker Rating¹

Switch Rating	AIC Rating (kA)	Voltage
70, 100, 150, 200, 225	85	480
150, 200, 225 SERIES 3ADUS/3NDUS Only	85	480
250, 400, 600	85	480
800	65	480
1000, 1200	50	480
1600, 2000	65	480
2500, 3000	100	480

The Group G Controller has enhanced capabilities for dependable operation in a wide range of applications.



Control and Display Panel

The Group G Controller's easy-to-navigate 128 x 64 graphical LCD display with keypad provides LED indicators for switch position, source acceptability, not-in-auto mode, and alert condition. It also provides test and time delay bypass soft keys.

Features

- Intuitive, easy-to-navigate 128 x 64 graphical LCD display with soft keypad and provides six LED indicators
- Switch Position (green for normal, red for emergency LED)
- Source Acceptability (green for normal, red for emergency LED)
- “Not In Auto” (LED)
- Common Alarm (LED)
- Integrated display is self-contained requires no other components for effective operation
- Allows for open or delayed transition for both automatic and non-automatic configurations
- An integrated, multilingual, user interface for configuration and monitoring for application flexibility
- Multiple source-sensing capabilities for voltage and frequency
- Optional current card provides current sensing without an external metering device
- ASCO’s patented Predictive Outage Detection feature senses voltage instability conditions or flickers and proactively starts the generator for protection of equipment and reduction of down-time

ASCO Group G Controller

Standard Selectable Features

- Inphase monitor to transfer motor loads, without any intentional off time, to prevent inrush currents from exceeding normal starting levels
- Engine exerciser to automatically test backup generator each week, with or without load for 20 minutes not adjustable, (advanced multi-schedule exerciser available as part of optional 11BE bundle)
- Commit to transfer
- Selective load disconnect circuit to provide a pre-transfer and/or post-transfer signal when transferring from emergency to normal and/or normal to emergency
- Re-transfer to normal through soft keys on user interface permits selection of “manual” or “automatic” re-transfer
- 60Hz or 50Hz selectable switch. Three-/single- phase selectable switch

Voltage, Frequency, and Current Sensing Features

- 3 phase sensing on the Normal source and single phase sensing on the Emergency Source (3 phase Emergency sensing optional)
- Under and over voltage and frequency settings on normal and emergency
- True RMS voltage sensing with +/-1% accuracy
- Frequency sensing accuracy is +/- 0.1Hz
- Voltage and frequency parameters adjustable in 1% increments
- Selecting settings: single or three phase voltage sensing on normal, and single phase sensing on emergency; 50 or 60Hz. 3-phase voltage unbalance on normal (Emergency unbalance optional)
- Load current sensing card (optional)

Predictive Outage Detection

- Patented feature for continuous sensing of voltage to detect instability conditions or flickers
- Proactive start of the generator to eliminate delay associated with generator startup
- Optional automatic transfer of load after proactive generator start for protection of equipment and reduction of downtime
- Adjustable sensitivity levels for voltage instability, or flicker, detection

Remote Control Features

- External inputs for connecting
 - Remote test switch
 - Remote contact for test or peak shaving applications - if emergency source fails, the switch will automatically transfer back to normal source if acceptable
 - Inhibit transfer to emergency
 - Remote time delay bypass switch emergency to normal

Time Delays

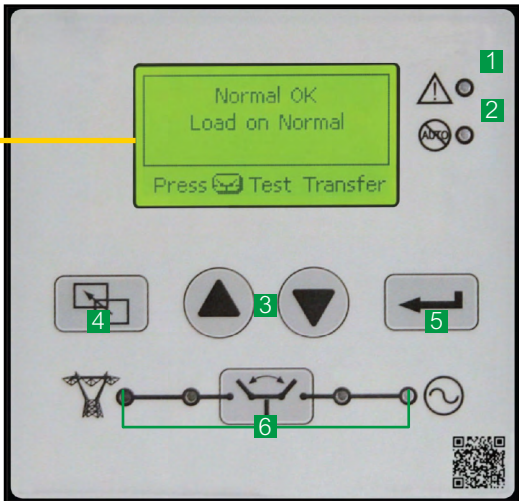
- Engine start time delay – delays engine starting signal to override momentary normal source outages, adjustable from 0 to 6 seconds, (Feature 1C)
- Emergency source stabilization time delay to ignore momentary transients during initial generator set loading, adjustable from 0 to 4 seconds (Feature 1F)
- Re-transfer to normal time delay with two settings (Feature 3A)
 - Power failure mode – 0 to 60 minutes
 - Test mode – 0 to 10 hours
- Unloaded running time delay for engine cooldown, adjustable from 0 to 60 minutes (Feature 2E)
- Pre- and post-signal time delay for selective load disconnect with a programmable bypass on source failures, adjustable from 0 to 5 minutes, (specify ASCO optional Accessory 31BG)
- Delayed transition load disconnect time delay, adjustable from 0 to 5 minutes (3ADTS/3NDTS configuration only)

Power Knowledge



[Timing Delays
for ATS Transition
Modes](#)

ASCO Group G Controller Power Control Center



Door-Mounted Control & Display Panel

- 1 Common Alarm
- 2 Not In Auto Indicator
- 3 Scroll, Up/Down Arrows
- 4 Escape Key
- 5 Enter Key
- 6 LED Source Availability and Switch Position Indicators

Status

Control Status
Normal OK
Load on Normal
Press Test Transfer

Source Status

Normal		Emergency
V _a 207V		
V _b 206V		
V _c 207V		V _a 207V
60.0Hz		60.0Hz

Alarm Status
No Active Alarms

Controller Information
Serial Number
000000000000
Software Version
894063x581 12/05/14
Thu 12/11/14 15:08:54

Control Status
Normal OK
Normal + Emergency
Timer: 00Min 02Sec
Press Bypass Timer

Source Status

Normal	Load	Emerg.
V _a 207V	%a 200A	
V _b 204V	%b 198A	
V _c 205V	%c 200A	V _a 207V
60.0Hz		60.0Hz

Alarm Status
Alarm 1 of 1
Transfer Failure
Press To Acknowledge Alarms

Settings

Main Menu/ Settings
Enter Password
* * * *

Settings/ Engine Exerciser
Engine Exerciser
Present Time 09:08:16
Program No. 1
Enable ☐
With Load ☐

Settings/General/ Communications
RS485 Port
Baud Rate 9600
Device Addr 1
Protocol AscobusII
Emulate Grp1 ☐

Settings/General/ Common Alarms
Common Alarms
Loss E when on E ☒
E Accept Fail ☐

Main Menu/ Event Logging
« Event Log »
Event 1 of 248
Engine Stop
05/07/13 10:23:44.0

Main Menu/ Statistics
« Statistics »
TS Total Transfers
82
TS Transfer Time
5.0 Sec

Main Menu/ Factory/Diagnostics
« Discrete Inputs »
CNN 1/F5 1/F30 1
CNE 0/F17 1/TST 1
CEN 0/F34 1
CEE 0/F6 1

Main Menu/ About
« About »
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Peace-of-Mind for Residences and Small Businesses

ASCO Power
Technologies™

ASCO SERIES 185
Generator Transfer Switches



ascopower.com

Life Is On

Schneider
Electric

ASCO SERIES 185 Generator Transfer Switches

ASCO SERIES 185 Generator Transfer Switches reliably connect power from a backup generator to your home or business whenever outages occur.

Computers, communication and information systems, security systems, cash registers, heating systems, water heaters, refrigerators and freezers, air conditioners, sump pumps, well pumps ... nearly every system in your home or business depends on electric power. Generators can restore power to vital equipment. But they can only operate when someone connects them and turns them on!

Automatic Transfer Switches start and connect generators automatically, even when no one is home or employees have left for the weekend. Whenever power outages occur, an ASCO transfer switch starts the generator, then switches your home or business from the public power supply to its backup generator. When utility power is restored, the device switches back to utility power, then turns the generator off.

An ASCO automatic transfer switch offers great convenience when your building is occupied ... and an essential service when no one is there. By automatically switching your home or business to backup power, it can:

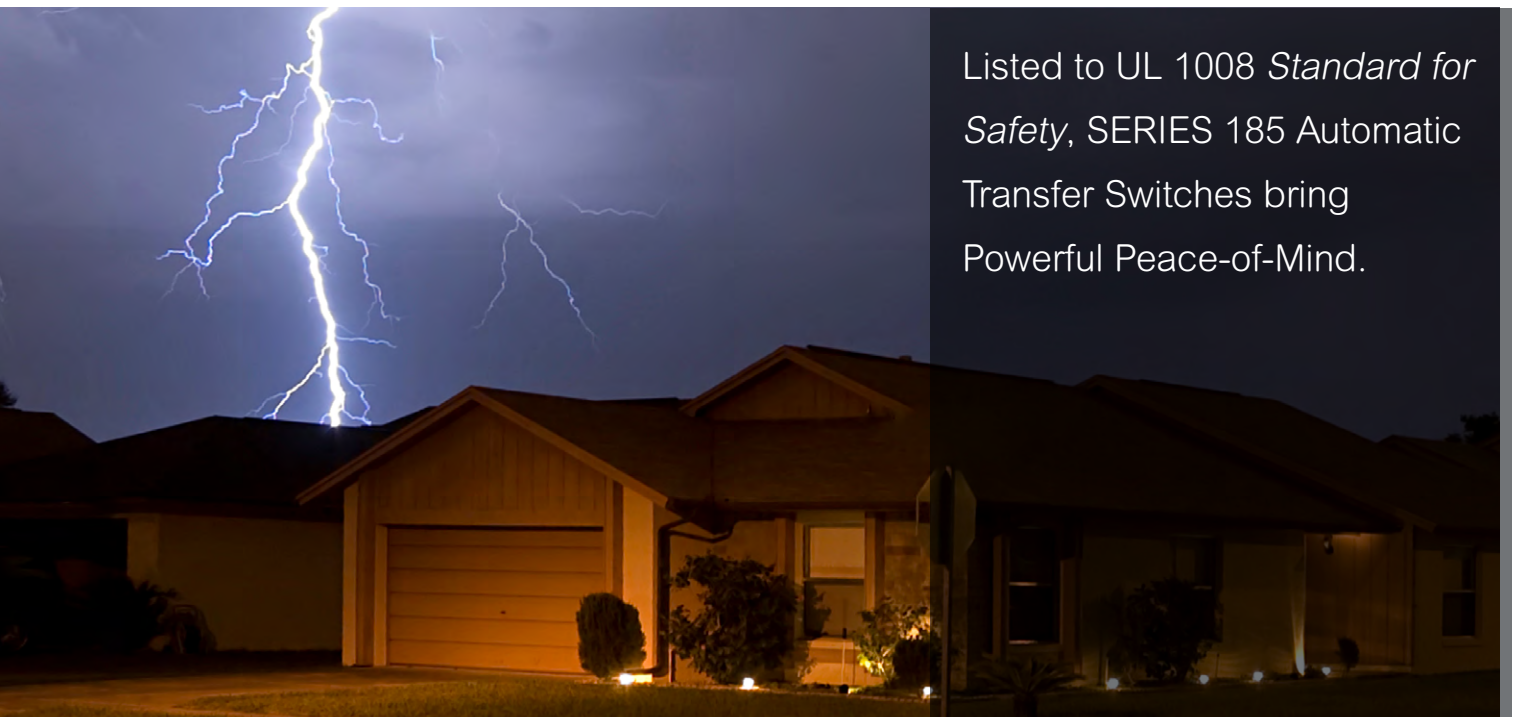
- avoid lost business and personal data on computers
- avoid loss of heating that leads to burst pipes and water damage
- avoid loss of a sump pump that leads to flooding
- avoid loss of air conditioning from outages during hot weather
- avoid loss of perishables from lack of refrigeration

An ASCO automatic transfer switch also increases safety by preventing simultaneous connection of utility and generator power to your home or business.

Product Details



[Transfer Switch
Overview](#)



Listed to UL 1008 *Standard for Safety*, SERIES 185 Automatic Transfer Switches bring Powerful Peace-of-Mind.

SERIES 185 Generator Transfer Switches

Why Choose an ASCO Transfer Switch?

Reliability

ASCO SERIES 185 Transfer Switches are designed to withstand demanding electrical and environmental conditions to provide many years of reliable service. Every model meets or exceeds the rigorous endurance requirements of UL 1008, the leading standard for transfer switch design and testing.

Safety

Every ASCO SERIES 185 Transfer Switch is tested to UL 1008's rigorous electrical safety requirements. If you don't see the UL "Automatic Transfer Switch" label ... you're not getting the best protection money can buy.

Trust

ASCO is the name behind most of the advances in transfer switch design, and our products serve life safety systems in the largest hospitals, vital information systems in financial data centers, and mission critical systems on offshore oil platforms, critical government agencies, and military installations. The SERIES 185 brings 100+ years of ASCO experience to your home or business.

Power Knowledge

 [Three Reasons to Choose UL 1008 Transfer Switches](#)

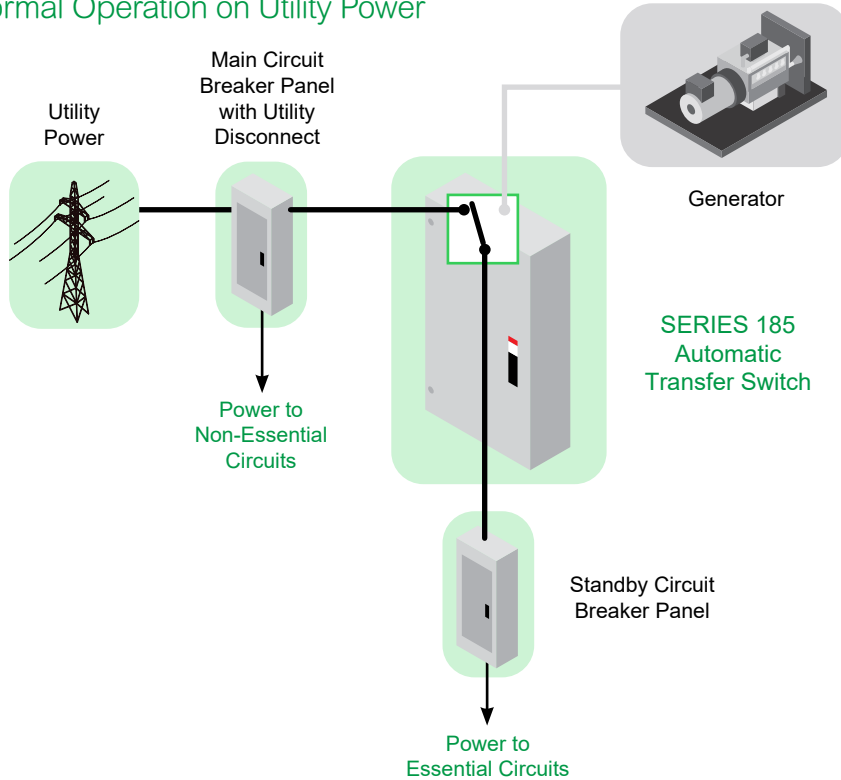


SERIES 185
Transfer Switch

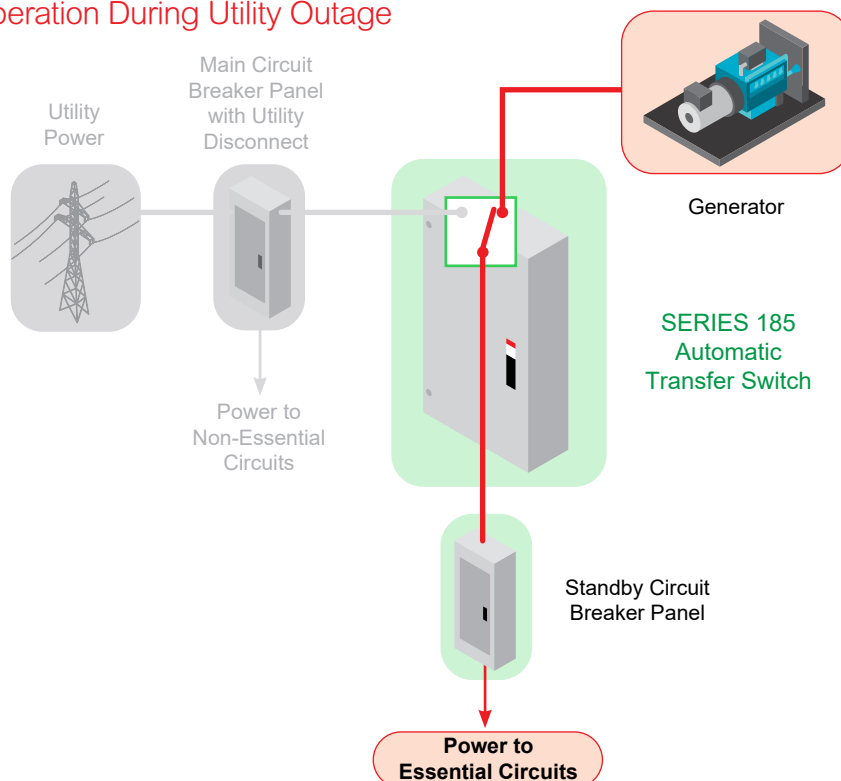
SERIES 185 Automatic Transfer Switches

In many applications, generators are sized to supply backup power to the most important circuits in your home or business. An ASCO SERIES 185 Automatic Transfer Switch transfers essential circuits to generator power automatically whenever utility outages occur. This brings backup power to essential devices such as heating, refrigeration, sump pumps, air conditioning, and security equipment.

Normal Operation on Utility Power



Operation During Utility Outage



Product Features

- User-friendly control interface informs users of transfer switch and power source status
- Listed to UL 1008 for optional standby systems
- Nominal service voltage 240V 50/60Hz, single phase, AC systems
- 100 to 400 Amp models
- 100, 200, and 400 Amp Service Entrance designs feature disconnect circuit breaker on the normal source
- True double-throw contacts with inherent mechanical interlocking prevents simultaneous connection of generator and utility sources
- Terminals for convenient connection of neutral and ground conductors
- Available in NEMA Type 1 Indoor (steel) and Type 3R Outdoor (aluminum) enclosures, with hinged doors
- Suitable for controlling standby generators with 2-wire automatic starting circuits

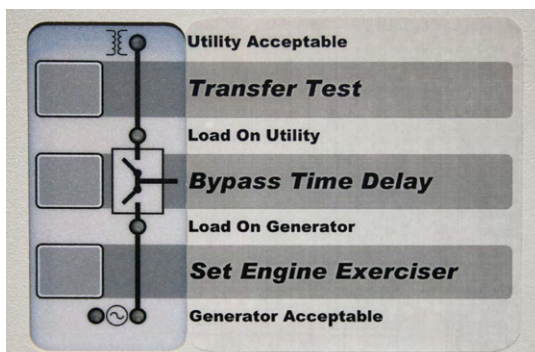
Power Knowledge

 [Basic Automatic Transfer Switch Functions](#)

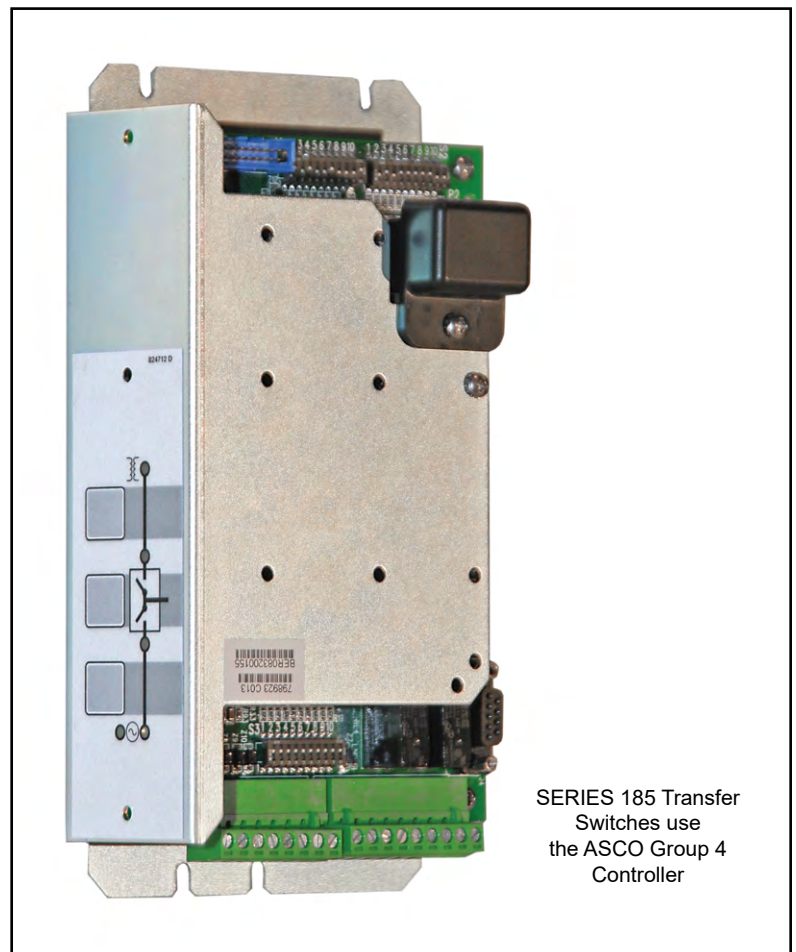
Group 4 Controller

ASCO Group 4 Controller supervises the voltage, frequency, control, timing, and connectivity functions required for most residential and small business applications.

- Engine Exerciser for Automatic Periodic Testing of Transfer Switch and Generator
- Configurable Time Delays
- Configurable Voltage Pickup Settings
- Control Buttons:
 - Transfer Test
 - Bypass Time Delay
 - Set Engine Exerciser
- User-Selectable In-Phase Monitor Feature
- Input for External Transfer Activation Control



Buttons operate transfer switch.
LED indicators show switch status.

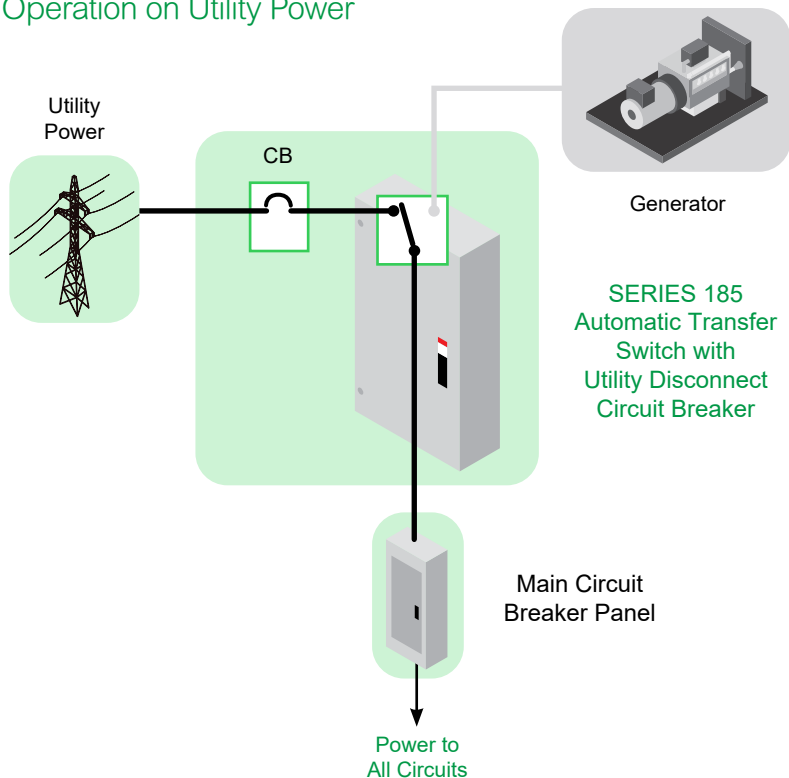


SERIES 185 Transfer Switches use the ASCO Group 4 Controller

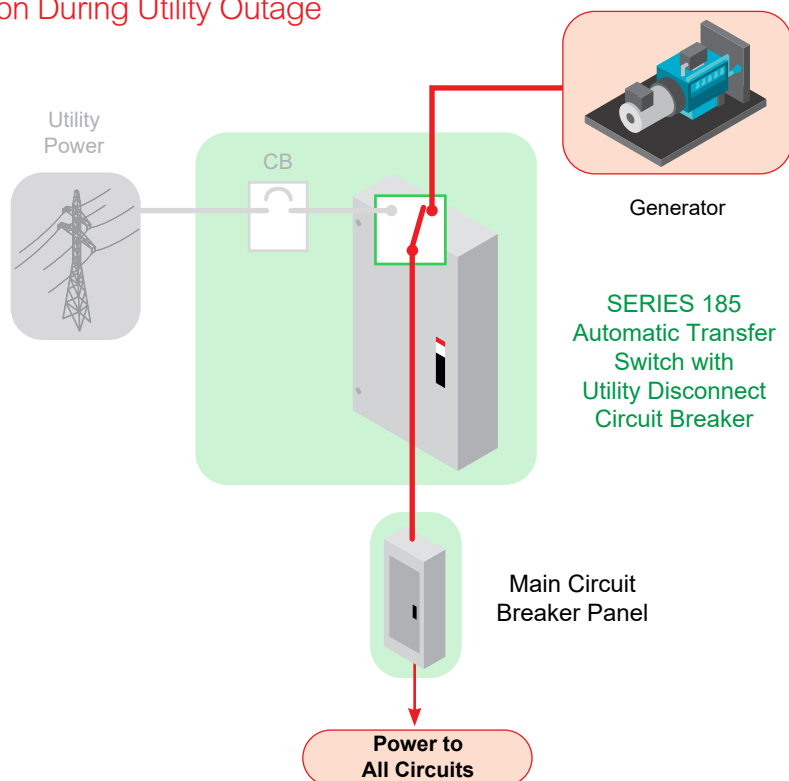
SERIES 185 Service Entrance Transfer Switches

Integrating a utility disconnect breaker into the transfer switch saves space and streamlines installation. ASCO SERIES 185 Service Entrance Transfer Switches are often used where generators are sized to power all the circuits in a home or business.

Normal Operation on Utility Power



Operation During Utility Outage



Product Features

- Suitable for use as service entrance equipment
- The ASCO SERIES 185 is listed to UL 1008 for optional standby systems, and meets all NEC requirements for service entrance equipment
- 100, 200, and 400 Amp rating
- Circuit breaker disconnection on the normal source for isolation of transfer switch and other electrical equipment
- Bonding jumper on Neutral and Ground
- Silver plated copper ground and neutral bus
- Solderless screw type terminals for External Power Connections
- Available in either UL approved Type 1 indoor (steel) enclosure or Type 3R outdoor (aluminum) enclosure
- Provided with a solid neutral

Power Knowledge



[Applications for Service Entrance Automatic Transfer Switches](#)



ASCO SERIES 185 Automatic Transfer Switches bring power to your business when it is most needed.

SERIES 185 Ordering Information

AUTOMATIC TRANSFER SWITCHES									
CATALOG NUMBER	ENCLOSURE	CONSTRUCTION	AMPS	VOLTAGE	POLES	WIDTH IN(MM)	HEIGHT IN (MM)	DEPTH IN(MM)	WEIGHT LB(KG)
D00185A20100F40C	Type 1 Indoor	Steel	100	240	2	14.25(362)	24(610)	8.25(210)	44(20)
D00185A20200F40C	Type 1 Indoor	Steel	200	240	2	14.25(362)	24(610)	8.25(210)	44(20)
E00185A20400F40C	Type 1 Indoor	Steel	400	240	2	22(559)	45(1143)	7.5(191)	79(28)
D00185A20100F40M	Type 3R Outdoor	Aluminum	100	240	2	16(406)	24(610)	10(254)	49(22)
D00185A20200F40M	Type 3R Outdoor	Aluminum	200	240	2	16(406)	24(610)	10(254)	49(22)
E00185A20400F40M	Type 3R Outdoor	Aluminum	400	240	2	24(610)	48(1219)	10(254)	118(53)

SERVICE ENTRANCE AUTOMATIC TRANSFER SWITCHES									
CATALOG NUMBER	ENCLOSURE	CONSTRUCTION	AMPS	VOLTAGE	POLES	WIDTH IN(MM)	HEIGHT IN (MM)	DEPTH IN(MM)	WEIGHT LB(KG)
D0AUSA20100F40C	Type 1 Indoor	Steel	100	240	2	16(406)	36(913)	6(152)	61(28)
D0AUSA20200F40C	Type 1 Indoor	Steel	200	240	2	16(406)	36(913)	6(152)	61(28)
E0AUSA20400F40C	Type 1 Indoor	Steel	400	240	2	36(913)	47(1193)	8(203)	177(82)
D0AUSA20100F40M	Type 3R Outdoor	Aluminum	100	240	2	16(406)	36(913)	8(203)	45(21)
D0AUSA20200F40M	Type 3R Outdoor	Aluminum	200	240	2	16(406)	36(913)	8(203)	45(21)
E0AUSA20400F40M	Type 3R Outdoor	Aluminum	400	240	2	36(913)	47(1193)	8(203)	144(67)

Notes:

Type 3R enclosures provide a degree of protection against falling dirt, rain, sleet, and snow.
Additional protection may be required in locations subject to wind blown conditions.



SERIES 185 Technical Information

Withstand and Closing Ratings		
SWITCH RATING (AMPS)	SHORT CIRCUIT CURRENT RATING	
	WITH FUSES	WITH CIRCUIT BREAKERS
100	200KA	10KA
200	200KA	10KA
400	200KA	35KA

Notes:

All units are RMS Symmetrical Amperes

All Withstand and Closing Rating values are tested in accordance with UL 1008. See **ASCO Publication 1128** for more information.

Application requirements may permit higher WCR for certain switch sizes.

External Power Connections	
SWITCH RATING (AMPS)	WIRING SIZE RANGE
100	(1) #14 to 4/0 AWG
200	(1) #14 to 4/0 AWG
400	(2) #1/0 AWG to 250 MCM or (1) #4 AWG to 600 MCM

Notes:

UL listed for 200 amps with copper conductors only. For individual dwelling units as defined in NFPA 70 (NEC), in cases where the transfer switch is between the service main disconnect and the lighting and appliance branch circuit panelboard(s), NFPA 70 allows for a reductions in size of the feeder conductors. All other NFPA 70 requirements regarding conductor ampacities must also be observed. Always install electrical equipment to the requirements defined by the authority having jurisdiction.

Power Knowledge


[Applying Transfer Switch Withstand and Closing Ratings](#)



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This document presents electrical ratings and specifications for ASCO transfer switches in accordance with Edition 2.1 of the International Electrotechnical Commission (IEC) Standard 60364-4-410 - Low Voltage Switchgear and Controlgear. For additional information, contact an authorized ASCO representative.

Frame	Voltage (Ue) V	Current Range (Ie) A	IEC Utilization Category	Short-Circuit Ratings	
				Short Time Withstand Current (Icw)	Short-Circuit Making Capacity (Icm)
D	110 - 440	30 - 200	AC-33B	10kA for 31 ms (for main poles)	18.9kA
		225	AC-32A		18.0kA
	480	30 - 100	AC-33A		
		150 - 225	AC-32A		
J	110 - 440	150 - 400	AC-33A	15kA for 60 ms	35kA
		600	AC-32A	12kA for 50 ms	27kA
H	208 - 440	600 - 1000	AC-33A	36kA for 378 ms (All) 30kA for 500 ms (600-800A TSE) (600-1200A Bypass)	84.1kA
		1200	AC-33B		
G	208 - 440	1600	AC-33A	50kA for 56 ms 42kA for 307 ms for all	123.4kA
		2000 - 3000	AC-32A		
		3200 - 4000	AC-32A	85kA for 135 ms 65kA for 500 ms for all	192kA

Notes:

For additional dimension and venting details, please refer to the Outline Drawing for each model.

TSE = Transfer Switch Equipment

Bypass = Bypass Isolation Transfer Switch Equipment

ASCO IEC Transfer Switch Ratings IEC 60947-6-1 Ed. 2.1

trical Commission Standard 60947

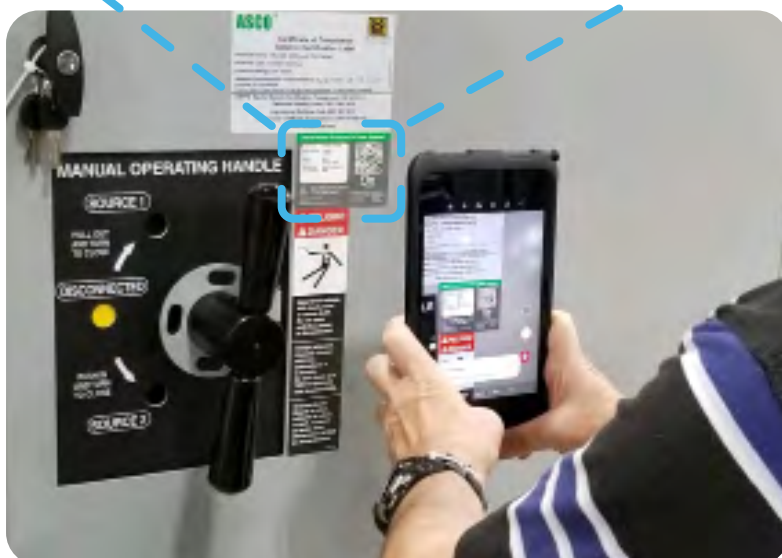
Conditional Short-Circuit Rating (Iq)	Minimum Dimensions W x H x D*			Description
	Amperage	Inches	Millimeters	
Icq = 10kA w/ LPS - RK - 400 SP fuse Ip = 12.3kA I2t = 284 x 10E3 A2s (Overlapping Neutral)	30 - 225A TSE	17.5 x 31 x 11 5/8	445 x 787 x 295	7000, 4000, 200 SERIES
-	150 - 400A TSE	24 x 56 x 14	610 x 1422 x 356	7000, 4000, 200 SERIES
	600A TSE	24 x 63 x 17	610 x 1600 x 432	7000, 4000, 200 SERIES
	150 - 600A Bypass	34 x 85 x 28	864 x 2159 x 711	
-	600 - 960A TSE	34 x 72 x 20	864 x 1829 x 508	7000, 4000, 200 SERIES
	1000 - 1200A TSE	38 x 87 x 23 Ventilated	965 x 2210 x 584 Ventilated	
	600 - 1200A Bypass Rear-Connected	38 x 91 x 48	965 x 2311 x 1219	
	600 - 960A Bypass Front-Connected	38 x 91 x 32	965 x 2311 x 813	
-	1600 - 2000A TSE	38 x 91 x 48 Ventilated	965 x 2311 x 1219 Ventilated	7000, 4000, 200 SERIES
	2600 - 3000A TSE	38 x 91 x 60 Ventilated	965 x 2311 x 1524 Ventilated	
	1600 - 2000A Bypass	38 x 91 x 60 Ventilated	965 x 2311 x 1524 Ventilated	
	2600 - 3000A Bypass	38 x 91 x 72 Ventilated	965 x 2311 x 1829 Ventilated	
-	TSE	60 x 91 x 72 Ventilated	1524 x 2311 x 1829 Ventilated	7000, 4000, 200 SERIES
	Bypass	60 x 91 x 96 Ventilated	1524 x 2311 x 2438 Ventilated	

ASCO's QR Code and Its Capabilities

ASCO Power Technologies applies QR Codes (Quick Response Codes) to its entire transfer switch portfolio. The unit-specific Identification Label includes: (1) a list of applied accessories (2) a QR code that is linked to the serial number of each device, (3) an overview of related service offers. Scanning this code with an internet-connected cell phone or tablet enables a user to access device-specific records.



The ASCO Identification Label with QR Code



Any QR code reader can be used to access basic serial number-linked information about a transfer switch.

How Does It Work?

Scan with any standard QR code reader to access general product characteristics and product brochures.

Link to asset lifecycle documents and register the product to access:

- Unit-specific outline and mounting drawings
- Unit-specific wiring diagrams
- Factory Test Reports
- Certificate of Compliance
- Seismic Certification
- Any user-uploaded documents

NEVER LOSE DOCUMENTS AGAIN... ACCESS
WHENEVER AND WHEREVER YOU NEED THEM

ASCO Power
Technologies™

Quick Connect Power Panels (SERIES 300)



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ASCO Quick Connect Products

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CHALLENGES



Providing emergency power to facilities without a permanent generator



Providing a supplemental generator when a facility's sole permanent generator is offline



Connecting load banks and temporary generators simultaneously



Meet code requirements for back up power without installing and maintaining a permanent generator.

What do these challenges have in common?

All of them can be solved with and ASCO Quick Connect Product.

ASCO QUICK CONNECT SOLUTIONS

Power failures are common and unpredictable. They can occur at any time and for any reason — a bolt of lightning, a power surge, a blackout, an accident, or even equipment failure. They come without warning and often at the most inconvenient times. **When an outage occurs, your business suffers.**



This Dual Purpose Manual Transfer Switch allows quick connection of load bank and temporary generator.

ASCO's UL-Listed SERIES 300 Quick Connect products provide reliable, convenient, cost-effective solutions for connecting a temporary generator or load bank to keep facilities operating during utility outages. Available as a Quick Connect Panel that pairs with a transfer switch or as a Manual Transfer Switch with integrated quick connect inputs, these products can be configured in a variety of ways to meet business and facility needs.

Power Knowledge

Technical Brief
[NEC Requirement for Permanent Manual Switching Means](#)

Power Knowledge

Technical Brief
[Temporary Connections for Generators and Load Banks](#)

Power Knowledge

Video
[Manual Transfer Switch Solutions](#)

ASCO QUICK CONNECT APPLICATIONS

Healthcare



Healthcare facilities require reliable power. For those with a single permanent generator, the NEC® requires a means for connecting a temporary power source. ASCO Quick-Connect Products connect loads to a temporary power source when permanent generators are off-line.

Telecommunications



Telecoms must provide a high level of service dependability. Lost power could disrupt critical services to customers, businesses, and mission-critical facilities. ASCO Quick-Connect Products keep the power on and customers online.

Commercial



Power interruptions reduce revenues for retail, commercial, and industrial businesses. Outages interrupt shopping, disrupt operations, and create safety problems. Power interruptions result in lost transaction and account information, and damaged data equipment. Loss of refrigeration can ruin inventory. ASCO Quick-Connect Products provide cost-effective backup power switching solutions for businesses of every size.

Municipal



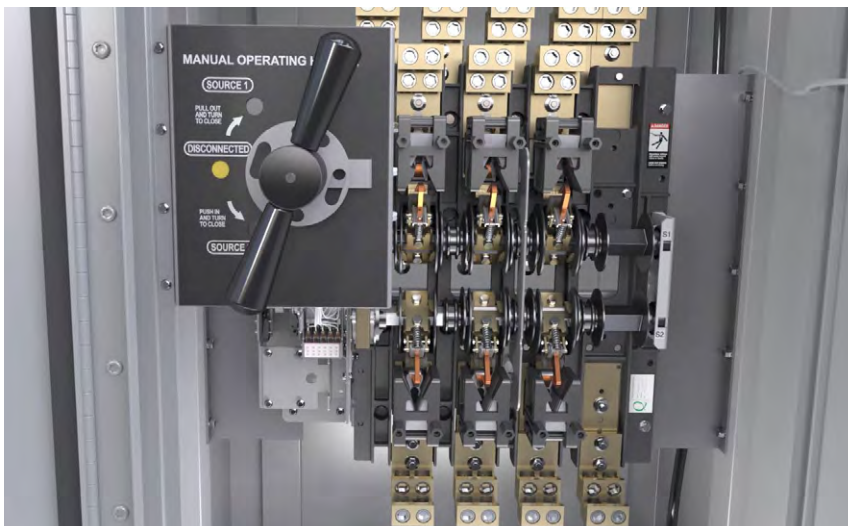
Communities rely on government agencies for critical emergency services. A power interruption can hinder emergency response. ASCO Quick-Connect Products connect backup power when critical services are needed most. They are a cost-effective backup solution for water and wastewater pump stations.

KEY PRODUCT FEATURES



Series 16 Cam Lok Connectors

Connect generators and/or load banks quickly and conveniently



Available Integrated Manual Transfer Switch

Simplifies procurement and installation

Saves space



Available Integrated Circuit Breakers

Pre-configured SquareD Circuit breakers protect load circuits from either generator, utility or both sources, simplifying installation.

CONFIGURATIONS AND OPTIONS

Quick Connect Panels

Single-Purpose

Models 3QCN & 3QCU

- Pair with a Transfer Switch
- 3QCN - Input Panels for Temporary Generator Connections
- 3QCU - Output Panels for Load Bank Connections
- Integrated Disconnect Breakers Available
- 150 – 4000 Amp models



Dual-Purpose

Model 3QCD

- Pair with a transfer switch
- Single device connects either a temporary generator or a load bank
- 150 – 800 Amp models with internal disconnect / 800 - 4000 Amp models without internal disconnect



CONFIGURATIONS AND OPTIONS

Manual Transfer Switches with Quick Connect Panels

Single-Purpose

Models MTQ/MUQ/MGQ/MPQ

- Consolidates Quick Connect functionality with a Three-Position Center-Off Transfer Switch
- Lockable in any switch position
- MTQ - Base Configuration without integrated breaker - 150 - 1200A
- Integrated Breakers Available
 - MUQ – Breaker on Utility - 150 - 1200A
 - MGQ – Breaker on Generator - 150 - 3000A
 - MPQ – Breaker on Both Power Sources - 150 - 3000A



Dual-Purpose

Models MTDQ & MGDQ

- Simultaneously load bank your system while maintaining emergency back up power with a temporary generator.
- Provide emergency backup power with a temporary generator while applying load to a permanent generator.
- Dual Purpose models add quick connects for load bank connections.
- Integrated Breakers Available
 - MTDQ – Breaker on Utility - 150-1200 Amps
 - MGDQ – Breaker on Utility and Generator - 150 – 3000 Amps



AVAILABLE MODELS

Model	Product Type	Connection	Circuit Breaker
Quick Connect Panels			
3QCN	Single-Purpose	Input – Male Quick Connects	Optional Temporary Generator Disconnect
3QCU		Output – Female Quick Connects	Optional Temporary Load Bank Disconnect
3QCD	Dual-Purpose	Male Input and Female Output Quick Connects	Temporary Generator Input (Up to 800 Amps only)
Manual Transfer Switches with Quick Connect Panel			
MTQ	Single-Purpose Quick Connects	Male Quick Connects	-
MUQ			Utility
MGQ			Generator
MPQ			Utility & Generator
MTDQ	Dual-Purpose for Generator & Load Bank Quick Connects	Male & Female Quick Connects	Utility
MGDQ			Utility & Generator

Click Model Designation for additional information

ASCO Manual Transfer Switched with Quick Connects offer the Highest Level of Design Flexibility

A Simple Solution for Accessing Backup Power

Bring emergency power to facilities without a permanent genset

Connects a “Backup-for-the-Backup”

Per NEC® 700.3(F) connects a temporary generator when a permanent unit is offline for service

Streamlines Design, Procurement & Installation

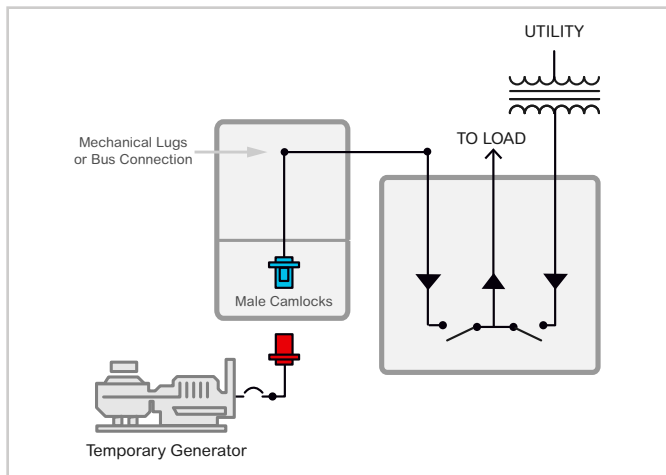
Integrating a transfer switch and breakers reduces overall footprint and installation labor.

Robust Design Increases Reliability

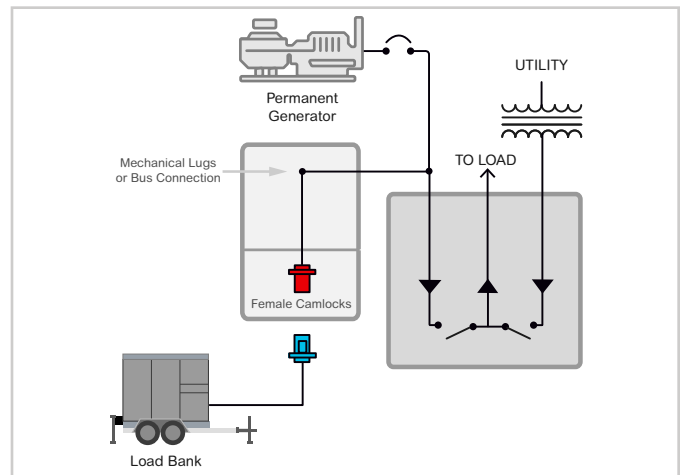
UL Listing and 125+ years of ASCO critical power experience provide high levels of safety and service.

ONE-LINE DIAGRAMS

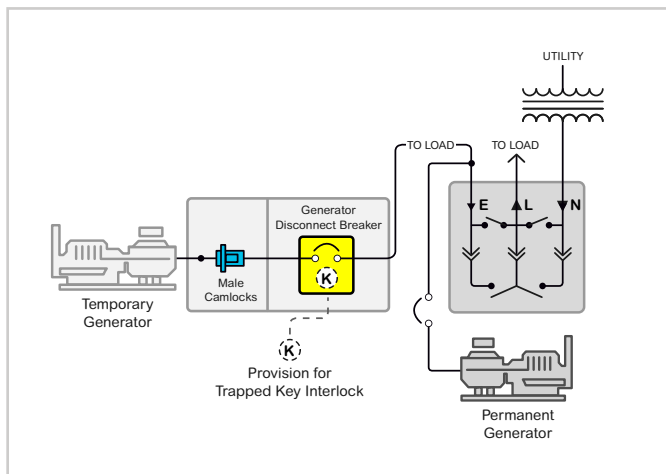
3QCN



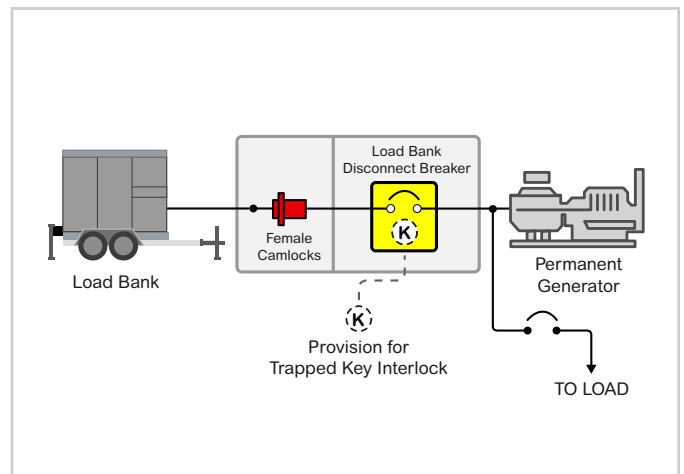
3QCU



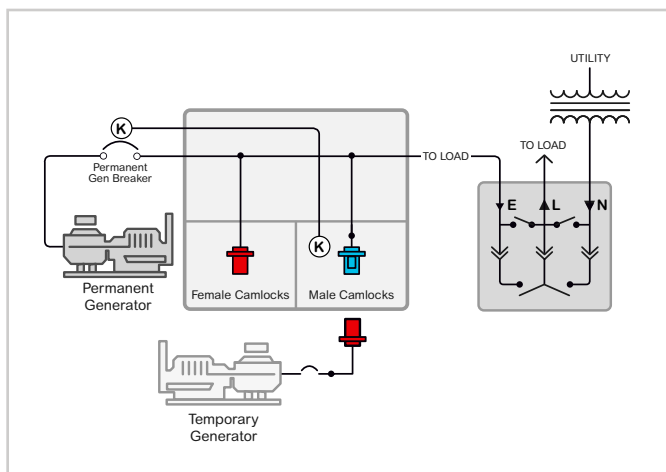
3QCN*B



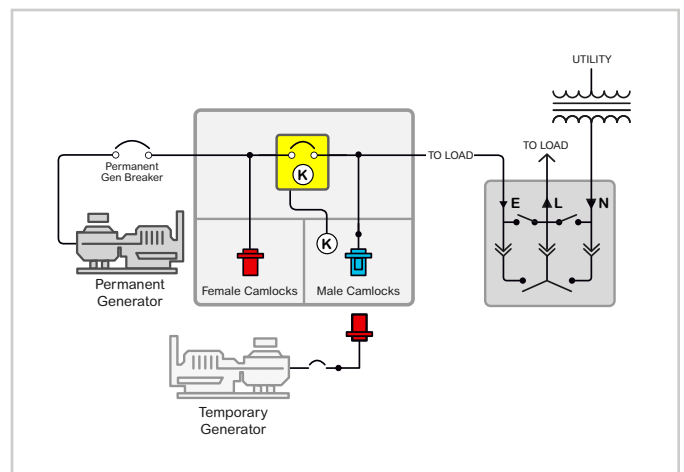
3QCU*B



3QCD

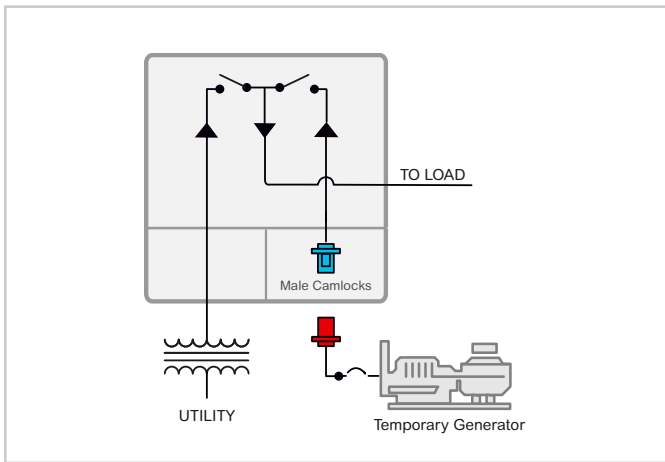


3QCD*B

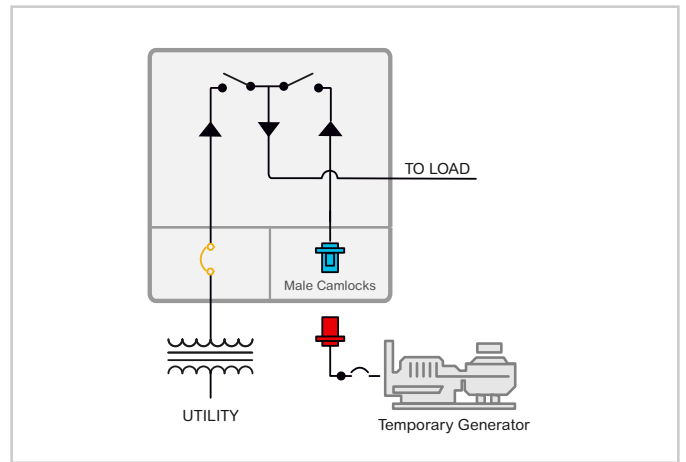


ONE-LINE DIAGRAMS

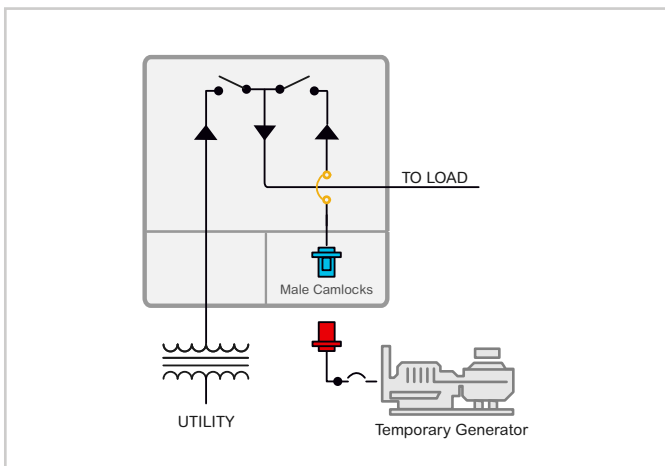
MTQ



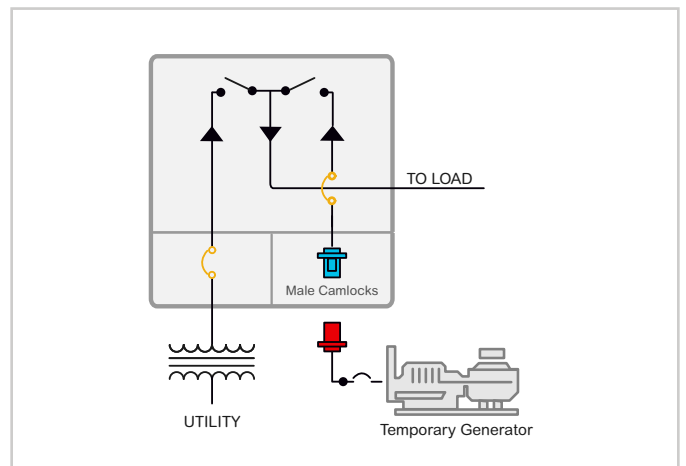
MUQ



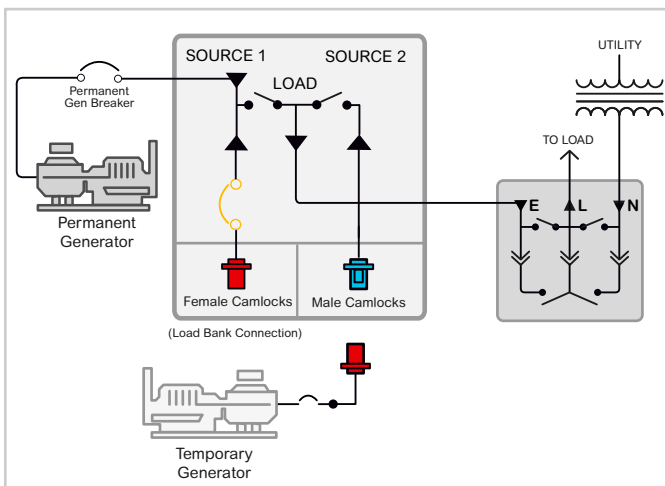
MGQ



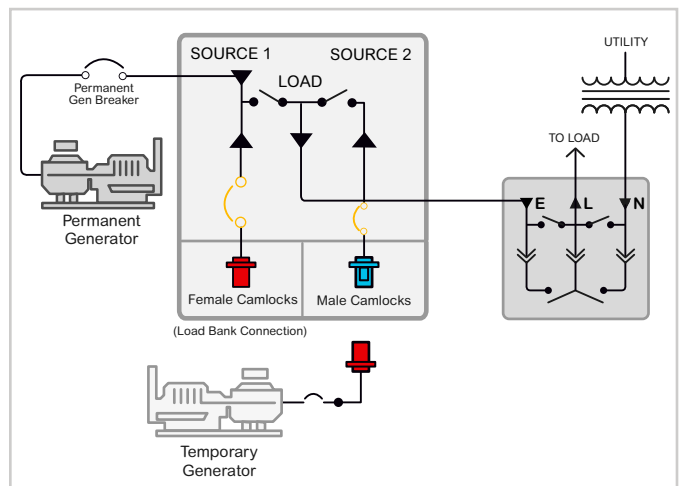
MPQ



MTDQ



MGDQ





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Power failures are common and unpredictable. They can occur at any time and for any reason — a bolt of lightning, a power surge, a blackout, an accident, or even equipment failure. They come without warning and often at the most inconvenient times. When an outage occurs, your business suffers.



400-800A Wall Mount



1200-1600A Floor Mount



2000-4000A Pad Mount

ASCO's SERIES 300 Quick Connect Power Panels provide a reliable, convenient, and economical way to connect a standby generator to support your critical infrastructure and keep your business operating. These units are available in models ranging from 400 to 4000 Amps, and are designed to provide years of trouble-free service. The panels are listed to UL 1008 and together with an ASCO transfer switch, provides compliance to NEC Section 700.3 requirement to provide a connection for a temporary source of power for maintenance or repair of the alternate source.

When installed with an ASCO power transfer switch, you can be assured that your facility is protected by an economical solution that will reliably supply temporary power during a utility outage or maintenance work.

Features

- Input Panels are UL 1008 Listed (400A-800A) and ETL listed to UL 1008 standards as a Transfer Switch Accessory (1200A-4000A)
- Output Panels are UL 891 Listed (400A-800A) and ETL listed to UL 891 standards for Switchboards (1200A-4000A)
- Provides a convenient, economical and reliable means of connecting an emergency or alternate power source to a transfer switch
- Rated up to 600V
- Available from 400A to 4000A
- Standard Type 3R weather resistant construction
- Available in stainless steel enclosure option for corrosive environments
- Wall-mounted aluminum enclosure up to 800A; Floor mounted steel enclosure 1200A-1600A; Pad mounted aluminum enclosure 2000A-4000A
- Utilizes standard cam lock receptacle for quick connections
- Cable Protect lock plate available (up to 800A) to reduce risk of cable tampering and theft
- Door over dead front panel ensures all electrical parts are covered for added protection (up to 800A)
- Phase rotation monitor, 2 wire auto start and provisions for trap key interlock are standard on 2000A-4000A Pad mount Enclosures
- Lockable doors to prevent unauthorized entry
- Flip Covers for Output Panels

ASCO SERIES 300 Quick Connect Power Panel



400-800A Wall Mount



1200-1600A Floor Mount



2000-4000A Pad Mount

RATING	STANDARD CONNECTION TYPE	MOUNTING	DIMENSIONS	SHIPPING WEIGHT (lbs)	INTERNAL CONNECTION
400A	Cam Lock (1 row)	Wall Mount	24"w x 32"h x 11"d	85	400A (2) #2AWG - 600MCM per phase, AL Screws
800A	Cam Lock (2 rows)	Wall Mount	24"w x 32"h x 11"d	95	800A (2) #2AWG - 600MCM per phase, AL Screws
1200A	Cam Lock (3 rows)	Floor Mount	35"w x 56"h x 28"d	475	1200A (4) 1/0AWG - 750MCM per phase, AL Screws
1600A	Cam Lock (4 rows)	Floor Mount	35"w x 56"h x 28"d	495	1600A (6) 1/0AWG - 750MCM per phase, AL Screws
2000A	Cam Lock (5-9 rows)	Pad Mount	31"w x 39"h x 50"d	205	2000A (6) #2 - 600MCM per phase, AL Screws
2400A - 4000A	Cam Lock (6-10 rows)	Pad Mount	48"w x 39"h x 50"d	Varies based on Amperage	2400A (8) #2 - 600MCM per phase, AL Screws 2800A (9) #2 - 600MCM per phase, AL Screws 3200A (10) #2 - 600MCM per phase, AL Screws 3600A (11) #2 - 600MCM per phase, AL Screws 4000A (12) #2 - 600MCM per phase, AL Screws

Catalog Information

3QC	+	NC	+	A	+	A	+	3	+	0400	F	0	F
SERIES		Input/ Output		Ground ²		Neutral		Poles/ Phase ³		Amps	Volts/Color Code	Accessories	Enclosure
SERIES 300 Quick Connect Panel		NC - Input (Generator) - Male Cam Loks UC - Output (Load Bank) - Female Cam Loks		A - 100% N - minimum of 25% grounding ampacity		0 - none A - 100% Rated Neutral		2 or 3		0400 0800 1200 1600 2000 ¹ 2400 ¹ 2800 ¹ 3200 ¹ 4000 ¹	F ≤ 240V Black, Red, Blue N ≤ 480V Brown, Orange, Yellow R ≤ 600V Black, Black, Black	0 - None X - With Accessory	F - Type 3R S - 316 Stainless Steel Type 3R

Notes:

1. Provisions for Trap Key interlock, Phase rotation monitor, 2 wire auto start and Tamper Resistant door are standard features available on 2000A-4000A Pad Mount Quick Connect Panels.
2. 100% Rated Ground standard on 400A-1600A units. Minimum of 25% rated ground on 2000A and above.
3. 2 pole only available for 240V up to 1600A.

Accessories

NUMBER	DESCRIPTION	APPLICATION
33QC	Provides 100% bussing and lugs on the permanent side ground only 25% ground camlocks on input side	2000 - 4000A
40QC	See Enclosure design for bottom feed cabling	1200 - 1600A
44A	Strip Heater and Thermostat, 120VAC required	2000 - 4000A
147QC	Canadian Connector Color Coding: Phase A- Red, Phase B- Black, Phase C- Blue	All
171QC	Phase Rotation Monitor & Fuses, Banana Terminal Post for 2 Wire Auto Start Cables, Provisions for Trap Key Interlock See Enclosure Design for bottom feed cabling (1200 - 1600A only)	400 - 1600A Standard on 2000 - 4000A
125A	Seismic Certification (only applicable to ampacities 2000A and above)	2000A - 4000A

Provide both supplementary backup power and load testing connectivity through a single device. The SERIES 300 Dual-Purpose Quick Connect Power Panel is the singular solution for connecting load banks for testing and providing "backup-for-the-backup" according to NEC® 700.3 requirements.



150A-800A Wall Mount Dual Purpose QCP with Disconnect Breaker between Sources



800A-2000A Pad Mount Dual Purpose QCP (No Breaker)



2400A-4000A Pad Mount Dual Purpose QCP (No Breaker)

ASCO's SERIES 300 Dual Purpose Quick Connect Power Panels provide a convenient and economical way to connect a standby generator and a Load Bank for testing. These units are available in models ranging from 150 to 4000 Amps, they are designed to provide many years of service. The panels are ETL listed to UL 891 Standards. Together with an ASCO transfer switch, Dual Purpose Panels provide a connection for temporary power during maintenance or repair of a permanent power source. Dual Purpose Quick Connect Panels are an economical solution for supplying temporary power during a utility outage or maintenance work.

Features

- Dual Purpose Panels are Listed to UL 891 Standards by ETL
- Utilizes standard Series 16 Single Pole quick connect receptacles, with flip covers on male terminals
- Rated up to 600V
- Capacities from 150A to 4000A
- Lockable doors to prevent unauthorized entry
- Provide both supplementary backup power and load testing connectivity through a single device
- Standard Aluminium Type 3R enclosure is outdoor rated
- Available in a stainless steel enclosure option for corrosive environments
- Castell D-Lok mounted on lower housing door prevents access to portable generator camlocks when permanent generator is in use
- Disconnect Breaker with K-Bolt interlock provided on 150A-800A wall mounted units
- 800A-4000A models ship with a second K-Bolt to mount on the job site's permanent generator
- Phase rotation monitor with fuses
- Auto Start Destination Switch allows the User to choose which generator can be started by the ATS
- 2-Wire Banana Terminal Post for easy connection of Engine Start Circuit from Portable Generator
- Load Dump Receptacle - L1-15 Twist Lock Receptacle provided for easy load dump circuit connection

ASCO SERIES 300 Dual Purpose Quick Connect Power Panel



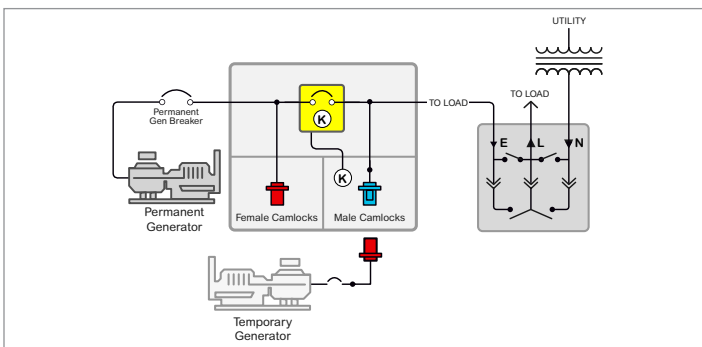
**150A-800A Wall Mount Dual Purpose QCP
with Disconnect Breaker between Sources**



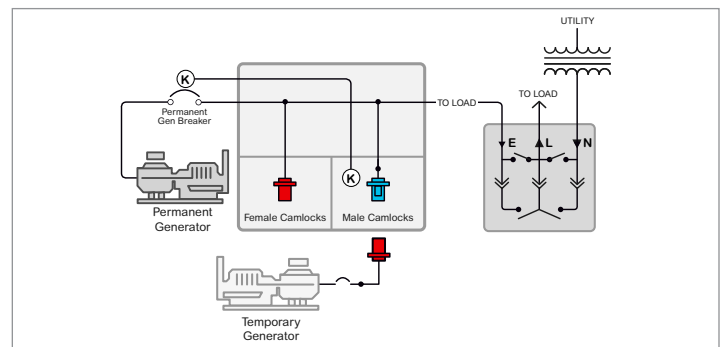
**2400A-4000A Pad Mount
Dual Purpose QCP (No Breaker)**



**800A-2000A Pad Mount
Dual Purpose QCP (No Breaker)**



**Sample connection diagram for 150A - 800A Wall Mount / 4000A Pad
Mount Dual Purpose QCP with Disconnect Breaker between Sources**



**Sample connection diagram for 800A-4000A Pad Mount
Dual Purpose QCP (No Breaker)**

RATING	STANDARD CONNECTON TYPE	MOUNTING	DIMENSTIONS	SHIPPING WEIGHT (lbs)	INTERNAL CONNECTION
150A-800A	Camlock (1-2 rows)	Wall Mount	31"w x 49"h x 26"d	120-160	150A (2) 100-350MCM, AL Screws 250A (2) 250 - 650MCM, AL Screws 400A (3) 250MCM - 650MCM, AL Screws 600A (3) 250MCM - 650MCM, AL Screws 800A (3) 250MCM - 650MCM, AL Screws
1200A-2000A	Camlock (2-5 rows)	Pad Mount	31"w x 57"h x 50"d	294-361	1200A (8) 500MCM - 800MCM, AL Screws 1600A (10) 500MCM - 800MCM, AL Screws 2000A (12) 500MCM - 800MCM, AL Screws
2400A-4000A	Camlock (6-10 rows)	Pad Mount	48"w x 57"h x 50"d	534-632	2400A (14) 500MCM - 800MCM, AL Screws 2800A (16) 500MCM - 800MCM, AL Screws 3200A (18) 500MCM - 800MCM, AL Screws 3600A (20) 500MCM - 800MCM, AL Screws 4000A (22) 500MCM - 800MCM, AL Screws
4000A	Camlock (10 rows)	Pad Mount	48"w x 57"h x 50"d	1600	4000A (20) 500MCM - 800MCM, AL Screws

Catalog Information

3QC +	DC +	N +	A +	3 +	0400	F	B0	F
SERIES	Input/Output	Ground ¹	Neutral ²	Poles/ Phase	Amps	Volts/Color Code	Accessories ³	Enclosure
SERIES 300 Quick Connect Panel	DC - Dual Purpose Input (Generator) - Male Camlock Output (Load Banks) - Female Camlock	N - minimum of 25% grounding ampacity	A - 100% Rated Neutral	3	0150 0200 0250 0400 0600 0800 1200 1600 2000 2400 2800 3200 4000	F ≤240V Black, Red, Blue N ≤480V Brown, Orange, Yellow R ≤600V Black, Black, Black	B0 - 150A - 800A / 4000A Wall Mount / Pad Mount without Accessories BX - 150A - 800A / 4000A Wall Mount / Pad Mount with Accessories 00 - 1200A - 4000A Pad Mount without Accessories 0X - 1200A - 4000A Pad Mount with Accessories	F - Type 3R S - 316 Stainless Steel Type 3R

Notes:

1. 25% Ground is standard on all Dual Purpose Quick Connect Panels.
2. 100% Neutral provided for portable generator connections, No Neutral camlocks are provided for Load Bank.
3. B0 is used to denote Quick connect panel with a disconnect breaker. This option only available for 150A-800A units.

Optional Accessories

NUMBER	DESCRIPTION
44A	Strip Heater and Thermostat, 120VAC required 2000 - 4000A
147QC	Canadian Connector Color Coding: Phase A - Red, Phase B - Black, Phase C - Blue
172QC	20A (battery charger) and 30A (block heater) Receptacles (Customer Supplied source)
125A	Seismic Certification

ASCO SERIES 300 Manual Transfer Switches (MTS) with Integrated Quick-Connects enable fast connection of a temporary generator to provide backup power to a building's electrical system. Integrated breakers can be supplied on Normal (Service Entrance rated), Emergency (Generator breaker), or both sources (Service Entrance rated and generator breaker) to simplify power system design, procurement, and installation.



03MTQ Manual Transfer Switch with Quick Connects



03MGQ Manual Transfer Switch with Quick Connects and a Breaker for a Temporary Genset

ASCO Manual Transfer Switches with Quick Connects Increase Design Flexibility

Simple Solution for Accessing Backup Power

Bring emergency power to facilities without a permanent genset.

Connects a "Backup-for- the-Backup"

Per NEC® 700.3(F) connects a temporary generator when a permanent unit is offline for service

Streamlines Design, Procurement & Installation

Integrating a transfer switch and breakers reduces overall footprint and installation labor.

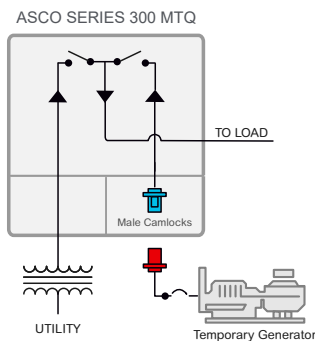
Robust Design Increases Reliability

UL Listings and 125+ years of ASCO critical power experience provide high levels of safety and service.

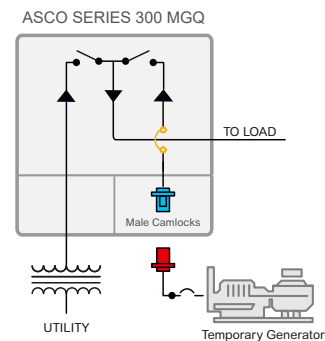
Key Features

- Models from 150 to 3000 Amps, up to 600 VAC, single or 3-phase
- All models utilize 16-Series Camlock connectors
- All models feature UL1008-Listed Transfer Switches
- Configurations including a breaker on Source 1 (Utility Feed) are Service Entrance rated, (MUQ, MPQ)
- Standard UL50 Type 3R Secure Cabinet is outdoor rated with or without temporary power cables connected
- Optional 316 Stainless Steel UL50 Type 3RX Enclosure available
- Three-position center-off switch is robust and easy-to-use
- Leverages ASCO's years of experience and industry leading transfer switch technology
- Designed to handle the demands of motors and high current inrush loads
- Solid Neutral or Switched Neutral
- Solutions for compliance to NFPA 110 standards for Emergency and Standby Power Systems and 2020 NEC® Article 700.3 (F)
- Auxiliary contacts indicate switch position, two contacts for each source
- Form C contacts and optional LED indicators for switch position and source availability
- Two-Wire Engine Start Selector assigns generator preference
- Optional IO Module streamlines integration with a building management system
- Optional 30A Twist Lock and 20A GFCI receptacles for Generator Block Heater and Battery Charger

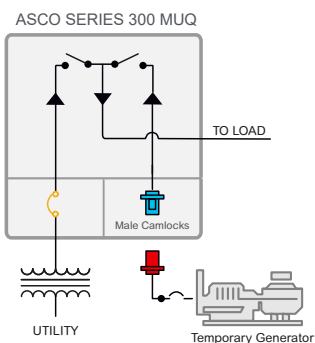
One-Line Diagrams



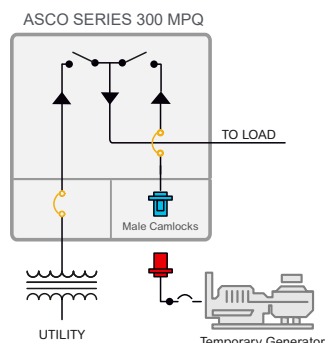
03MTQ - Manual Transfer Switch with Quick Connects



03MGQ - Adds a Breaker for a Temporary Genset



03MUQ - Adds a Service Entrance Breaker for a Utility Feed



03MPQ - Adds a Breaker for a Temporary Genset and a Service Entrance Breaker for a Utility Feed



Accessory 172QC
on J-frame MTQ

Catalog Information

J	+	03MTQ	+	A	+	3	+	0400	+	N	+	00	+	M
Frame		Product*		Neutral		Phase Poles		Amps		Voltage		Group Code		Enclosure
J 150 - 600A H 800 - 1200A G 1600 - 3000A	STANDARD MODELS													
	03MTQ	A - Solid	2	0150	C - 208	K - 415	00 - No Accessory	M - Type 3R Secure						
	03MGQ	B - Switched	3	0200	D - 220	L - 440	0X - Accessory	S - Type 3RX Secure (316 SS)						
				0230	E - 230	M - 460								
				0260	F - 240	N - 480								
				0400	H - 380	P - 550								
				0600	J - 400	Q - 575								
				0800		R - 600								
				1000										
				1200										
				1600										
				2000										
				2500										
				3000										
	SERVICE ENTRANCE MODELS													
	03MUQ	A - Solid	2	0150	C - 208	K - 415	00 - No Accessory	M - Type 3R Secure						
	03MPQ	B - Switched	3	0200	D - 220	L - 440	0X - Accessory	S - Type 3RX Secure (316 SS)						
				0230	E - 230	M - 460								
				0260	F - 240	N - 480								
				0400	H - 380	P - 550								
				0600	J - 400	Q - 575								
				0800		R - 600								
				1000										
				1200										
				1600										
				2000										
				2500										
				3000										

Notes:

MTQ: Manual Transfer Switch with Quick Connects on Generator (Not offered in G-frame)

MUQ: Manual Transfer Switch with Service Entrance Breaker On Utility and Quick Connects on Generator (Not offered in G-frame)

MGQ: Manual Transfer Switch with Breaker and Quick Connects on Generator

MPQ: Manual Transfer Switch with Service Entrance Breaker On Utility and Breaker with Quick Connects on Generator

G-frame is only available up to 480V

Accessories

NUMBER	DESCRIPTION	MODEL
44A	Strip Heater with Thermostat. External 120V power source required.	MTQ, MUQ, MGQ, MPQ
44G	Strip Heater with Thermostat wired to load terminals	MTQ, MUQ, MGQ, MPQ
63*	Special Lugs	MTQ, MUQ, MGQ, MPQ
73	Surge Suppressor Rated 200kA	MTQ, MUQ, MGQ, MPQ
125A	Seismic-Rated Construction	MTQ, MUQ, MGQ, MPQ
131	Designation for Buy American Act Compliance, FAR 52.225-1 and FAR 52.225-9	MTQ, MUQ, MGQ, MPQ
132	Build America, Buy America Act Compliant: Pub. L. No. 117-58, section 70901-52	MTQ, MUQ, MGQ, MPQ
134	100% Rated Breaker	MUQ, MGQ, MPQ
135L	ASCO 5210 Digital Power Meter monitors the load source Voltage, Frequency, and Current calculates and displays Power, Energy, and Power Factor.	MTQ, MUQ, MGQ, MPQ
147QC	Canadian Connector Color Coding: Phase A-Red, Phase B-Black, Phase C-Blue	MTQ, MUQ, MGQ, MPQ
170	Auxiliary Contacts, LED Annunciators, and IO Module	MTQ, MUQ, MGQ, MPQ
40*Y	All Front-connected Design - 40MY: 1600A, 40NY: 2000A	MTQ, MUQ, MGQ, MPQ
172QC	(1) 30A Twist Lock and (2) 20A GFCI Receptacles on the side of the enclosure (customer supplied source). Knockouts on housing for top or bottom conduit entry.	MTQ, MUQ, MGQ, MPQ
Shunt Trip Options on Breakers		
119BC	24 VDC on Normal Breaker	MUQ, MPQ
119BE	48 VDC on Normal Source Breakers	MUQ, MPQ
119BG	120 VAC on Normal Source Breakers	MUQ, MPQ
119BH	208 VAC on Normal Breaker	MUQ, MPQ
119CC	24 VDC on Emergency Breaker	MGQ, MPQ
119CE	48 VDC on Emergency Breaker	MGQ, MPQ
119CG	120 VAC on Emergency Source Breakers	MGQ, MPQ

Note: * J Frame 600A - No Optional Compression Lugs

Features & Ordering Information

MTQ - Manual Transfer Switch with Quick Connects on Source 2						SYSTEM WCR Rating @ 480V	
Frame	Rating (Amps)	Standard Connection Type on Source 1 (S1) and Source 2 (S2)	Mounting	Dimensions	Internal Connection	Source 1 RMS SYM	Source 2 RMS SYM
J	150A-400A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 33" D	S1 - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground S2 - (1) Male Cam Lok per Phase, Neutral, & Ground Load - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground	42,000	22,000
	450A-600A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 33" D	S1 - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral, & Ground Load - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground	42,000	22,000
H	800A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 39" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
	1000A- 1200A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 39" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (3) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
G	1600A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 80 "W x 74" D ¹	S1 - (6) 1/0 - 600MCM per Phase, Neutral, & Ground S2 - (5) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (6) 1/0 - 600MCM per Phase, Neutral & Ground	100,000 ²	65,000
	2000A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 80 "W x 74" D ¹	S1 - (6) 1/0 - 600MCM per Phase, Neutral, & Ground S2 - (6) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (6) 1/0 - 600MCM per Phase, Neutral & Ground	100,000 ²	85,000
	2500A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96"H x 80" W x 86" D	S1 - (8) 1/0 - 600MCM per Phase, Neutral, & Ground S2 - (7) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (8) 1/0 - 600MCM per Phase, Neutral & Ground	100,000	100,000
	3000A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96"H x 80" W x 86" D	S1 - (10) 1/0 - 600MCM per Phase, Neutral, & Ground S2 - (10) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (10) 1/0 - 600MCM per Phase, Neutral & Ground	100,000	100,000

Note: ¹ All front-connected 1600A – 2000A GMTQ units have dimensions 96"H x 77"W x 51"D

² Source 1 rating is limited to 85,000A for all front-connected units (with accesory 40"Y)

MUQ - Manual Transfer Switch with Quick Connects on Source 2 plus Service Entrance Breaker on Source 1						SYSTEM WCR Rating @ 480V	
Frame	Rating (Amps)	Standard Connection Type on Source 1 (S1) and Source 2 (S2)	Mounting	Dimensions	Internal Connection	Source 1 RMS SYM	Source 2 RMS SYM
J	150A-400A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	95.5" H x 41" W x 37" D	S1 - (1) #1 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground S2 - (1) Male Cam Lok per Phase, Neutral, & Ground Load - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground	35,000	22,000
	600A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 33" D	S1 - (2) 2/0 - 500 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
H	800A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 39" D	S1 - (3) 3/0 - 500 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (3) 1/0 - 600 MCM per Phase, Neutral, & Ground	65,000	22,000
	1000A- 1200A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	96" H x 37" W x 56" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (3) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
G	1600A - 2000A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	95.5" H x 80.25" W x 74" D	S1 - (6) 1/0 - 600MCM per Phase, Neutral & Ground S2 - (5) Male Cam Lok per Phase, Neutral, and (1) on Ground Load - (6) 1/0 - 600MCM per Phase, Neutral & Ground	85,000	22,000
	2500A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	95.5" H x 80.25" W x 86" D	S1 - (8) 1/0 - 600MCM per Phase, Neutral & Ground S2 - (7) Male Cam Lok per Phase, Neutral, and (2) on Ground Load - (8) 1/0 - 600MCM per Phase, Neutral & Ground	100,000	22,000
	3000A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks Load - Lugs	Floor Mount	95.5" H x 80.25" W x 86" D	S1 - (10) 1/0 - 600MCM per Phase, Neutral & Ground S2 - (10) Male Cam Lok per Phase, Neutral, and (2) on Ground Load - (10) 1/0 - 600MCM per Phase, Neutral & Ground	100,000	22,000

Features & Ordering Information

MGQ - Manual Transfer Switch with Quick Connects plus Breaker on Source 2						SYSTEM WCR Rating @ 480V	
Frame	Rating (Amps)	Standard Connection Type on Source 1 (S1) and Source 2 (S2)	Mounting	Dimensions	Internal Connection	Source 1 RMS SYM	Source 2 RMS SYM
J	150A-400A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 41" W x 37" D	S1 - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground S2 - (1) Male Cam Lok per Phase, Neutral, & Ground Load - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground	42,000	22,000
	600A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 41" W x 37" D	S1 - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground	42,000	22,000
H	800A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 63" W x 45" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
	1000A-1200A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 63" W x 45" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (3) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
G	1600A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 74" D	S1 - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (5) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground	85,000	22,000
	1600A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 74" D	S1 - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (6) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground	85,000	22,000
	2500A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 86" D	S1 - (8) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (7) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (8) 1/0 - 600 MCM per Phase, Neutral, & Ground	100,000	22,000
	3000A	S1 - Lugs S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 86" D	S1 - (10) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (10) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (10) 1/0 - 600 MCM per Phase, Neutral, & Ground	100,000	22,000

Note: H Frame MGQ's are provided with accessory 40*B (Source 1 & 2 Reversed) & 40*K (Load Out Bottom).

MPQ - Manual Transfer Switch with Quick Connects plus Breaker on Source 2 and a Service Entrance Breaker on Source 1						SYSTEM WCR Rating @ 480V	
Frame	Rating (Amps)	Standard Connection Type on Source 1 (S1) and Source 2 (S2)	Mounting	Dimensions	Internal Connection	Source 1 RMS SYM	Source 2 RMS SYM
J	150A-400A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 41" W x 37" D	S1 - (1) #1 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground S2 - (1) Male Cam Lok per Phase, Neutral, & Ground Load - (1) #4 - 600 MCM OR (2) 1/0 - 250 MCM per Phase, Neutral, & Ground	35,000	22,000
	600A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 41" W x 37" D	S1 - (2) 3/0 - 500 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (2) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
H	800A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 63" W x 56" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (2) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
	1000A- 1200A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 63" W x 56" D	S1 - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (3) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (4) 1/0 - 600 MCM per Phase, Neutral, & Ground	50,000	22,000
G	1600A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 74" D	S1 - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (5) Male Cam Lok per Phase, Neutral and (1) on Ground Load - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground	85,000	22,000
	1600A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 74" D	S1 - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (6) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (6) 1/0 - 600 MCM per Phase, Neutral, & Ground	85,000	22,000
	2500A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 86" D	S1 - (8) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (7) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (8) 1/0 - 600 MCM per Phase, Neutral, & Ground	100,000	22,000
	3000A	S1 - Lugs and Breaker S2 - Series 16 Single Pole Male Cam Loks and Breaker Load - Lugs	Floor Mount	95.5" H x 77" W x 86" D	S1 - (10) 1/0 - 600 MCM per Phase, Neutral, & Ground S2 - (10) Male Cam Lok per Phase, Neutral and (2) on Ground Load - (10) 1/0 - 600 MCM per Phase, Neutral, & Ground	100,000	22,000

Note: H Frame MPQ's are provided with accessory 40*B (Source 1 & 2 Reversed).

Provide both supplementary backup power and load testing connectivity through a single device. The SERIES 300 Manual Transfer Switch with Dual Purpose Quick Connects is the singular solution for connecting load banks for testing and providing "backup-for-the-backup" according to NEC 700.3 requirements.



ASCO's SERIES 300 Manual Transfer Switch with Dual Purpose Quick Connects provide a reliable, convenient, and economical way to connect both a standby generator and a Load Bank for testing. These units are available in models ranging from 150 to 3000 Amps. They are designed to provide years of trouble-free service. The switches are ETL listed to UL 891 Standards and provide an all-in-one solution for connecting temporary power during maintenance or repair of a permanent power source.

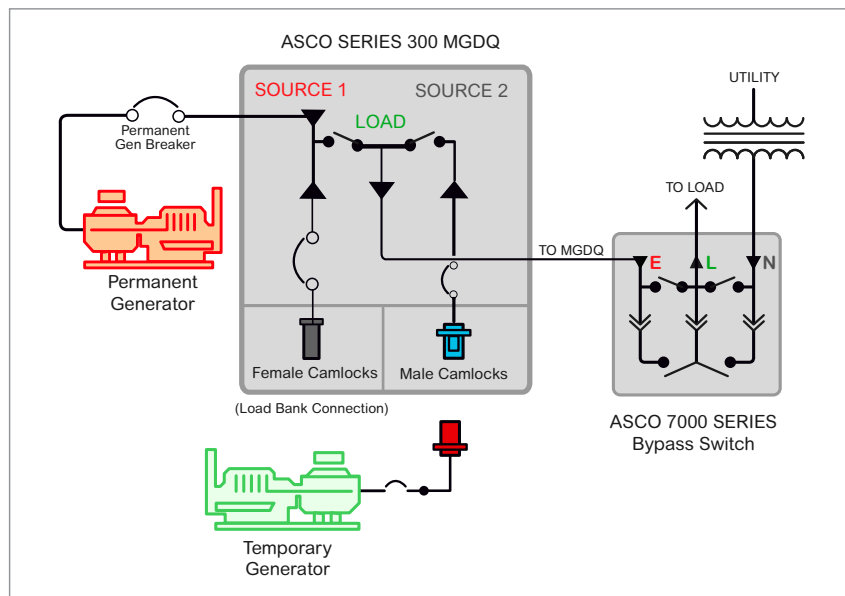
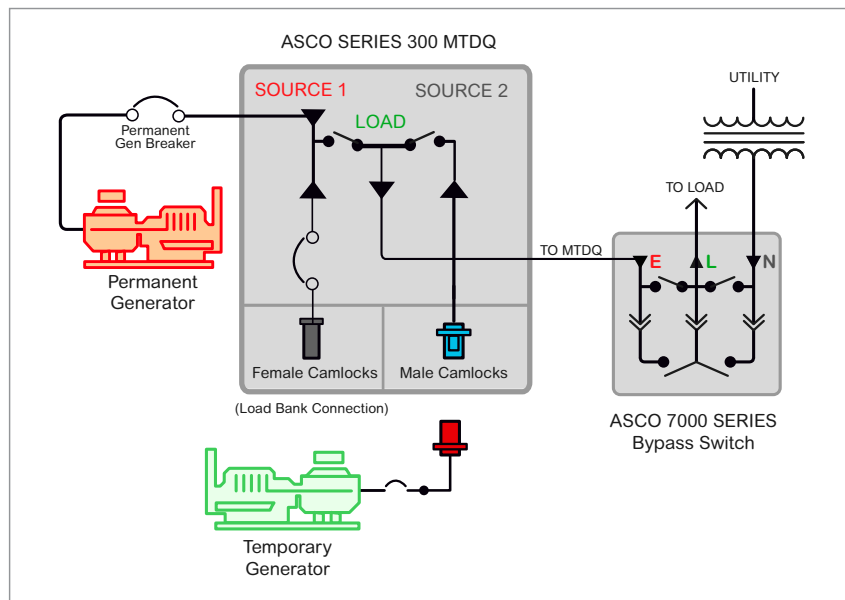
SERIES 300 MTDQ & MGDQ with Integrated Quick Connections

Every ASCO SERIES 300 Manual Transfer Switch with Dual Purpose Quick Connects provides the following capabilities and features:

- Listed to UL 891 standards. Transfer switch is UL1008 listed.
- Available from 150 to 3000 Amps, up to 600VAC, single or 3-phase.
- Dual-operator configuration provides 3-position switching with center-off position.
 - Switch design prevents simultaneous connection to two Sources.
 - Pad-lockable in any position.
- Simultaneously provide power to load with temporary generator while keeping permanent generator connected to load bank, without paralleling generators
- Available as solid neutral or switched neutral configuration
- Standard Type 3R cabinet is weatherproof with or without temporary power cables connected.
- Utilizes 16 Series Cam-Lok connectors.



ASCO SERIES 300 Manual Transfer Switch with Dual Purpose Quick Connects



Catalog Information

3QC	+	3MTDQ	+	A	+	3	+	0600	+	N	+	0X	+	M
Frame		Product		Neutral Code		Phase Poles		Amperes		Voltage Code		Group Code		Enclosure
J = 150 - 600A		3MTDQ - Manual Transfer Switch with Dual Quick Connects		A - Solid Neutral		2		0150		C - 208		00 - No Accessory		M - Type 3R Secure
H = 800 - 1200A						3		0200		D - 220				
								0225		E - 230				
								0250		F - 240		0X - Accessory		S - Type 3RX Secure (316) SS
G = 1600 - 3000A		3MGDQ - Manual Transfer Switch with Dual Quick Connects and Portable Generator breaker		B - Switched Neutral				0400		H - 380				
								0600		J - 400		0Z - Custom Accessory		
								0800		K - 415				
								1000		L - 440				
								1200		M - 460				
								1600		N - 480				
								2000		P - 550				
								2500		Q - 575				
								3000		R - 600				

Note: MTDQ is only available in J-Frame.

ASCO 171 MTDQ & MGDQ User Interface/Annunciation Accessories

171	+	B	+	P	+	1
Accessory Description		User Interface/Controls		Phase Rotation		IO Module
All 171 Accessories Include LEDs and Contacts For: • Source 1 Available • Source 2 Available • Connected to Source 1 • Connected to Source 2 • Disconnected Position • Load Bank Connection		B – Base (Source Indication Only. No engine start switch or common alarm) E – Maintained Engine Start Switch/Output With Common Alarm Input/LED/Contact K – Keyed Maintained Engine Start Switch/Output with Common Alarm Input/LED/Contact		P = Phase Rotation Monitor (LED) Blank = none		1 = IO Module Blank = None

Additional ASCO MTDQ & MGDQ Accessories

Accessories	Description
44A	Strip heater with thermostat prevent condensation and ice formation of water. External 120V power source required
44G	Strip heater with thermostat wired to load terminals
72EE	Connectivity module provides remote monitoring
73	Surge Suppressor Rated 65kA
135L	Power Meter on Load Side (includes shorting block and current transformers)
172QC	(1) 30A Twist Lock and (2) 20A GFCI Receptacles on the side of the enclosure (customer supplied source). Knockouts on housing for top or bottom conduit entry.

Provide both supplementary backup power or load testing connectivity through a single device with an integrated breaker to prevent overloading.



150 - 800A Wall-Mount



Front view



Back view

1000 - 4000A Pad/Floor-Mount

ASCO's SERIES 300 Quick Connect Power Panel with Integrated Breakers provide a convenient and economical way to connect a temporary generator to critical infrastructure to keep facilities operating. They provide a means of connecting a "backup-for-the-backup" according to NEC 700.3(F) requirements. They can also be supplied to connect a Load Bank for periodic generator testing as an output panel. Models range from 150 to 4000 Amps and are designed to provide years of service.

Features

- Provides a convenient means of connecting an alternate power source or a load bank
- Integrated breakers disconnect excessive loads from a generator or load bank
- Listed to UL 891
- Rated up to 600V
- Wall-mount models to 800A
- Pad/Floor-mount models from 1000 - 4000A
- Lockable doors enhance physical security
- Utilizes camlocks with flip covers
- Provisions for Trapped Key Interlocks
- Phase Rotation Monitor with Fuses standard on Input Panels
- Engine Start contacts provided on Input Panels - Load Dump contacts provided on Output Panels
- UL 50 Type 3R Steel Enclosure maintains outdoor rating with or without cables connected
- Available 316 Stainless Steel Enclosure for corrosive environments
- Together with an Manual Transfer Switch and temporary generator, meets NEC Article 700.3(F) requirements
- Optional 30A Twist Lock and 20A GFCI receptacles for Generator Block Heater and Battery Charger

ASCO SERIES 300 Quick Connect Power Panel with Integrated Breaker



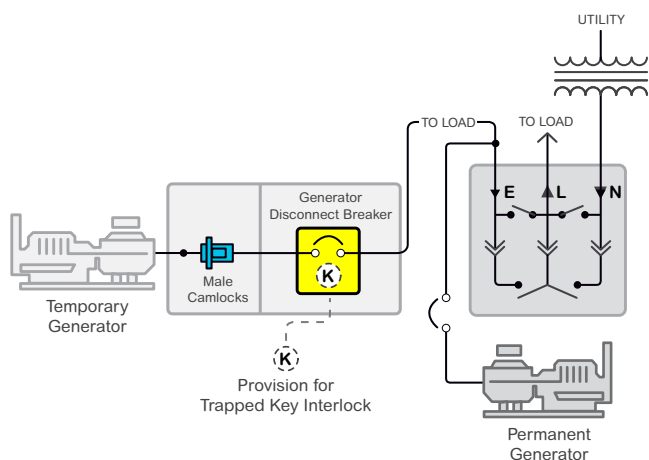
150 - 800A
Wall-Mount



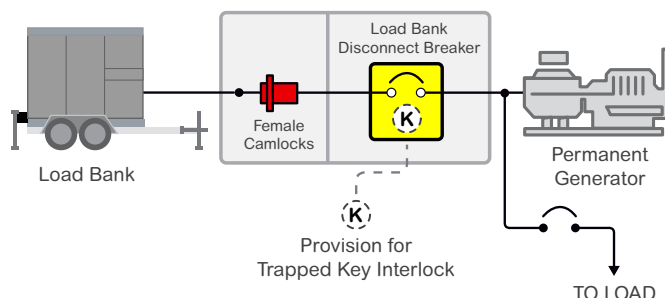
1000 - 4000A
Pad/Floor-Mount



Accessory 172QC
on 4000A QCP



3QCN Input Panel



3QCU Output Panel

Features and Ordering Information

RATING	CONNECTION TYPE	MOUNTING	DIMENSIONS	INTERNAL CONNECTIONS
150-400A	Series 16 Camlock (1 row)	Wall-Mount	48" H x 33" W x 23" D	(1) #1-600MCM or (2) 1/0-250MCM on Phases/Neutral (1) #4-600MCM or (2) 1/0-250 MCM on Ground
600-800A	Series 16 Camlock (2 row)	Wall-Mount	48" H x 33" W x 23" D	(3) 3/0 AWG - 500MCM on Phases/Neutral (3) #4-600MCM or (6) 1/0-250MCM on Ground
1000-1200A	Series 16 Camlock (3 rows on Phases/Neutral 2 rows on Ground)	Pad/Floor-Mount	77.5" H x 31" W x 43" D	(4) 1/0 AWG-600MCM Phase/Neutral/Ground
1600A	Series 16 Camlock (4 rows on Phases/Neutral 2 rows on Ground)	Pad/Floor-Mount	96" H x 37" W x 50" D	(6) 1/0 AWG-600MCM Phase/Neutral/Ground
2000A	Series 16 Camlock (5 rows on Phases/Neutral 2 rows on Ground)	Pad/Floor-Mount	96" H x 37" W x 50" D	(6) 1/0 AWG-600MCM Phase/Neutral/Ground
2500A	Series 16 Camlock (7 rows on Phases/Neutral 2 rows on Ground)	Pad/Floor-Mount	96" H x 37" W x 56" D	(8) 1/0 AWG-600MCM Phase/Neutral/Ground
3000A	Series 16 Camlock (8 rows on Phases/Neutral 2 rows on Ground)	Pad/Floor-Mount	96" H x 37" W x 56" D	(10) 1/0 AWG-600MCM Phase/Neutral/Ground
4000A	Series 16 Camlock (12 rows on Phases/Neutral 3 rows on Ground)	Pad/Floor-Mount	96" H x 41" W x 74" D	(12) 1/0 AWG-600MCM Phase/Neutral/Ground

Catalog Information

3QC	+	NC	+	N	+	A	+	3	+	1600	+	N	+	B	+	X	+	M
SERIES		Connection		Ground		Neutral ¹		Poles		Amps		Voltage		Breaker ²		Accessories		Enclosure
SERIES 300 Quick Connect Panel		NC - Input (Generator) - Male Cam Loks UC - Output (Load Bank) - Female Cam Loks		N - As per NEC		0 - None A - 100%		2 3		150 200 250 400 800 1000 1200 1600 2000 2500 3000 4000		F - <=240V N - 277-480V R - 500-600V		B		0 - None X - With Accessory		M - Type 3R Secure S - Type 3RX Secure - Stainless Steel (316)

Notes:

1. Neutral is unnecessary and not provided for load bank panels.
2. 80% rated breakers standard 150 to 2000A. 100% rated breakers standard 2500 to 4000A.

Accessories

NUMBER	DESCRIPTION
44A	Strip heater with thermostat. External 120VAC power source required.
119M	Energy Reducing Maintenance Switch (ERMS). Available 1000 - 4000A.
119QC	Shunt Trip 24VDC
119QE	Shunt Trip 48VDC
119QG	Shunt Trip 120VAC
119RL	(Up to 400A) Provide Electronic Trip L-frame breaker with LI
119RA/B/C/D/ E/F/G/H	(800 - 4000A) Provide Electronic Trip breaker with alternate rating plug for adjustable trip
134	100% Rated Breakers. Only applicable to 150 - 2000A; 100% Rated Breakers standard 2500 - 4000A
135L	ASCO Digital Power Meter
147QC	Canadian Connector Color Coding: Phase A - Red, Phase B - Black, Phase C - Blue
172QC	(1) 30A Twist Lock and (2) 20A GFCI Receptacles on the side of the enclosure (customer supplied source). Knockouts on housing for top or bottom conduit entry.

ASCO Power
Technologies™

Power Control Systems



Life Is On

Schneider
Electric



ASCO Power Technologies™

ASCO Power Control System Overview

se.com

Life Is On

Schneider
Electric

Challenges



Connect multiple power sources to provide sufficient backup capacity.



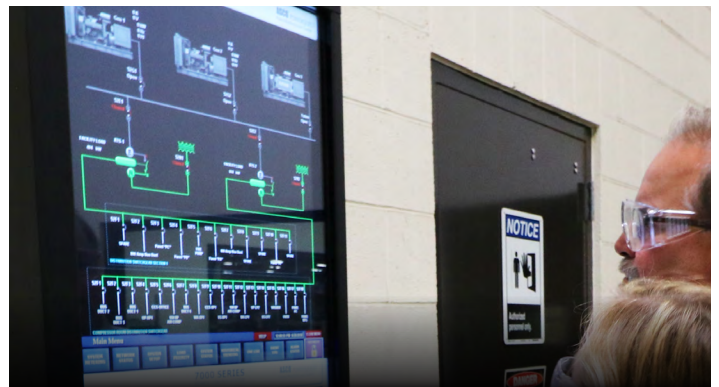
Ensure power reliability and availability for mission-critical systems.



Optimize use of each power source.



Add and shed loads to match real-time generation capacity.



Analyze and assess operating sequences and events.

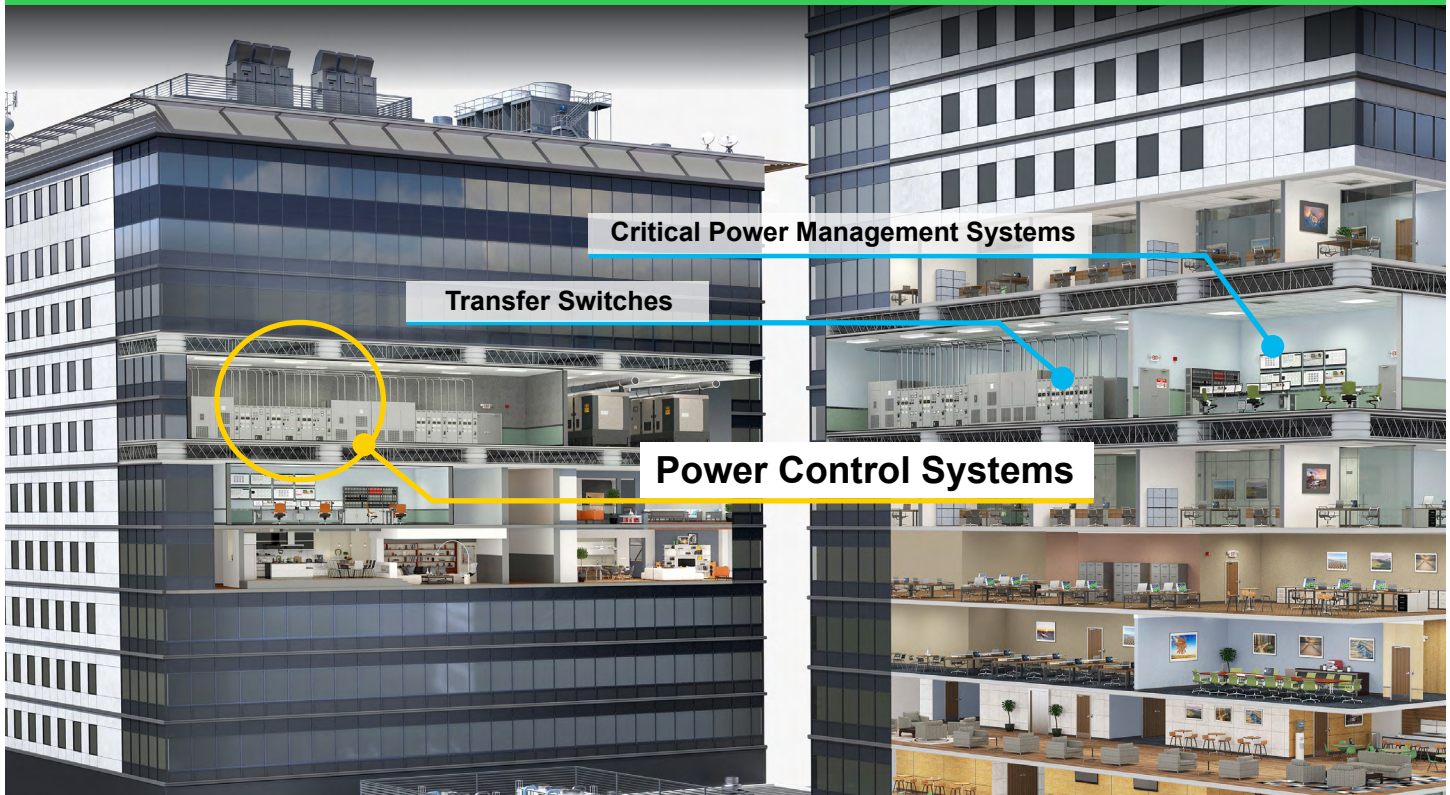
What do these challenges have in common?

All of them can be solved by power control systems.

ASCO PCS Solutions

Commercial Building

Business Continuity



ASCO Power Control Systems offer the most sophisticated solutions for paralleling power sources and controlling mission-critical power. They enable facilities to meet capacity demands, enhance reliability, and optimize power system operation. Power Control Systems are available for Low Voltage and Medium Voltage applications.

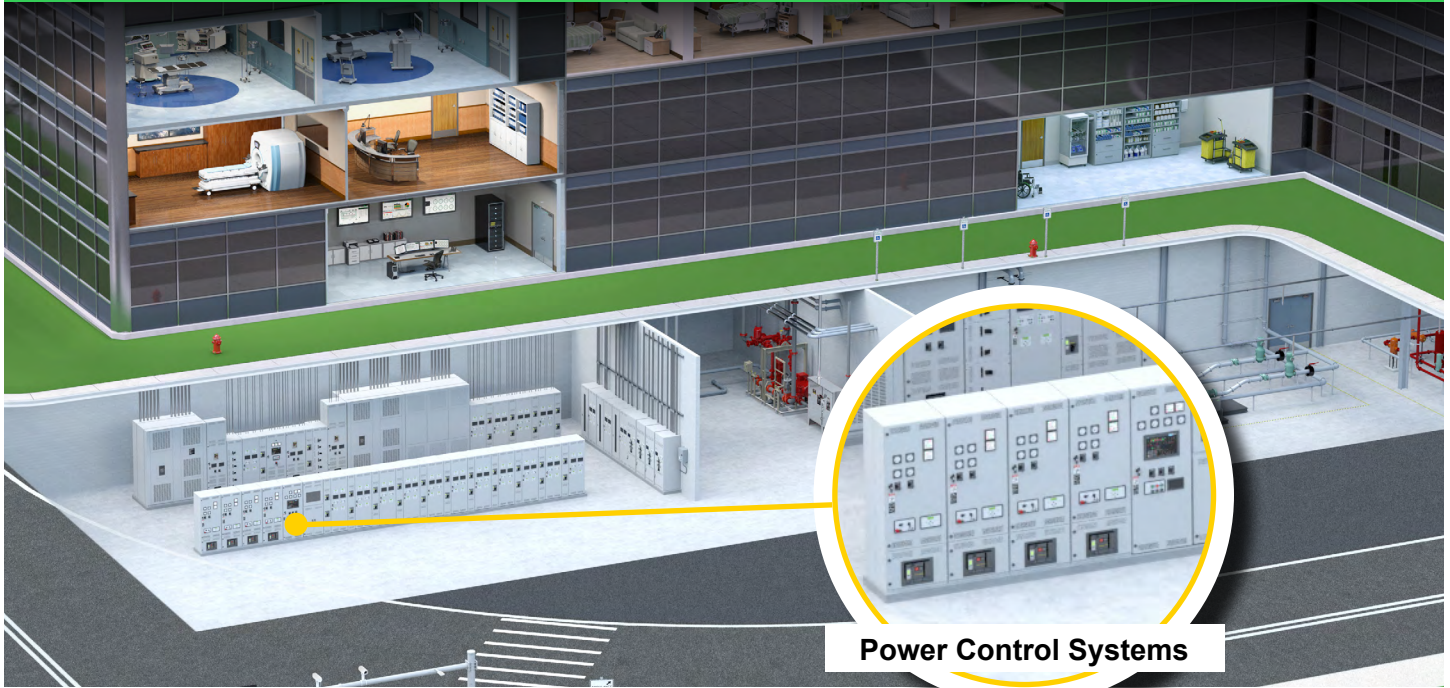


ASCO PCS Solutions

Critical Power Equipment for a Wide Range of Applications

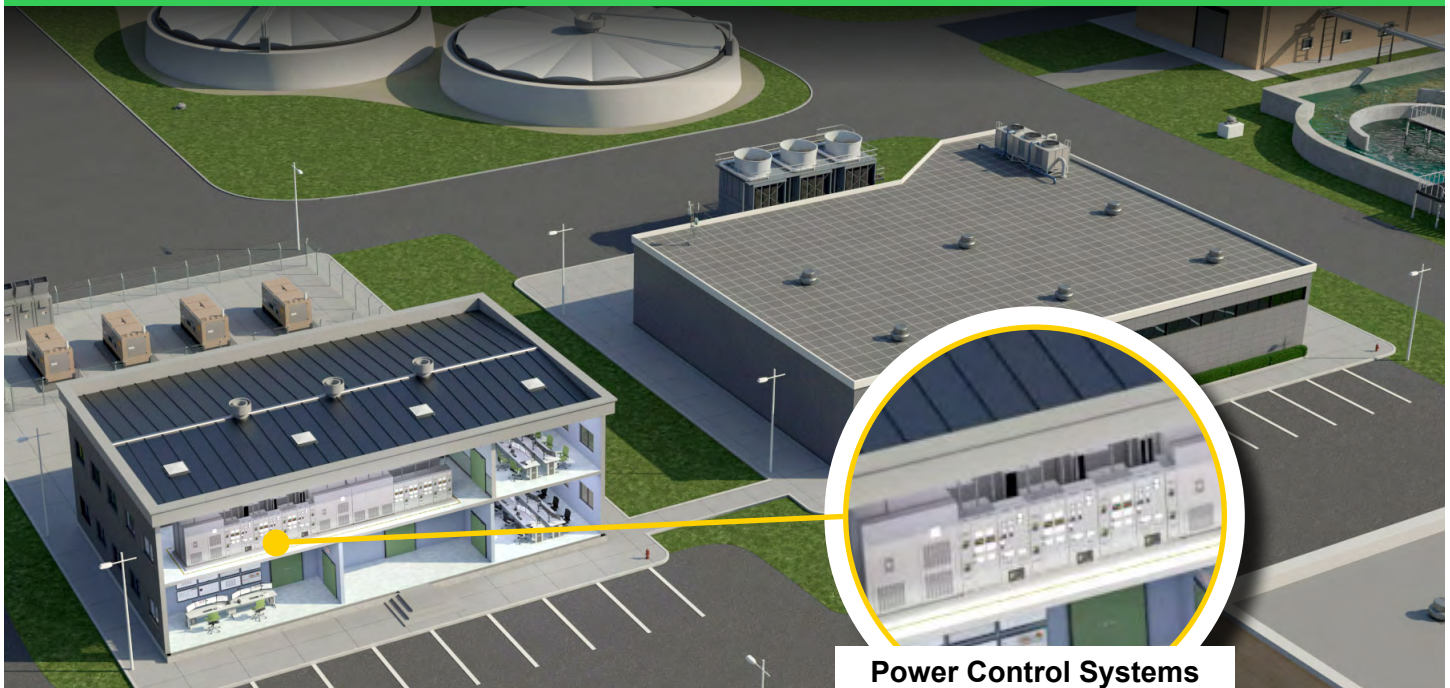
Healthcare

Lifegiving Care



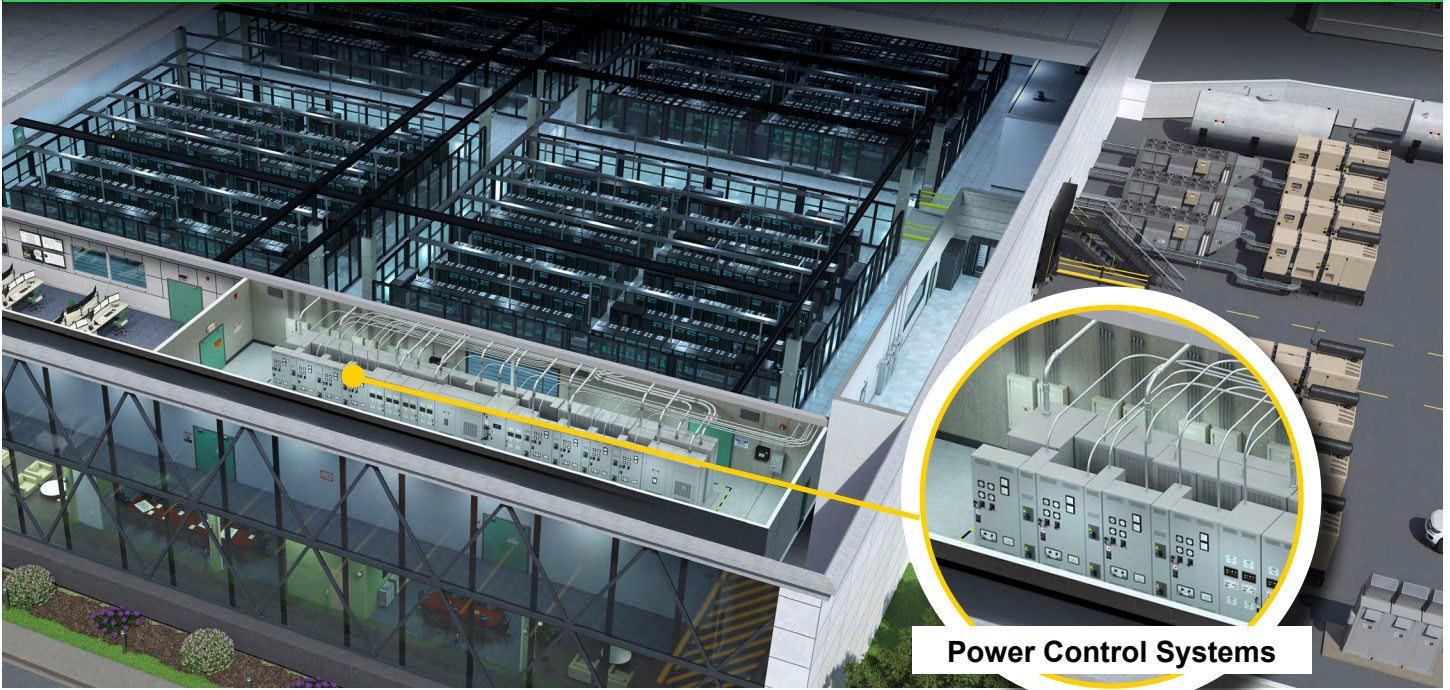
Water Treatment Plant

Environmental Protection



Data Center

Maximum Uptime



"The customer service I receive is far above most vendors I work with. The team is always available for questions. The ASCO team is truly a Trade Partner."

Stan M., Project Manager



Power Control System Basics

Power Control Systems enclose switchgear and controls for paralleling multiple power sources and connecting them to power distribution circuits. Their Programmable Logic Controllers execute sophisticated control of power sources, distribution equipment including transfer switches, and loads to provide the highest levels of reliability and operational flexibility.



Master Control Sections are equipped with Schneider Electric Modicon Programmable Logic Controllers. Other PLCs available on request.

Power Control Systems execute a range of critical power functions for multi-source backup power systems:

- Sense power conditions and events
- Detect power outages
- Start alternate power sources
- Parallel generators
- Connect loads to bus according to priority
- When required, shed loads according to system capacity
- Sense restoration of power to the primary source
- Return power systems to their normal state and transfer load to the primary source

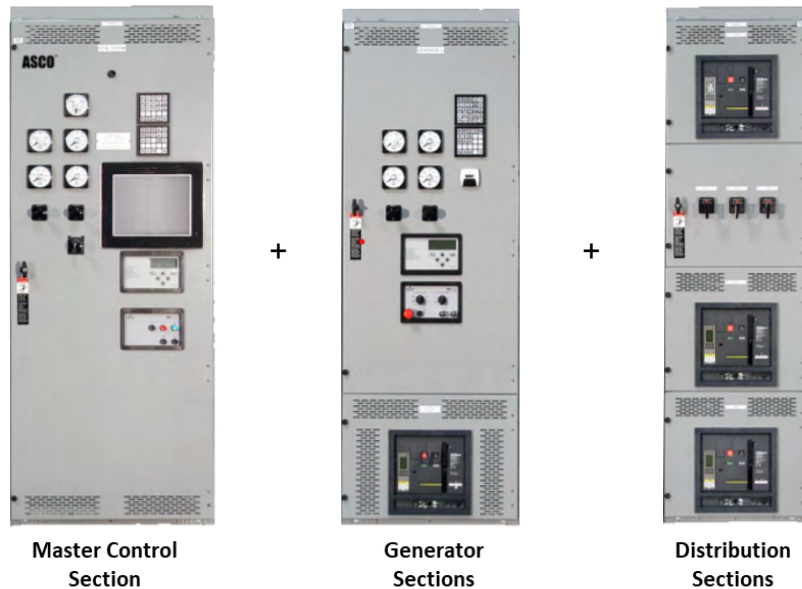
Safety



All ASCO Power Control Switchgear is listed a UL standard. Low Voltage Systems are listed to either *UL 891 - Standard for Switchboards* or *UL 1558 - Standard for Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear*. These standards ensure the highest levels of safety, power reliability, and equipment longevity. Medium Voltage Systems are built to ANSI Standard C37.20.2 for Metacal Switchgear.

Power Control System Configuration

Power control systems consist of switchgear constructed of sections dedicated to power generation, power distribution, and overall system control



The quantities of sections are determined by the capacity needs of the facility and the features required.

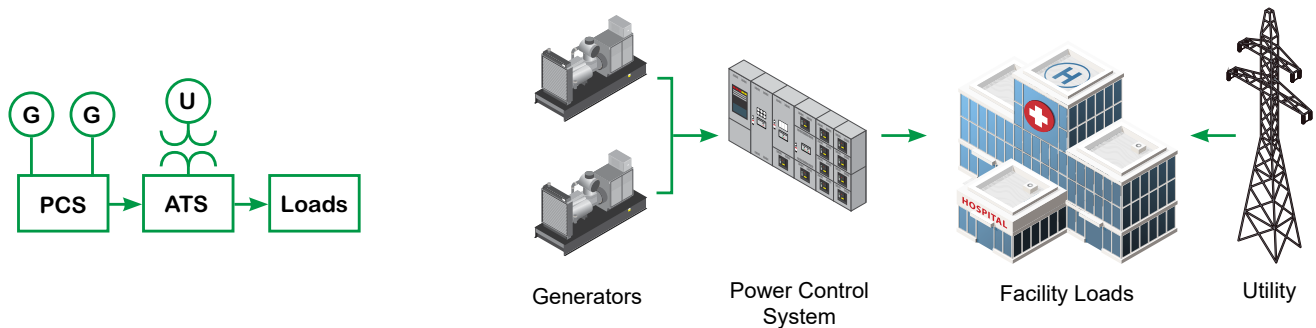


This PCS features a Master Control Section, three Generator Sections with breakers for three Standby Generators, and two Distribution Sections.

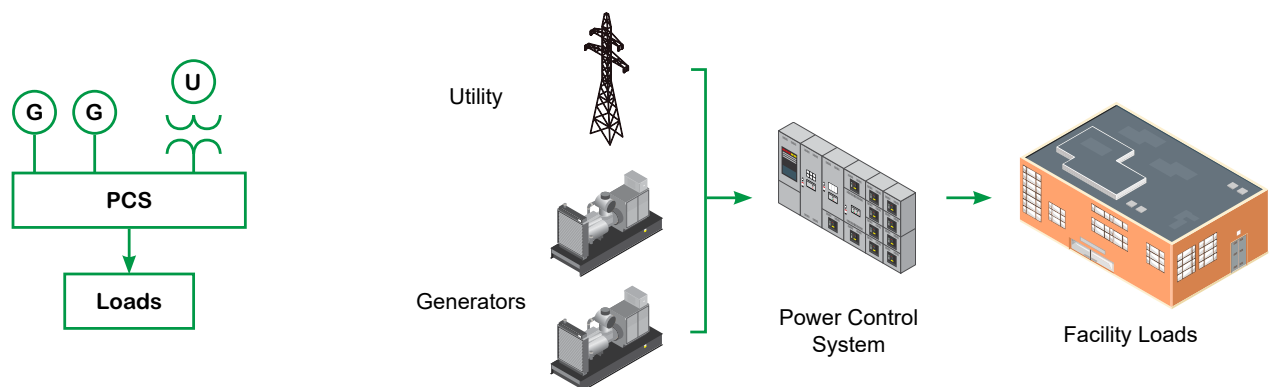
Primary Applications

ASCO Power Technologies designs, manufactures, commissions, and services power control systems for a wide range of applications. From emergency standby power to utility paralleling applications and prime power, ASCO has the expertise and experience to engineer and deliver systems that satisfy any specification.

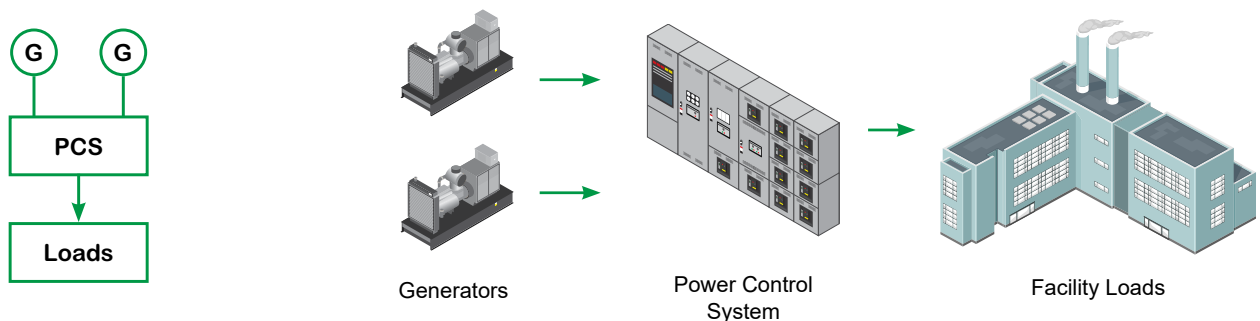
Emergency Standby Power



Parallel Utility and Generators



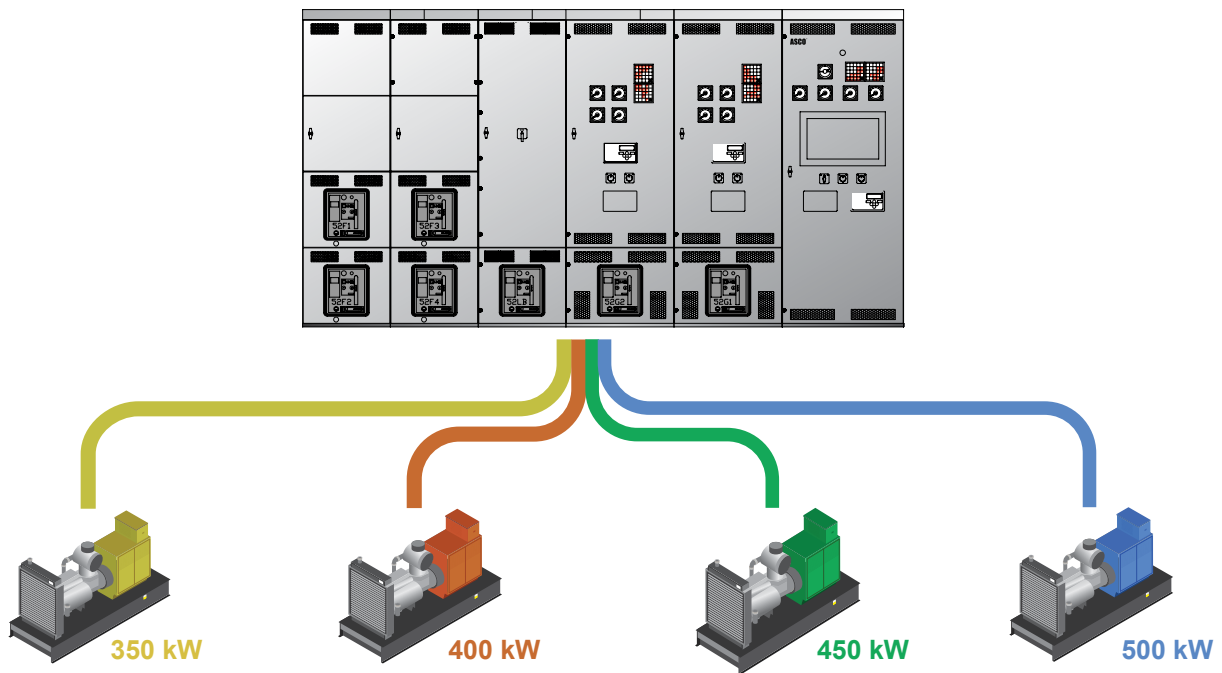
Prime Power



Key Capabilities

Generator Paralleling

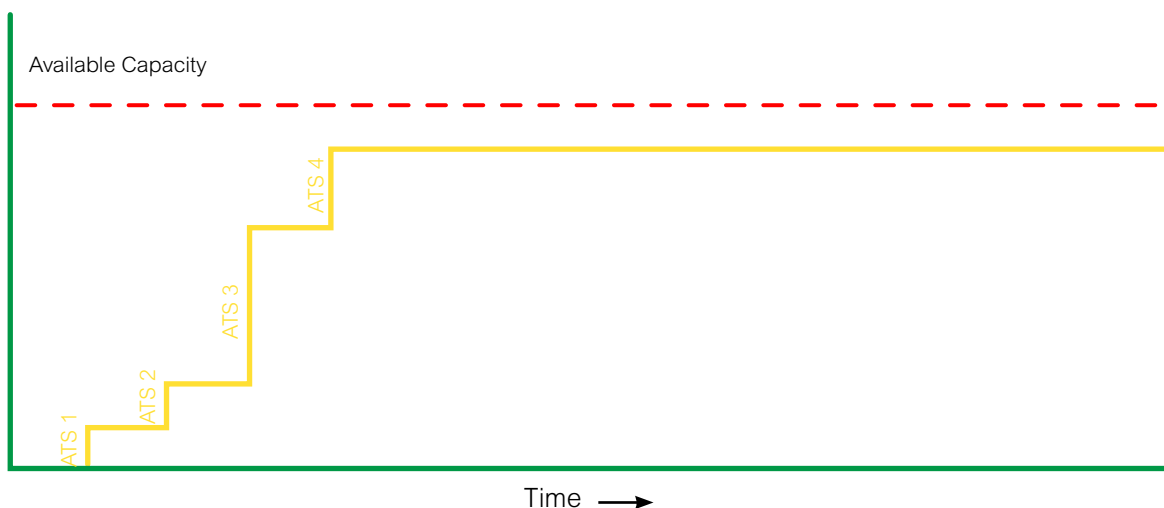
Safely connecting multiple power sources requires switchgear that monitors voltage, frequency, and phase angle differences between sources, and then connects them to a common bus. For maximum flexibility, ASCO switchgear can connect and control generators of differing sizes from all major manufacturers.



Supporting Information: [*Basic Power Source Synchronization and Paralleling*](#)

Bus Optimization

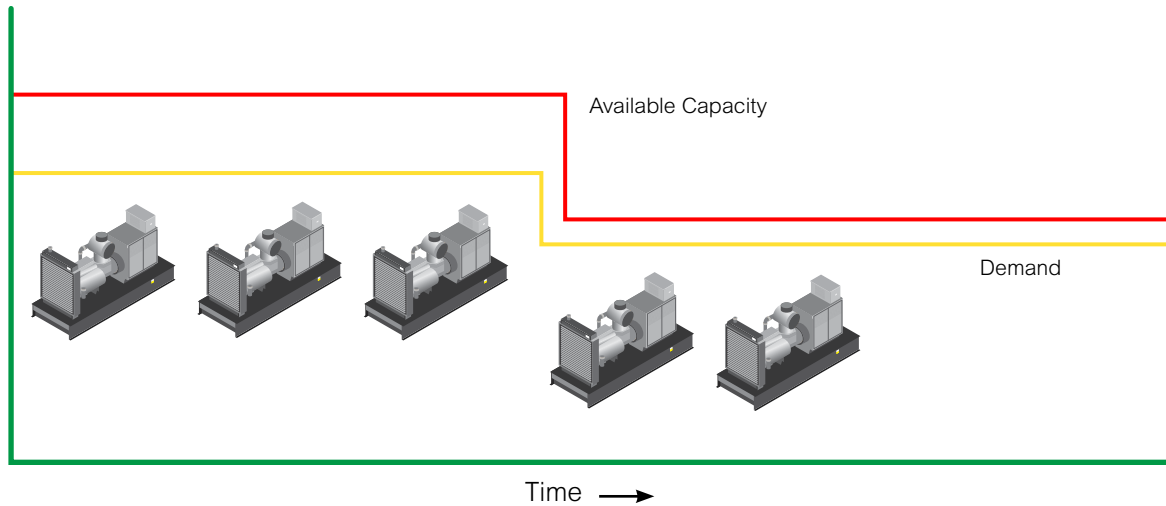
Maximizes usage of available capacity by automatically operating switching devices to add and shed loads.



Key Features

Load Demand

Conserves fuel and reduces maintenance by operating fewer generators at greater efficiency according to demand. Load demand can also equalize run-times across generators.



Custom Operating Sequences and Communications

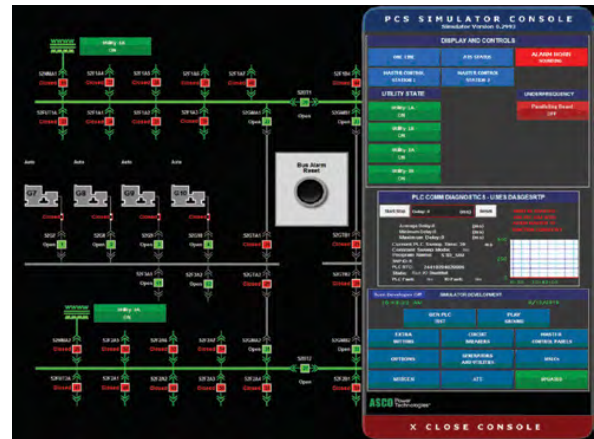
For select product lines, operating sequences can be customized for any purpose. Sophisticated operating sequences can manage generator usage according to priority or engine hours, engage load banks to provide required loading, and optimize power source utilization for commercial BMS, EPMS, as well as ASCO CPMA and Schneider Electric EcoStruxure™ systems.



Simulation

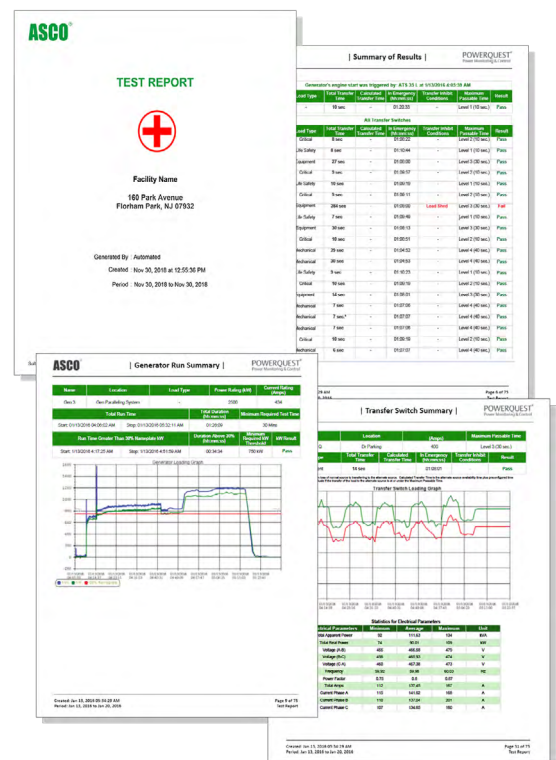
The PCS 7000 SERIES Simulator uses a master control program to replicate a single, live, master control PLC and operator panel. Users can:

- Instruct personnel on a virtual model of a facility's power system without impacting operations.
- Evaluate personnel response to emergency situations and develop operator proficiency
- Evaluate operation sequences and test system states without equipment wear or damage.
- Simulate power system upgrades and modifications.
- Audit and demonstrate preparedness for power system events.



Automated Testing and Reporting

ASCO Power Control Systems can automatically perform equipment testing such as engine exercise routines and transfer switch tests. When equipped with reporting capabilities, PCS can automatically document system performance according to Joint Commission and NFPA 110 requirements.



Engineering and Support

ASCO provides unparalleled technology, support, and service.

Custom Component and Feature Integration

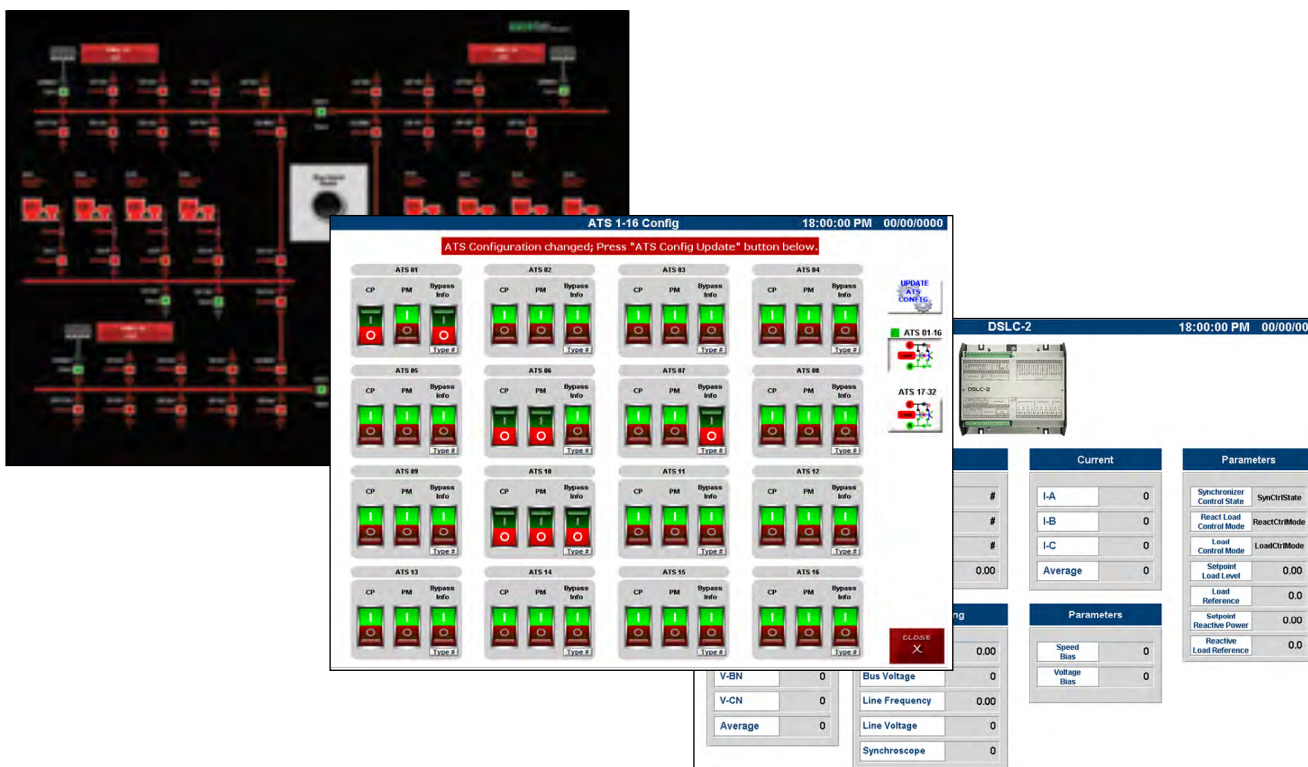
ASCO Power Control Systems provide flexibility for the widest range of power control applications by integrating:

- Digital synchronizers
- Digital power meters
- Circuit breaker and/or transfer switch controls
- Surge protection equipment
- Automation controllers
- Generator controllers
- Hardwired backup circuits
- Redundant Master PLCs and I/O Circuits

Comprehensive connectivity options supply data via Ethernet to remote touchscreens, as well as SCADA, EPMS, BMS, DCIM, and ASCO Critical Power Management Appliances.

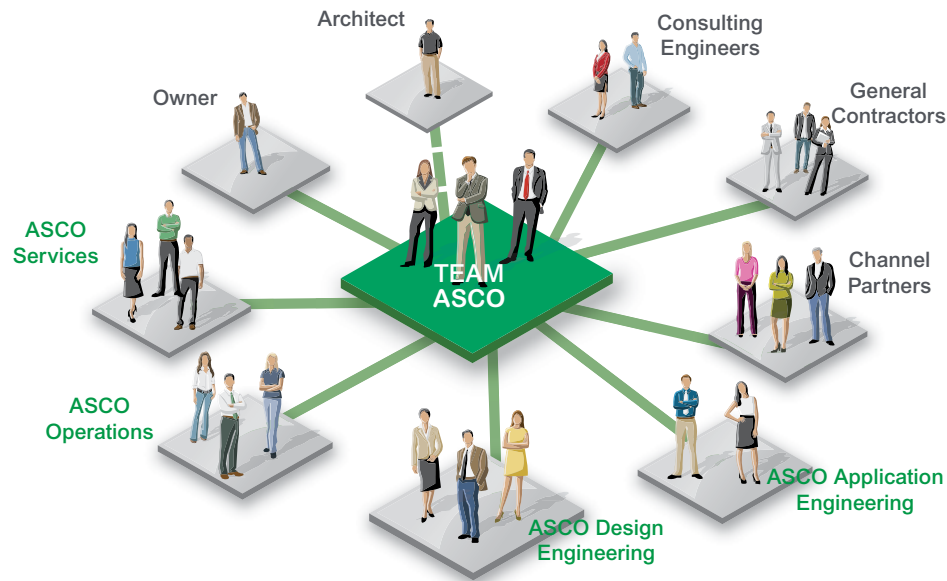
Custom Visualization

- System one-line diagrams
- Dynamic, color-coded device status
- Alarm screens and operator-selected trend plots
- Switchgear status and control screens
- Engine-generator status and control screens with remote test capability
- Historical alarm summaries



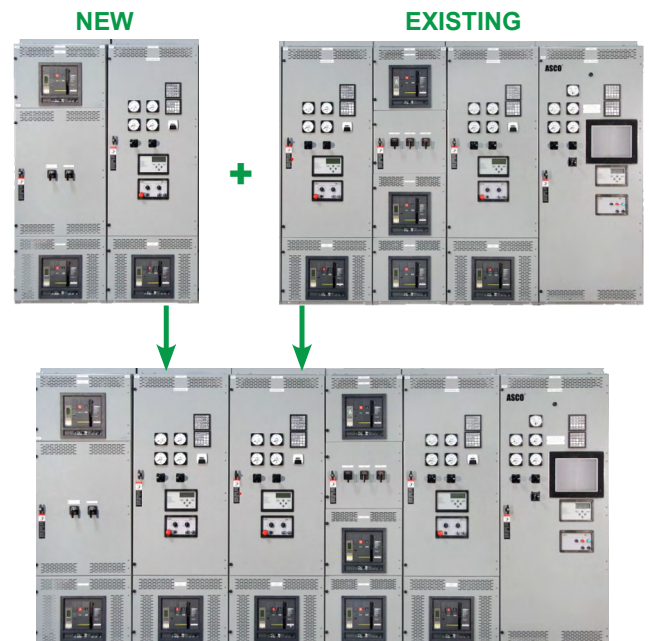
Dedicated Project Management

Outstanding customer service starts with an effective project team. ASCO coordinates and executes the specification, engineering, fabrication, and start-up of power equipment to deliver an exceptional customer experience from concept to closure.



System Modifications and Upgrades

ASCO Power Technologies can modernize existing power control equipment. Whether it's component replacement, system upgrades, or power system expansion, ASCO can provide the best solution even for gear from other manufacturers.



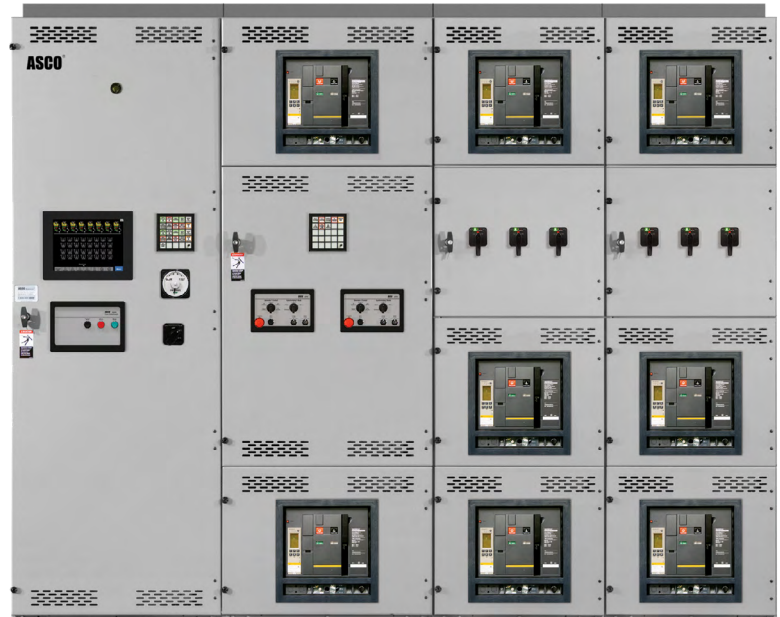
Power Control System Product Lines

7000 SERIES (VE)

Sophisticated Preconfigured Power Management Solution

Up to 8 Generators

7000 SERIES (VE) Power Control Systems are pre-engineered to provide redundant PLCs advanced load prioritization, integrated controls, and communications.



7000 SERIES

Mission-Critical Power System Control

Up to 32 Generators

7000 SERIES Power Control Systems offer mission-critical facilities the full benefit of decades of ASCO power engineering excellence. Fully customizable, these systems can parallel standby and utility sources for low or medium voltage applications.



Product Control System Product Lines

	7000 (VE)		7000
Product Range			
Power Sources	up to 8		up to 32
Parallel Utility	-		Yes
Bus Segmentation/Ring	-		Yes
Manual Paralleling	Hard-Wired		Hard-Wired
Touchscreen	10" Color with System One-Line/15" Available		24" Color with Dynamic One-Line/ up to 42" Available
Load Prioritization	up to 32 Loads		up to 128 Loads
Voltages	up to 600 V		up to 15 kV
Construction/Listing	UL1558		Low Voltage: UL 1558 Med. Voltage: ANSI C37.20.2

Resource Finder	Product SERIES	
	7000 (VE)	7000
Product Web Page	Web Page	Low Voltage Web Page Medium Voltage Web Page
Product Brochure	Pub. 2008	Pub. 2023
White Papers	View Power Control System Papers	
Technical Articles	View Articles	
Videos	View Power Control Systems Videos	



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customercare@ascopower.com](http://www.se.com/us/en/brands/ascopower/customercare@ascopower.com)



Mission-Critical Paralleling Switchgear

ASCO Power
Technologies™

ASCO 7000 SERIES
Power Control Systems



se.com

Life Is On

Schneider
Electric

ASCO 7000 SERIES Power Control Systems

ASCO 7000 SERIES Power Control Systems (PCS) offer ASCO's widest range of Paralleling Switchgear for mission-critical facilities.

Engineered-to-order from 50+ years of ASCO switchgear experience, these fully customized solutions can parallel utility and emergency power sources for both low and medium voltage applications. ASCO 7000 SERIES PCS can be configured to provide the following capabilities:

- Parallels up to 32 generators
- Parallel generators with utility feeds
- Available segmented bus increases availability and speeds generator connection
- Controls up to 128 automatic transfer switches and/or circuit breakers
- Maximizes use of generator capacity by adding or removing generators according to real-time demand
- Available redundant PLCs and I/O pathways enhance reliability
- Load prioritization ensures the most important circuits receive power first
- Manually control addition and shedding of loads and power sources
- Connects Distributed Energy Sources to building power systems

Power Knowledge



[Power Control Systems Feature Comparison](#)



[Power Control Systems Overview](#)



[Power Control System Basics](#)



Custom Power Management for Every Facility

ASCO 7000 SERIES PCS offers the most advanced paralleling switchgear capabilities available today. Every system is custom-engineered to meet specific application requirements. Every customer receives the full benefit of a century of ASCO critical power expertise.

ASCO 7000 SERIES PCS maximizes load distribution and generator efficiency based on real-time capacity and demand. Programmable Logic Controllers supervise sophisticated strategies to manage and optimize onsite energy sources. They also connect load banks to meet loading requirements for diesel-powered generators.

Power Knowledge

 [Basic Power
Source
Synchronization
and Paralleling](#)



Because every ASCO 7000 SERIES PCS is custom-engineered, facilities benefit from optimization at every level:

- Optimize use of available power capacity using custom sequences to keep more loads online
- Manage paralleling of multiple generators, regardless of fuel type or manufacturer
- Switch between distributed energy resources and parallel on-site sources with utility
- Customize bus configurations to hasten generator connection, increase redundancy, and maximize availability

Get the Most from Power Sources

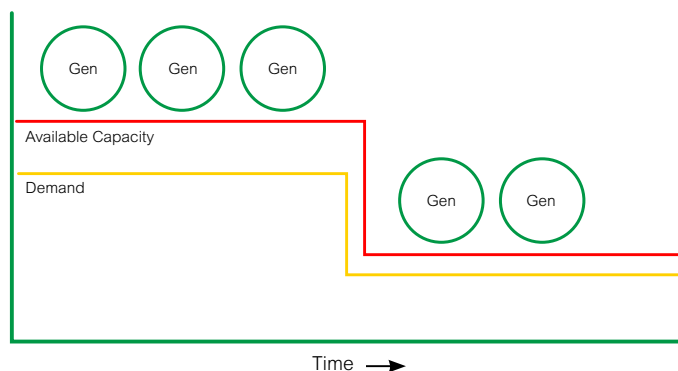
Parallel Multiple Sources to Provide Greater Capacity

ASCO 7000 SERIES PCS synchronize and connect multiple power sources after comparing voltage, frequency, and phase angle. Bus segmentation enables facilities to connect gensets to priority loads quickly.



Optimize Efficiency by Managing Generator Load Demand

Generator Load Demand maximizes the efficient use of power capacity by adding or removing sources according to demand. It enhances reliability and availability by connecting sufficient power when needed. By operating fewer sources at higher efficiencies, it conserves fuel to reduce emissions and improve sustainability and reduces engine-generator runtime.



Parallel Different Types of Power Sources

Bringing power from a utility feed, generators, and renewables can offer significant operational, sustainability, and cost benefits. More than 50 years ago, ASCO produced its first system for paralleling utility power with generators and we have designed, manufactured, installed, and supported utility paralleling solutions ever since. Benefits include:

- *Utility Load Curtailment* – When utilities instruct users to reduce demand, facilities can add alternate distributed power sources instead of shedding load.
- *Peak Shaving* – To avoid demand surcharges, facilities can use distributed energy sources to replace a portion of utility power during peak demand periods.
- *Parallel Utility, Generators, and On-Site Renewables* – Parallel two or more power sources to enhance reliability, increase sustainability, and reduce energy costs. Support microgrids and integrate renewable power sources for a greener, more sustainable facility.

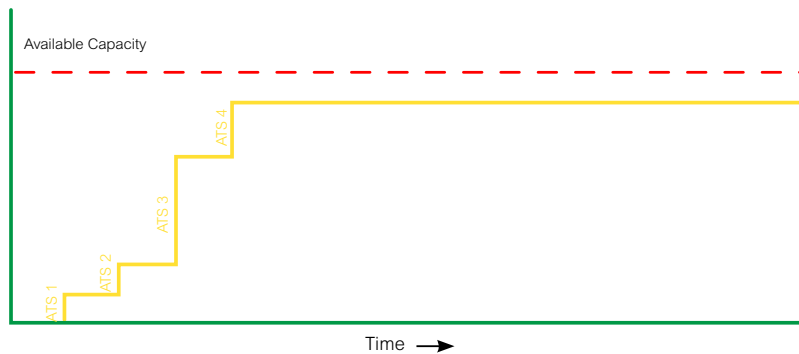
Add and Keep More Load Online

Bus Optimization

ASCO 7000 SERIES PCS are available with either of two bus optimization capabilities

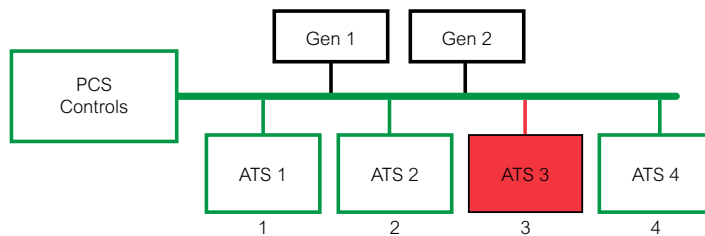
Standard Bus Optimization evaluates the available capacity of online generators and compares it to the maximum expected value of the next priority load block. If the generation capacity is sufficient, the load block is added to increase utilization.

Dynamic Bus Optimization can further increase generator utilization. When power meters measure discrete loads, a PCS system can more precisely compare capacity and real-time demand. This approach puts the most load online and maximizes generator utilization.



Priority Pass-Along

ASCO 7000 SERIES PCS add and shed loads in order of assigned priorities. If a low-priority Automatic Transfer Switch (ATS) loses normal power before other high-priority loads, engine-generators start and supply power to the affected ATS. If other ATSs subsequently require backup power, PCS controllers add them according to their previously assigned priorities. This ensures that impacted low-priority loads are quickly transferred to an alternate power source.



With Priority Pass-Along, the loss of normal power at ATS 3 triggers an engine start. If normal power is subsequently lost on other ATSs, they would be added to bus in prioritized order - in this case, ATSs 1 and 2 together, then ATS 4.

Load Prioritization - A Key to Effective Load Control

ASCO 7000 SERIES PCS products provide unsurpassed power distribution control by managing up to 128 prioritized transfer switches and/or electrically operated circuit breakers. Assigning priorities and sub-priorities to discrete loads in load blocks refines control to maximize generator utilization.

Configure Bus to Maximize Performance

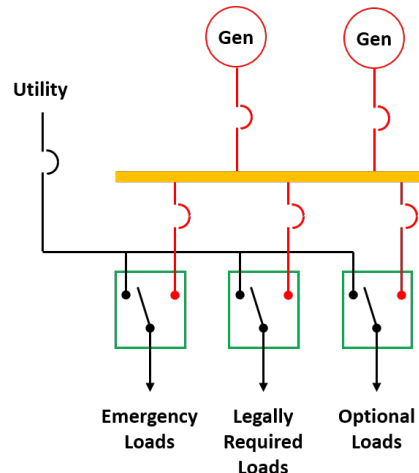
Advanced Bus Segmentation

An extensive range of available bus configurations optimize flexibility, reliability, and performance benefits for every type of facility and application. Here are a few of many possible arrangements.

Single Emergency Bus

A simple cost-effective configuration for managing power sources and loads:

- Synchronize generators as each engine reaches operating speed and voltage
- Manage connection of loads to the bus according to available generator capacity
- Shed the lowest priority loads to match available bus or generation capacity
- A fault on the Emergency Bus will not disrupt the delivery of utility power to loads, and a fault in the utility power pathway will not affect the availability of generators

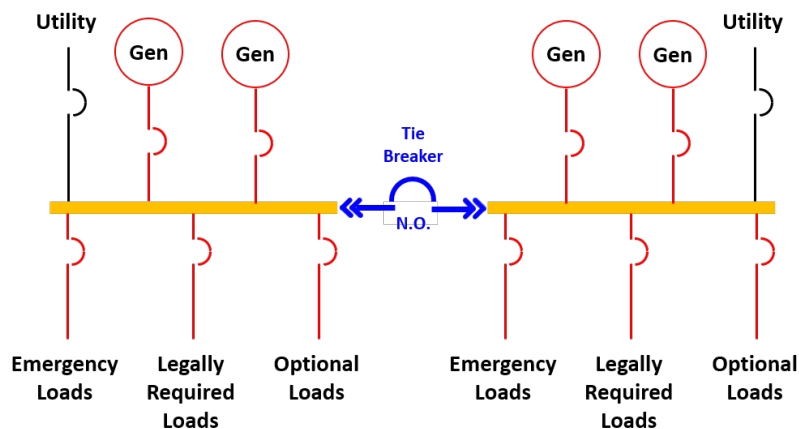


Power Knowledge

 [Increasing Power Redundancy](#)

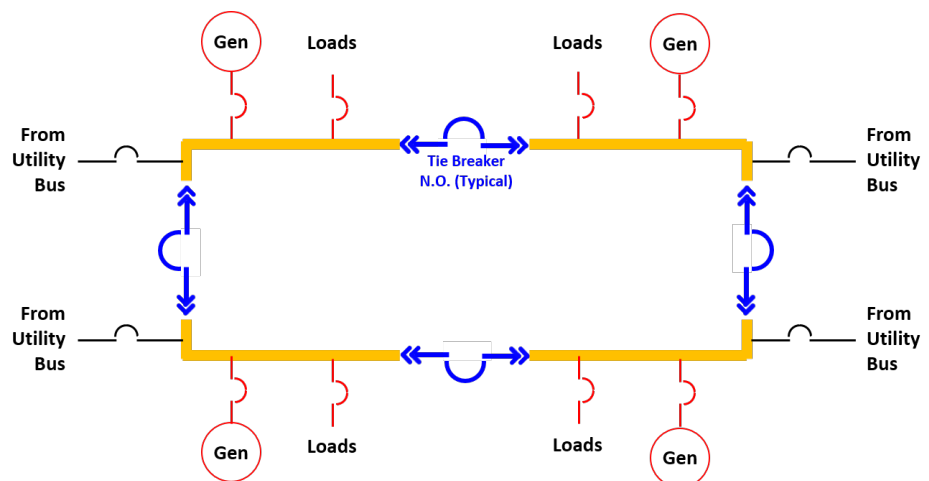
Main-Tie-Main Using Common Bus

This configuration can connect any remaining power source to any remaining load.



Ring Bus

Unlike linear arrangements, ring bus offers two separate pathways between sources and loads on different bus segments.



Unsurpassed Integration

Custom integration of switching and control elements brings comprehensive monitoring and control capabilities unavailable using other technologies. Through color touchscreen interfaces, operator can manage:

- Synchronizer and Load Share Controllers
- Programmable Logic Controllers
- Power Meters
- Power Quality Meters
- Automatic Transfer Switches
- Circuit Breakers
- Protective Relays



ASCO PCS can provide the following capabilities and benefits:

- Automatic notifications and alarming through local switchgear interfaces, remote annunciators, and Schneider Electric EcoStruxure
- Connectivity to building and emergency power management systems via Modbus
- Optional Ethernet-over-Fiber communications for enhanced connectivity
- Technician access to detailed diagnostic data
- User access through remote interfaces to important diagnostics and password-protected controls
- Capability to maintain minimum generator loads using one or more load banks
- Optional email and SMS notifications of system alarms and events

Manual Load Controls

Manual Load Controls maximize operating flexibility by enabling the following features:

Load Shed Bypass/Reset: Manually re-add previously shed load blocks. To protect generators, any excess loads are automatically re-shed.

Hand-Off-Auto: Touchscreen controls for connecting individual automatic transfer switches and circuit breakers to the main bus.

Manual Paralleling: For manually connecting of generators to the main bus if automatic paralleling becomes inoperable.

Generator Control Station: Every generator control section is equipped with manual controls for engine-generator testing, including:

- *Emergency Stop Pushbutton* - Stop engine-generators quickly using instantly recognizable controls
- *Five-Position Engine Control Switch* - Select from the following automatic and manual operating modes:
 - *Automatic* - Select Normal automatic operation
 - *Test Online* - Test gensets by starting and automatically connecting them to the bus
 - *Test Offline* - Test isolated engine-generators
 - *Off-Cool-Down* - Run engines in cool-down mode for user-defined times
 - *Lockout/Reset* - Immediately stop engines and clear alarms

Enhanced Visualization

The ASCO 7000 SERIES PCS color touchscreens present a user-friendly intuitive interface that can be conveniently located anywhere in a facility. Every ASCO 7000 SERIES PCS can be provisioned with:

- Custom-engineered one-line diagrams that provide dynamic, readable, color-coded circuit elements and power flow schematics
- Switchgear status indicators for consistent display and instant familiarity
- Touch-linked circuit elements provide rapid access to metering and power information
- Diagnostics for communication networks, programmable logic controllers, synchronizers, meters, and other devices
- Operator-accessible trend plots for rapid assessment of power and equipment conditions
- Alarm history with up to 500 entries and an event archive of 3 months or more
- Multiple security levels for controls and individual accounts for users



Intelligent Simulation

The available ASCO PCS Simulator provides a digital environment for evaluating procedures and anticipating outcomes. It simulates operation of paralleling gear, transfer switches, circuit breakers, generator controls, switchgear control stations, alarm annunciation, and response. Every Simulator is provisioned with:

- A virtual interface and code that is identical to its real-time system
- Virtual copies of the same hardware and software used on live operator interfaces
- A computer that replicates ASCO 7000 PCS switchgear and connected devices and provides a virtual control console



Applications

Training

The ASCO PCS Simulator provides reliable and accurate simulation to maximize the benefit of any training exercise. The Simulator can also be used to evaluate operator and equipment performance under multiple operating scenarios, without risk of power system downtime.

Event Sequence Testing

The Simulator can be used to evaluate existing and proposed operating sequences without disrupting live operations. It provides a platform for demonstrating performance improvements for systems.

Predictive Simulation

The Simulator is perfect for evaluating test scenarios including:

- Synchronization failure
- Utility failure and restoration
- Bus under-frequency
- Generator failure
- Loss of bus segment
- Circuit breaker failure
- Bus differential events

Efficient Regulatory Reporting

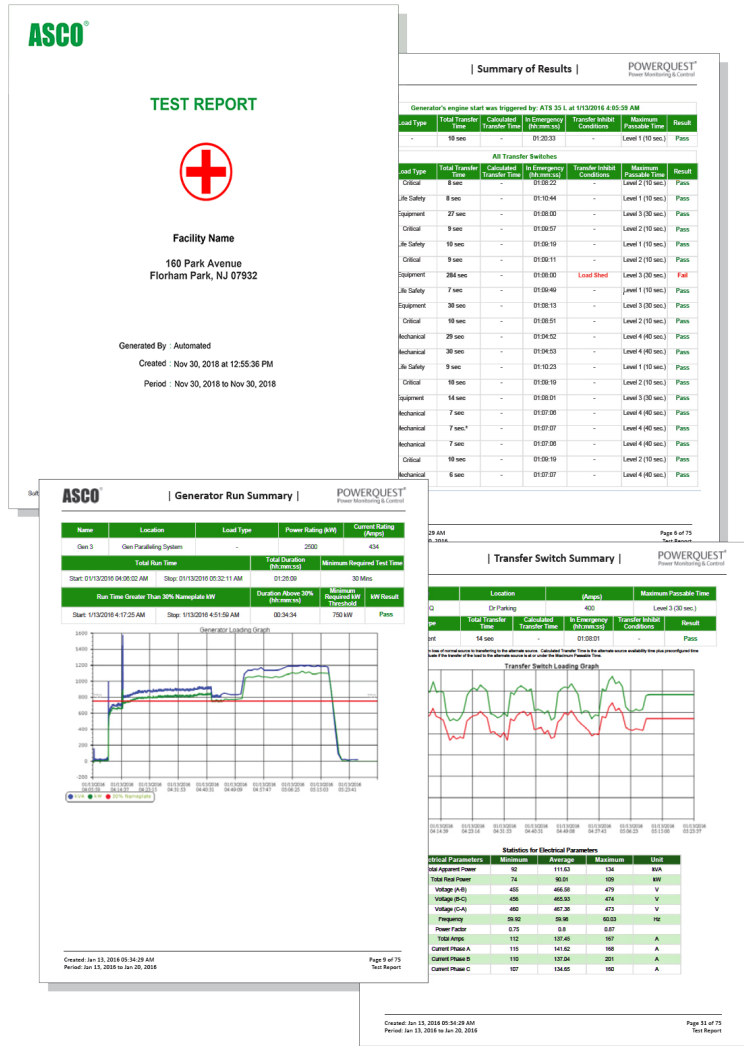
When equipped with a *Joint Commission Reporting Package*, ASCO 7000 SERIES PCS can generate and distribute documents in ways that make industry and regulatory reporting easy. Generators can be monitored through ASCO Power Metering Units or directly using Modbus protocols. ASCO Critical Power Management Appliances automatically track device performance during outages and test events.

After the last switch has re-transferred to its normal power source, a detailed report is automatically emailed to authorized recipients, which may be used to comply with reporting requirements including NFPA 99, NFPA 110, Joint Commission, CALEA, and CMMS.

Power Knowledge



Three Benefits of Automated Critical Power Reporting



7000 SERIES Features and Options

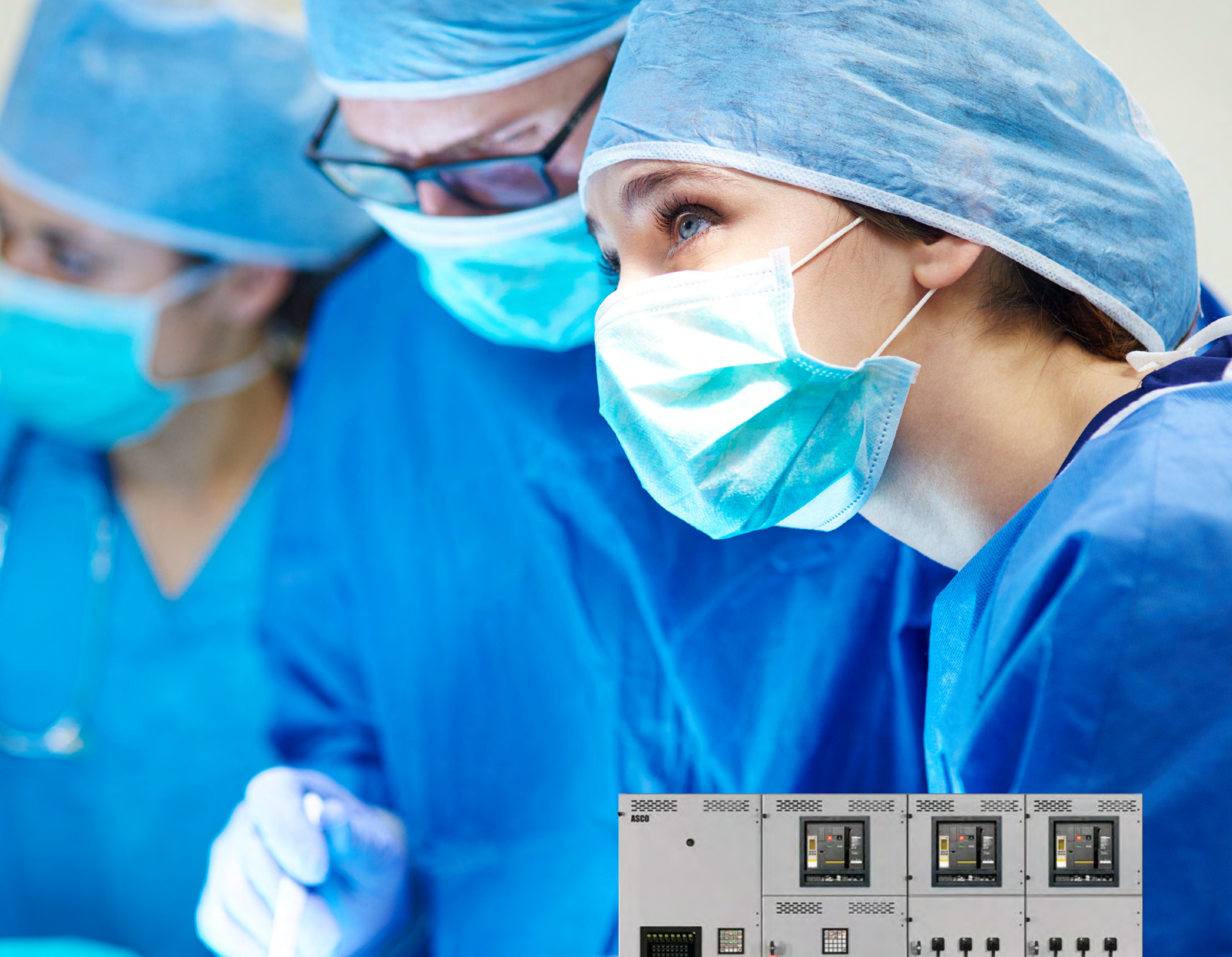
7000 SERIES Models with System Voltage	600 V Max.	5kV/15kV (consult factory for higher)
Modes of Operation		
Isolated Bus (Open Transition)	Yes	Yes
Generator Soft Load/Unload	Yes	Yes
Utility Tie (Momentary Closed Transition)	Yes	Yes
Utility Tie (Soft Load/Unload)	Yes	Yes
Generators	32	32
Construction		
Main Bus Amp Size Available	Up to 10,000 A	Up to 3000 A
Switchgear Standard	UL 1558 (Standard) UL 891 (Optional)	ANSI/IEEE C37.20.2 ANSI/IEEE C37.20.7 (Optional)
Bus Bracing level, kA	Up to 200	Up to 63
Arc Resistant/Arc Protection Relaying	Optional	Optional
Enclosure	Type 1/Type 3R	Indoor/Outdoor/Outdoor Sheltered Aisle
Circuit Breakers		
Generator Paralleling Breakers	1 or 2 per cubicle	1 per cubicle
Maximum Generator Breaker Frame Size	3200 A (2) 5000 A (1)	Up to 2000 A
Tie and/or Utility Circuit Breaker Available	Optional	Optional
Master Controls		
Master Controls	Integrated Segregated	Integrated Segregated
Master Controls Touch Screen	24" Std. / Up to 42"	24" Std. / Up to 42"
Redundant Touch Screens	Optional	Optional
Engine-Generator Info Screen	Yes	Yes
NFPA 110 Generator Monitoring	Yes	Yes
Master PLC	Yes	Yes
Redundant Master PLC	Standard, unless otherwise specified	Standard, unless otherwise specified
Redundant Master I/O	Optional	Optional
Hardwired Manual Paralleling	Standard	Standard
Bus Load Optimization	Standard	Standard
Generator Load Demand	Standard	Standard
Max. Number of ATSSs for Load Control (MO DCB)	32 Std. / Up to 128	32 Std. / Up to 128
Max. Number of ATSSs for Load Control (EO DCB)	32 Std. / Up to 128	32 Std. / Up to 128
Main Bus - Maximum Segments	8	8
Generator Controls Sections		
Generator Controls	Integrated Segregated	Integrated Segregated
Generator Synchronizer Type	Digital	Digital
Generator PLC	Yes	Yes
Hardwired Backup Controls	Standard	Standard
Generator Controls Touchscreen	Optional	Optional
Distribution Circuit Breakers		
Manually Operated Distribution Circuit Breakers	Optional	N/A
Electrically Operated Distribution Circuit Breakers	Optional	Standard
Remote Monitoring		
Remote Annunciator Panel, LED Type	Optional	Optional
Remote Annunciator Panel, Touchscreen Type	Optional	Optional
42" Color Touchscreen	Optional	Optional
PowerQuest Remote Desktop Monitoring	Optional	Optional
NFPA Test Report Package	Optional	Optional
JC Reporting Package	Optional	Optional
Simulator		
Simulator for Testing and Training	Optional	Optional

Life Is On



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ASCO Power Technologies™

ASCO 7000 SERIES (VE) Power Control Systems

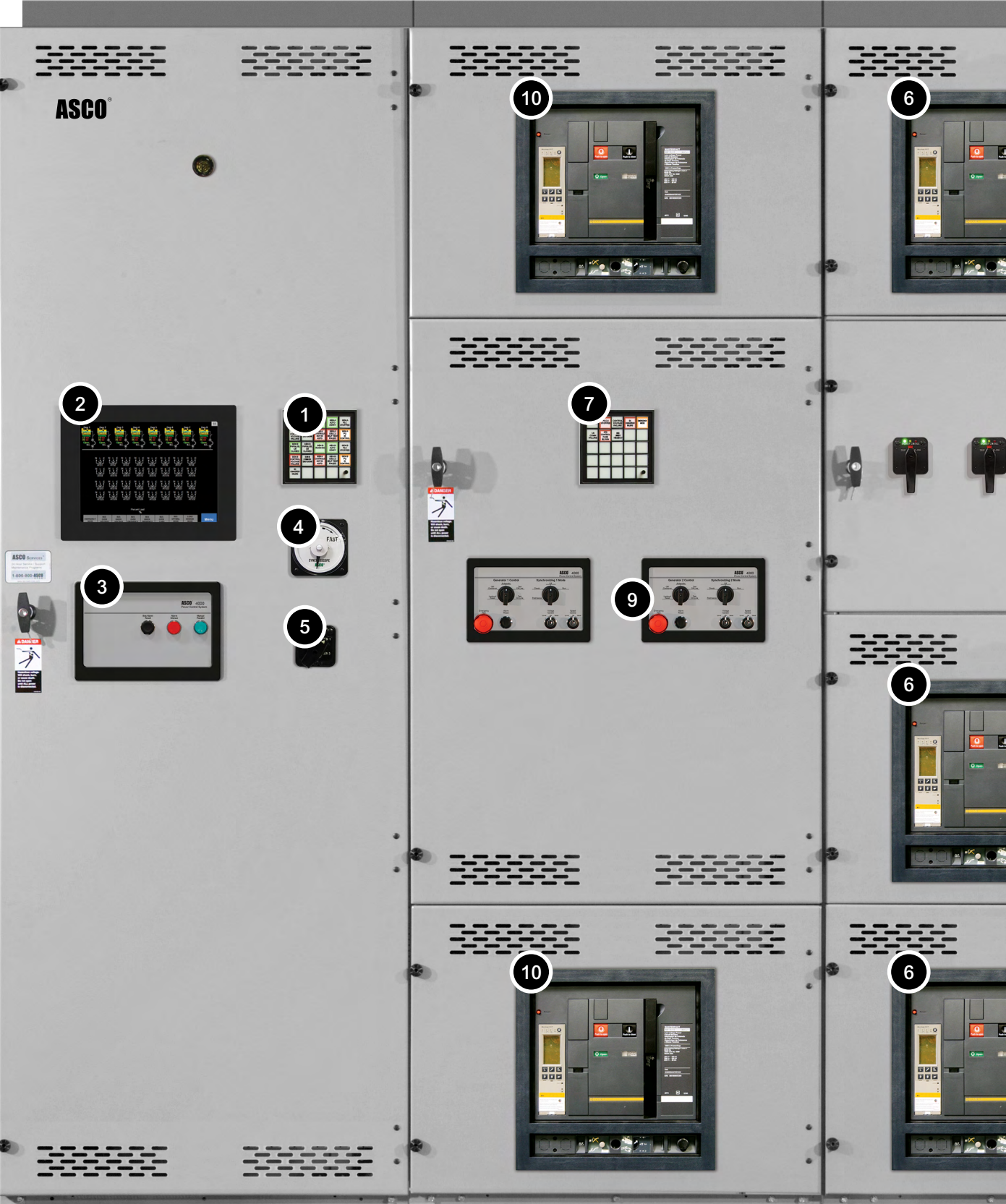


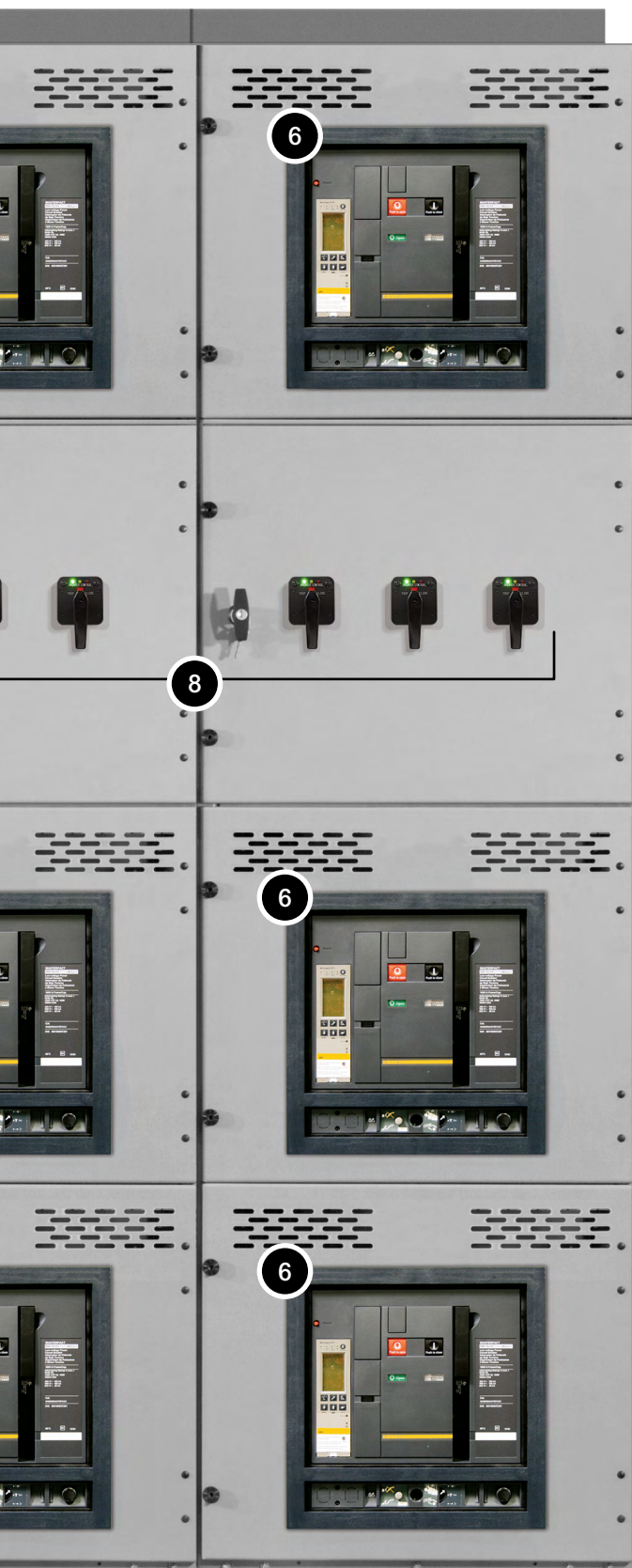
se.com

Life Is On

Schneider
Electric

HARDWIRE BACKUP CONTROLS





- 1 System Status Panel
- 2 Operator Interface Terminal (SCADA)
- 3 System Control Station
- 4 Synchroscope (Manual Paralleling)
- 5 Mode Selector Switch
- 6 Distribution Circuit Breaker
- 7 Generator Status Panel
- 8 Manual Circuit Breaker Controls & Status
- 9 Generator Control Station
- 10 Paralleling Circuit Breaker



REFINED POWER MANAGEMENT

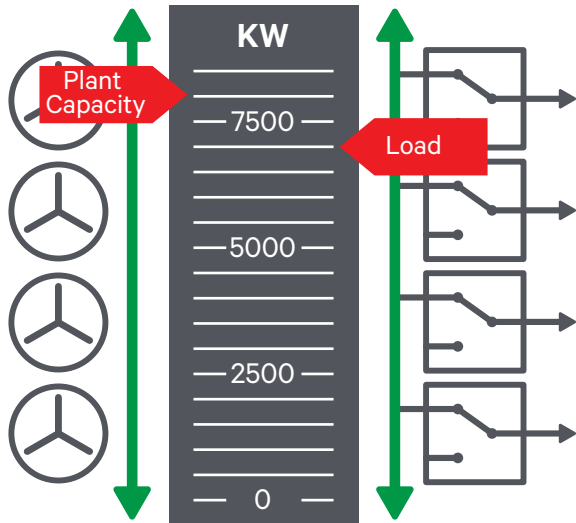
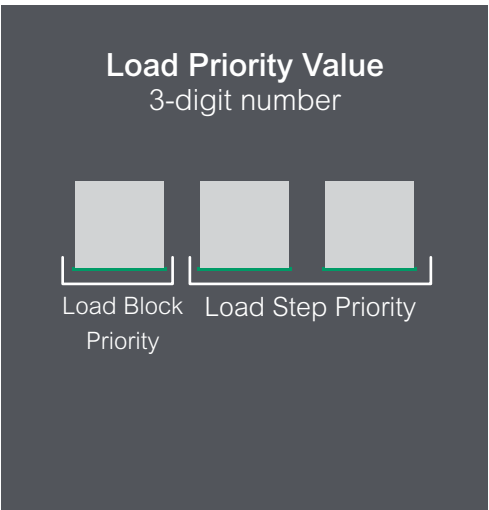
Power is managed by referencing the main bus. ASCO Power management applications, including generator load demand and load bus optimization, maximize load distribution and control generator efficiency based on actual power measurements. ASCO 7000 SERIES (VE) Power Control Systems (PCS) provide the most powerful, reliable and advanced digital control by separating the control of generators from load distribution control, and independently managing each.

Generator load demand maximizes the efficiency of generator usage. After a stabilizing time delay, a generator may be started and connected to the main bus for high demand, or unloaded and shut down for low demand. It conserves fuel and reduces maintenance requirements by operating fewer generators at a more efficient level.

Bus load optimization determines the capacity for adding loads to the bus. It evaluates system utilization, based on available capacity and distribution load ratings.

Effective power management derives from the assignment of unique and structured priorities to distribution loads, which are controlled by the 7000 SERIES (VE) PCS via transfer switches and/or electrically operated distribution circuit breakers. For example, transfer switches which provide power to life safety loads receive a load block priority of 1 and an individual step priority within that block. If there are 5 such transfer switches, they could be assigned the load priority values of 101, 102, 103, 104 and 105.

The next group of loads may be assigned a block priority of 2; if there are 3 such transfer switches, for example, they could be assigned the load priority values of 201, 202 and 203. Because the 7000 SERIES (VE) PCS can control up to 32 individually prioritized transfer switches, individually controls each transfer switch per its unique priority, and allows operators to change priorities run-time, the 7000 SERIES (VE) PCS provides unsurpassed distribution control.



ENHANCED VISUALIZATION

By providing generator one-line and transfer switch overview screens, dynamically updated and color-coded status for readability, screens for switchgear status & control, alarm screens and operator-defined trend plots, the 7000 SERIES (VE) PCS color touch screens deliver a powerful, user-friendly interface that can be conveniently located throughout the facility.

FEATURES AND BENEFITS

- One-line screen for familiar representation of site installation
- Optional remote color touch screen
- Ethernet communications with Modbus® mapping for external system connectivity (CPMS, DCIM, BMS, etc)
- Engine-generator status/control screen
- Generator trending with auto-scale plots
- Historical Alarm
- ASCO transfer switch controller and metering connectivity including remote test capability
- System metering and individual generator metering screens
- Security features including multiple security levels and individual operator accounts

Historical Alarms				
DATE	TIME	DESCRIPTION	VALUE	
10/17/2012	8:14:19	Generator 1 paralleling breaker is closed	Generat	
10/17/2012	8:14:19	Generator 1 is running	Generat	
10/17/2012	8:14:19	Generator 2 paralleling breaker is closed	Generat	
10/17/2012	8:14:19	Generator 2 is running	Generat	
10/17/2012	8:14:19	Generator 3 paralleling breaker is closed	Generat	
10/17/2012	8:14:19	Generator 3 is running	Generat	
10/17/2012	8:14:18	Gen 6 PLC Communication Failure	FALSE	
10/17/2012	8:14:18	Gen 5 PLC Communication Failure	FALSE	
10/17/2012	8:14:18	Gen 4 PLC Communication Failure	FALSE	
10/17/2012	8:14:18	Emergency Mode	TRUE	
10/17/2012	8:06:25	Master PLC Communication Failure	FALSE	
10/17/2012	8:06:25	Gen 6 PLC Communication Failure	TRUE	
10/17/2012	8:06:25	Gen 5 PLC Communication Failure	TRUE	
10/17/2012	8:06:25	Gen 4 PLC Communication Failure	TRUE	
10/17/2012	8:06:25	Gen 1 PLC Communication Failure	TRUE	
10/17/2012	8:06:24	MASTER PLC DIAGNOSTIC FAULT	TRUE	
10/17/2012	8:01:19	Generator 3 paralleling breaker is closed	Generat	
10/17/2012	8:01:19	Generator 2 is running	Generat	

Transfer Switch Controller Status

Transfer Switch Connected to Normal

Transfer Switch Connected to Emergency

Transfer Test

Retransfer

Normal Source Accepted

Emergency Source Accepted

Time Delay Bypass

Power Manager

AMPS

A 0

B 0

C 0

VOLTS

0 Van

0 Vbn

0 Vcn

0 Vab

0 Vbc

0 Vca

POWER

0 KW

0 KVAR

0 KVA

0.00 PF

0.00 Hz

Max KW Demand: 0 KW

Load on N, N ok

Selected ATS: 1

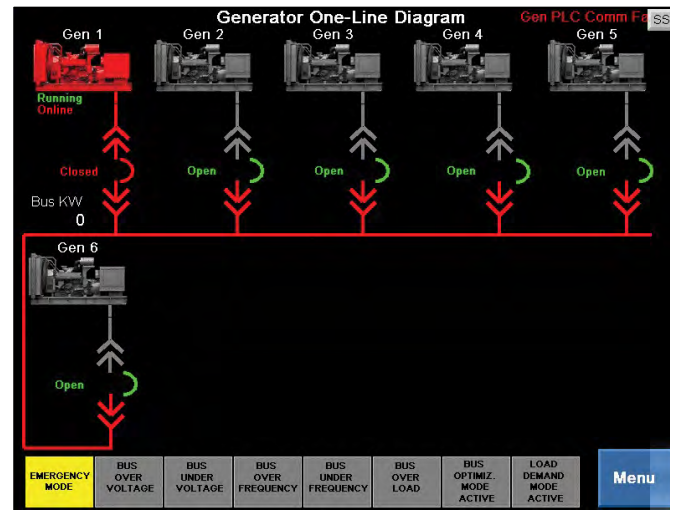
ATS Selection

Switch Type: Open Transition

Bypass Switch: No

Select ATS

Menu



Bus Optimization

Time Delays (sec)

Entry Actual Elapsed

Enabled Step Add 5.0 5.0 0.0

Active Activation 30.0 30.0 30.0

Next Load to be added

Valid only when bus op. is active.

Load # 0 Gen Capacity 3000

Priority 0 Bus KW 1015

Est. KW 0 Headroom 1835

Derated Gen Capacity 2850

KW Derate (% Rated Load)

DOWN 95 UP

BUS OPTIMIZ. MODE ACTIVE

BUS LOADED TO CAPACITY

NEXT LOAD EXCEEDS HEADROOM

BUS OVERLOAD

BUS UNDER FREQUENCY

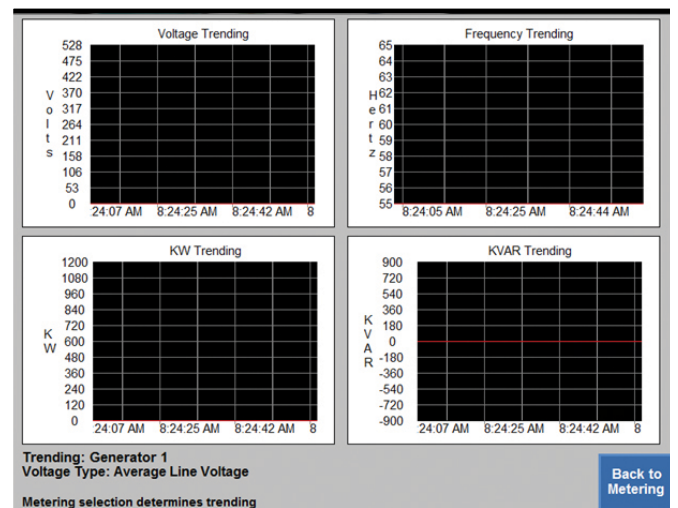
ALL LOADS REQ. EMER. POWER ADDED

BUS UNSTABLE DUE TO OVERLOAD

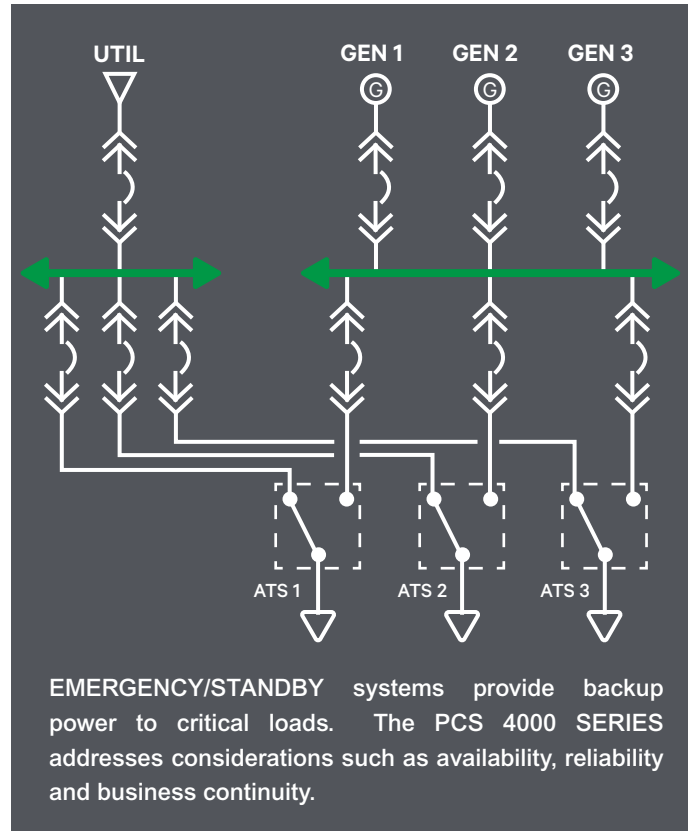
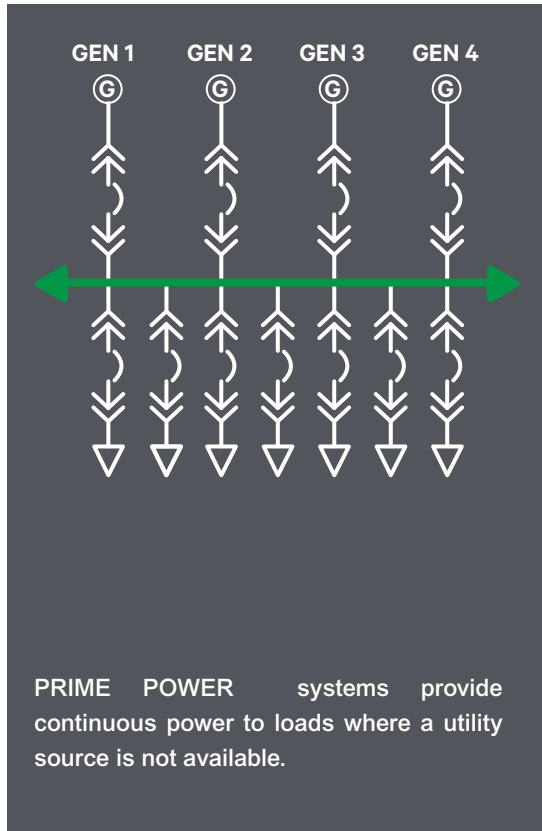
Active for 30 sec. after overload condition.

Entry to Actual

Menu

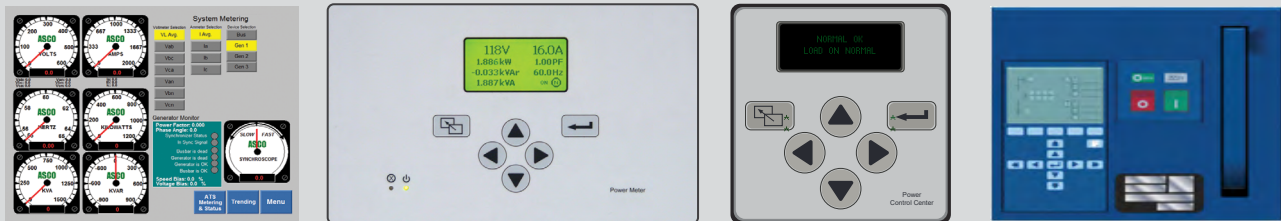


APPLICATION FLEXIBILITY



COMPLETE INTEGRATION

Integration of essential switching and control elements brings complete monitoring and control via operator interfaces:

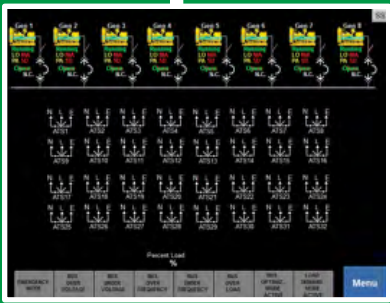
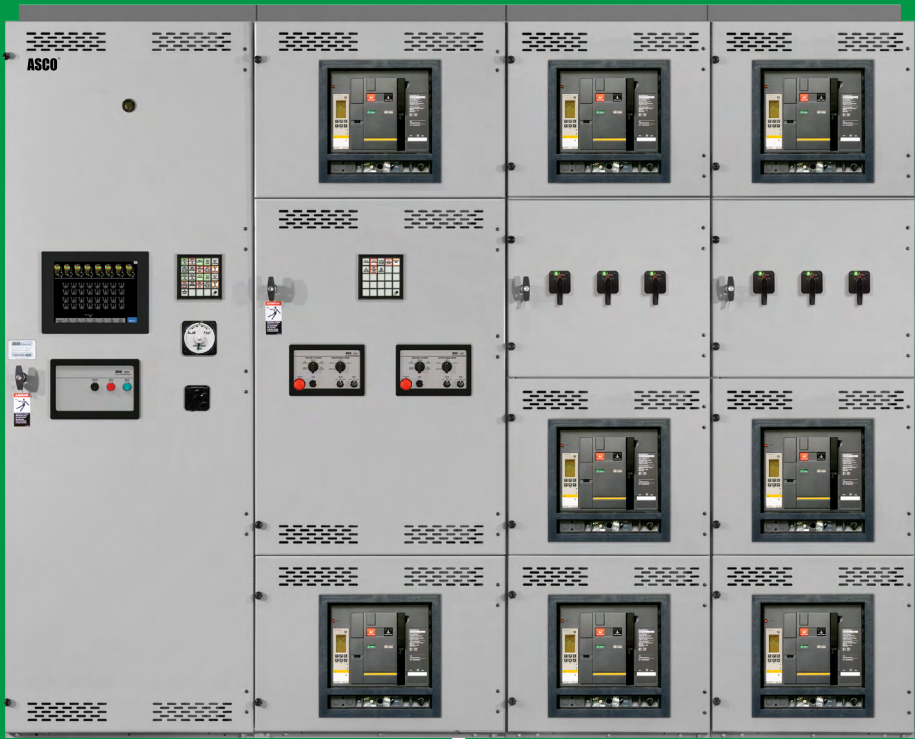


- Digital Synchronizer/Load Share Controllers
- ASCO 7000 SERIES ATS Controllers
- ASCO Digital Power Meters
- Programmable Automation Controllers
- Circuit Breaker Status and Control

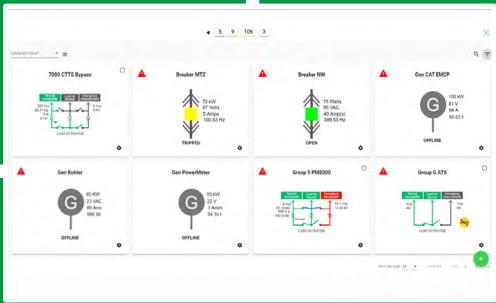
Connectivity defines the usefulness of paralleling switchgear. The flexibility of the 7000 SERIES (VE) PCS switchgear takes it to a higher level. We bring the data to you with Ethernet communications and Modbus® mapping, providing connectivity to optional remote color touch screens, ASCO CPMS, SCADA systems, BMS and DCIM systems.

As a result of complete integration, operators can be notified via alarms on the local switchgear or at a conveniently located remote color touch screen. Detailed diagnostic data, such as alarm and event logs as well as system status values from digital controls, becomes accessible to technicians plugged in anywhere on the switchgear communication network. Individual accounts with assigned security levels define the level of monitoring and control available at the local or remote touch screen.

ACCESSIBLE CONNECTIVITY



Remote Color Touch Screen



Critical Power Management Appliance (CPMA)



Building Management System (BMS)
Data Center Infrastructure
Management (DCIM)

INTELLIGENT SIMULATION

The 7000 SERIES (VE) Switchgear Simulator option provides an important platform for customers to train new operators, provide continuing education to existing operators, test changes to sequences of operation, and evaluate the performance of operators and the system during a simulated crisis. Customers who maintain active training and continuous improvement policies experience measurable benefit.

The 7000 SERIES (VE) Switchgear Simulator is the practical platform to TRAIN operators, TEST sequences, and MEASURE performance.

During critical power losses, the facility control room becomes the emergency room. The value of quick decisions based on training and knowledge versus guesswork determines the duration of down-time. The necessity of simulation training becomes immediately apparent when the impact of a crisis could have been minimized if not for operator error.

When customers needed a safe and effective way to measure the performance of their generator paralleling switchgear as well as the response of facility operators during shortened periods of numerous alarms and simulated equipment failures, ASCO provided the PCS Simulator. Its effective use can reveal the performance of sequences and operators without risk to equipment or of down-time while extending an operator's experience in both typical and unusual emergencies.

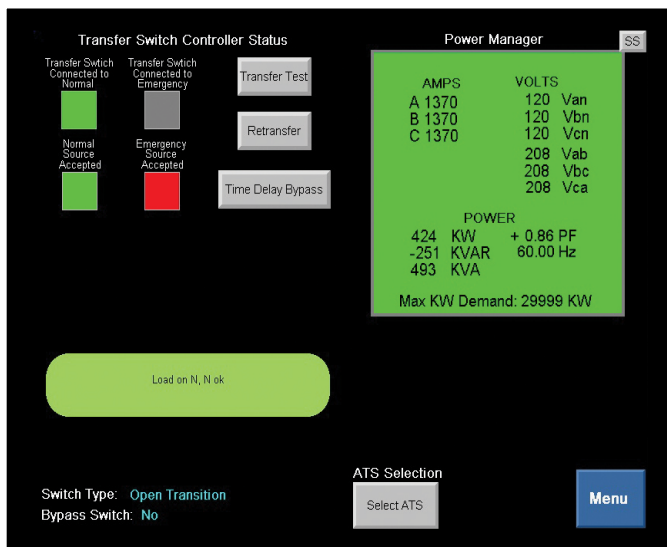
Frequently, operators need to develop experience with more scenarios in a shorter period of time than on-the-job experience, not only for typical scenarios but unusual ones as well. Additionally, they need the ability to review and correct their mistakes; typically there are no second chances with a live system.

The simulator option also benefits managers who need to develop reports that show measurable performance and improvements with respect to facility operators and system operation.

Engineers who need to evaluate existing sequences of operation as well as be able to test modifications can benefit as well. Additionally, engineers are provided a way to correct oversights and test corrections without impact to the live system.

Additional beneficiaries include owners who seek to reduce their training investment and minimize down time by developing highly effective operators, sequences, and business processes (work flow).

All of this, and more, can be accomplished locally, with minimal investment, and without putting the live system at risk. The solution? The 7000 SERIES (VE) Power Control Systems Simulator!



Whereas competitive simulators may utilize computer modeling, the 7000 SERIES (VE) Switchgear Simulator includes the same color touch screen as the PCS switchgear as well as a PLC to execute the actual sequence of operation from the PCS switchgear.

Included is a console, an operator interface touch screen with all master control screens from the live system, a simulator PC with screens for configuring the simulator, and a PLC with the master controls program (system I/O not included).

PCS SIMULATOR CONSOLE

DISPLAY AND CONTROLS

ONE-LINE	MASTER CONTROL STATIONS	ONE-LINE
SYNCHROSCOPE	SHOW METERING? ON	

UTILITY STATE	GEN STATUS	UNDER-FREQUENCY
UTILITY 1 ON	GENERATOR 1 ON	GPS1 OFF
UTILITY 2 ON	GENERATOR 2 ON	GPS2 OFF
	GENERATOR 3 OFF	
	GENERATOR 4 ON	

SYSTEM COMMUNICATION DIAGNOSTICS

Start

Delay: 80ms

Reset

Communication Status:

Running

Average Delay:

70 ms

Minimum Delay:

0 ms

Maximum Delay:

350 ms

Current PLC Sweet Time:

3 ms

Constant Sweep Mode:

No

Program Name:

M9G03

SNP ID:

0

PLC RTC:

34310129010007

State:

Run I/O Enabled

PLC Fault:

None

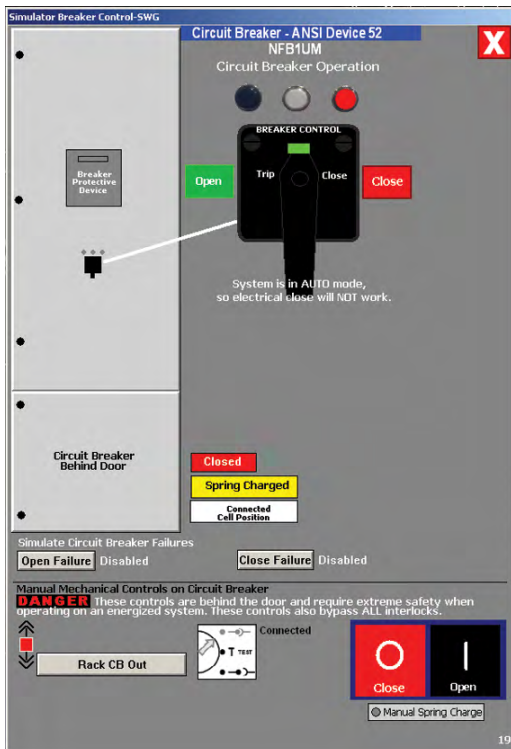
I/O Fault:

None

CLOSE CONSOLE

Simulated devices and controls:

- Automatic transfer switches, including simulation of source-seeking and PLC-initiated transfers
- Power circuit breakers, including simulation of electrical charging, manual operation, control switches, lockout relay, failure to close and failure to open
- Basic generator controls, including local control switch, synchronizer mode, random start and synchronization delays, common shutdown and pre-alarm initiation



Various test scenarios including:

- Generator bus under-frequency
- Utility failure/restoration
- Circuit breaker open/close failure
- Electrical interlock (for training purposes)
- Generator failure
- Circuit breaker unavailable (tripped, lockout, withdrawn)
- Failure to synchronize

ASCO® 7000 SERIES (VE) FEATURES AND OPTIONS

FEATURES	7000 SERIES (VE)
System Voltage	600V Max.
Number of Generators	4 (Up to 8 depending on configuration)
PRODUCT CONFIGURATION	
Standby/Isolated Bus	Yes
Prime Power	Yes
CONSTRUCTION	
Main Bus Amp size available	2000 to 10000 A (Type 1 Enclosure) 2000 to 6000 A (Type 3R Enclosure)
Switchgear Standard	UL 1558
Bus Bracing Level	100 KA or 200KA
Overhead Rail Lift	Optional for Type 1 Enclosure
Seismic Certification Option, SDS	2.46 (Includes rooftop installation)
IBC 2012 & OSHPD	Included with Seismic Certification Option
MASTER CONTROLS	
Master Controls Touch Screen	24"
Redundant Master Touch Screens	Optional (Up to 2 Additional Color Touch Screens)
NFPA 110 Generator Monitoring	Yes
Master PLC	Yes (Schneider Electric: Modicon M580 PLC)
Redundant Master PLC	Optional
Hardwired Manual Paralleling	Standard
Bus Load Optimization	Standard
General Load Demand	Standard, Includes Soft Generator Unloading
Load Shed/Add	ATS or Electrically Operated Circuit Breaker
Number of ATS's (Manually Operated Distribution CB)	1 - 32
Number of ATS's (Electrically Operated Distribution CB)	1 - 16
Simulator for Testing and Training	Optional
GENERATOR CIRCUIT BREAKERS	
Generator Paralleling Breakers	1 or 2 per cubicle (Depending on Options)
Max. Generator Breaker Frame Size	3200 A (2) 5000 A (1)
GENERATOR CONTROLS SECTION	
Generator Synchronized Type	Digital
Generator PLC	Yes
Hardwired Backup Controls	Standard
Generator Controls Touch Screen	Optional (See Note Below)
Lug Types	Mechanical (Standard) / Compression (Optional)
DISTRIBUTION CIRCUIT BREAKERS	
Manually Operated	Optional
Electrically Operated	Optional (8 max., Depending on Configuration)
REMOTE MONITORING	
Remote Annunciator Panel, Color Touch Screen Type	Optional (See Note Below)
CPMA Remote Desktop Monitoring	Optional
NFPA Test Report Package	Optional (Consult Factory)
JC Reporting Package	Optional (Consult Factory)

Note: The 7000 SERIES (VE) Power Control Systems support a total of 3 color touch screens

TECHNOLOGY

Innovation, an important part of the value delivered by the 7000 SERIES (VE) switchgear, results from the process of identifying needs, creating ideas, developing and implementing solutions. Building reliable switchgear to the highest standards available and leveraging over a century of technological advancement, the 7000 SERIES (VE) PCS switchgear delivers innovation with every watt.



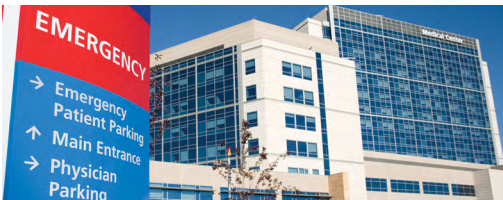
SUPPORT

With Project Managers in the factories and in local sales offices, ASCO delivers the highest level of dedicated support to manage your PCS order at every stage – from submittals to start-up.



SERVICE

The quality, availability and responsiveness of switchgear service directly impacts the level of assurance experienced by owners. That is why ASCO employs factory trained engineers and technicians, places them strategically across the US, available 24 hours a day, 365 days a year, and provides them with readily accessible inventory in their vans, at regional warehouses, and from the various manufacturing centers.



Logical and user-friendly, the 7000 SERIES (VE) PCS Switchgear includes extensively automated digital controls that allow external systems such as ASCO Critical Power Management Appliance (CPMA) to provide audit-ready reports formatted per Joint Commission requirements.

With pre-engineered designs for reduced lead times, the 7000 SERIES (VE) PCS switchgear delivers digital monitoring and control, reliable power management, and complete system integration with Data Center Infrastructure Management systems.



Rapidly responding to utility power interruptions, providing layered security with password protection, and automation controllers familiar to industry experts, the 7000 SERIES (VE) PCS switchgear delivers prime and standby power to water and waste water customers.

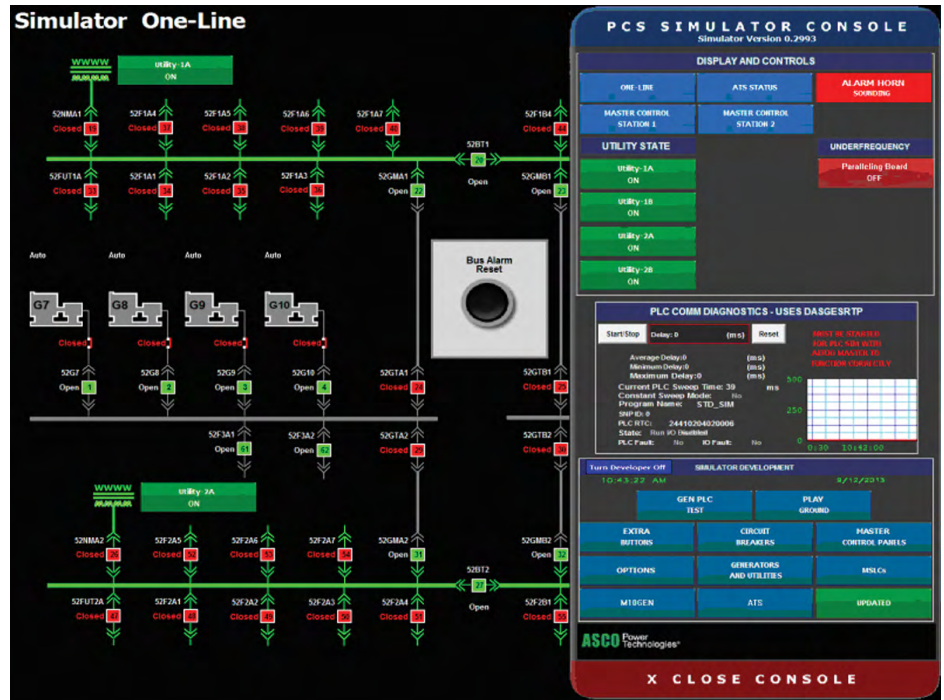


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customer care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer care@ascopower.com)

Trains Personnel, Tests Programs, Enhances Uptime and Reduces Costs

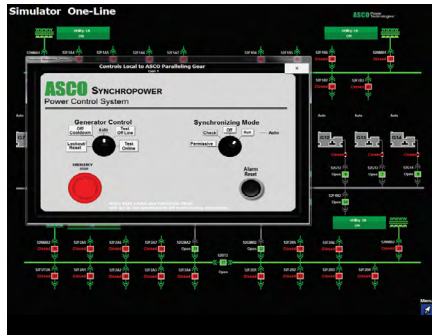
People typically learn better through experience and experimentation. Additionally, this improves retention of knowledge and how to apply it. The PCS 7000 SERIES Simulator uses the actual master control programming for the purchased PCS 7000 SERIES system, not a model, and therefore replicates a single, live master control PLC and operator panel. The benefits of the simulator extend well beyond operator training into operational efficiencies and opportunities for improvement.



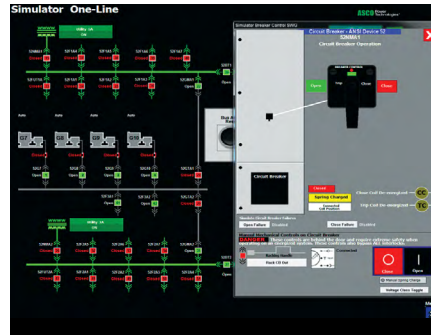
Product Benefits

- Train personnel on an actual system replica without impact to live operation.
- Provide on-site training instead of at a manufacturer's facility for time and cost savings.
- Test and evaluate personnel response to emergency situations.
- Develop thorough system operation familiarity, including controls and system behavior, at a level unattainable with classroom training or experience on a live system.
- Evaluate sequencing and determine effectiveness; thoroughly test system states without wearing down or damaging equipment, creating downtime, or affecting operations.
- Experiment with sequencing changes to determine performance and system impact.
- Implement and assess upgrades and modifications to reduce risk of live system downtime.
- Expose bottlenecks in system operation or personnel procedures.
- Demonstrate and audit site preparedness.
- Create, revise, evaluate and improve policies and operating procedures.
- Answer "what if?"

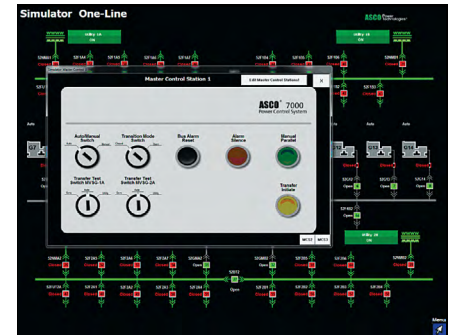
Intuitive Screens Simulate Live 7000 PCS Systems



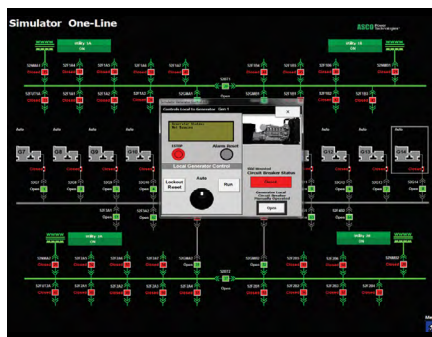
Generator Controls Station



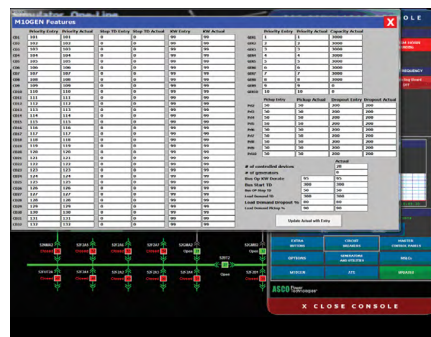
Breaker Controls and Failure Simulations



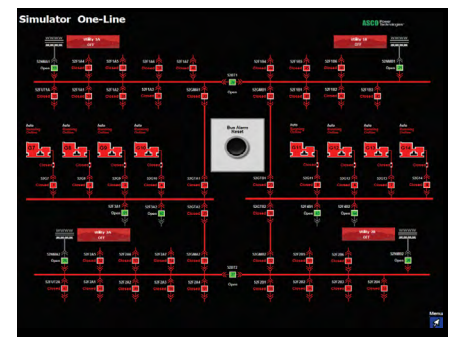
Master Control Operation



Generator Menu



Load/Gen Priorities



Status One-Line

Features

Included is a console, a PC with all master control screens from the live system touch screen, a simulator PC with screens for configuring the simulator, and single PLC with the master controls program (system I/O not included in simulator).

Simulated devices and controls:

- Automatic transfer switches, including simulation of source-seeking and PLC-initiated transfers
- Power circuit breakers, including simulation of electrical charging, manual operation, control switches, lockout relay, failure to close and failure to open
- Basic generator controls, including local control switch, synchronizer mode, random start and synchronization delays, common shutdown and pre-alarm initiation

Various Test Scenarios Including:

- Mimicked switchgear control stations
- Generator bus under-frequency
- Utility failure/restoration
- Circuit breaker open/close failure
- Electrical interlock (for training purposes)
- Generator failure
- Circuit breaker unavailable (tripped, locked out, racked out)
- Bus differential trip
- Failure to synchronize

ASCO Power
Technologies™

Control and Monitoring Systems



Life Is On

Schneider
Electric



ASCO Power Technologies™

ASCO Critical Power Management Appliance Overview

se.com

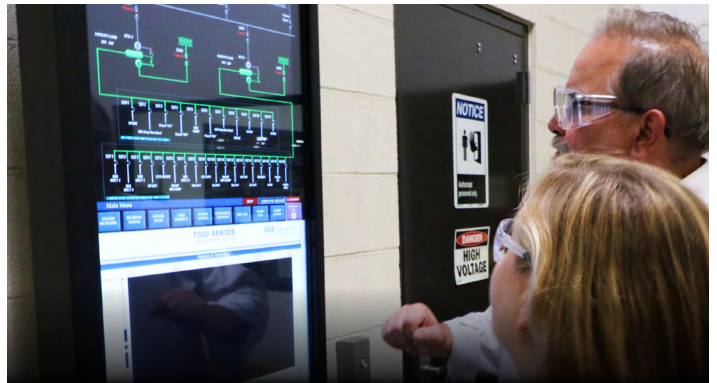
Life Is On

Schneider
Electric

Challenges



Learning of power issues quickly



Seeing equipment status for quick response



Evaluating prior power events



Testing systems for readiness and compliance



Operating equipment remotely



Integrating equipment from multiple manufacturers

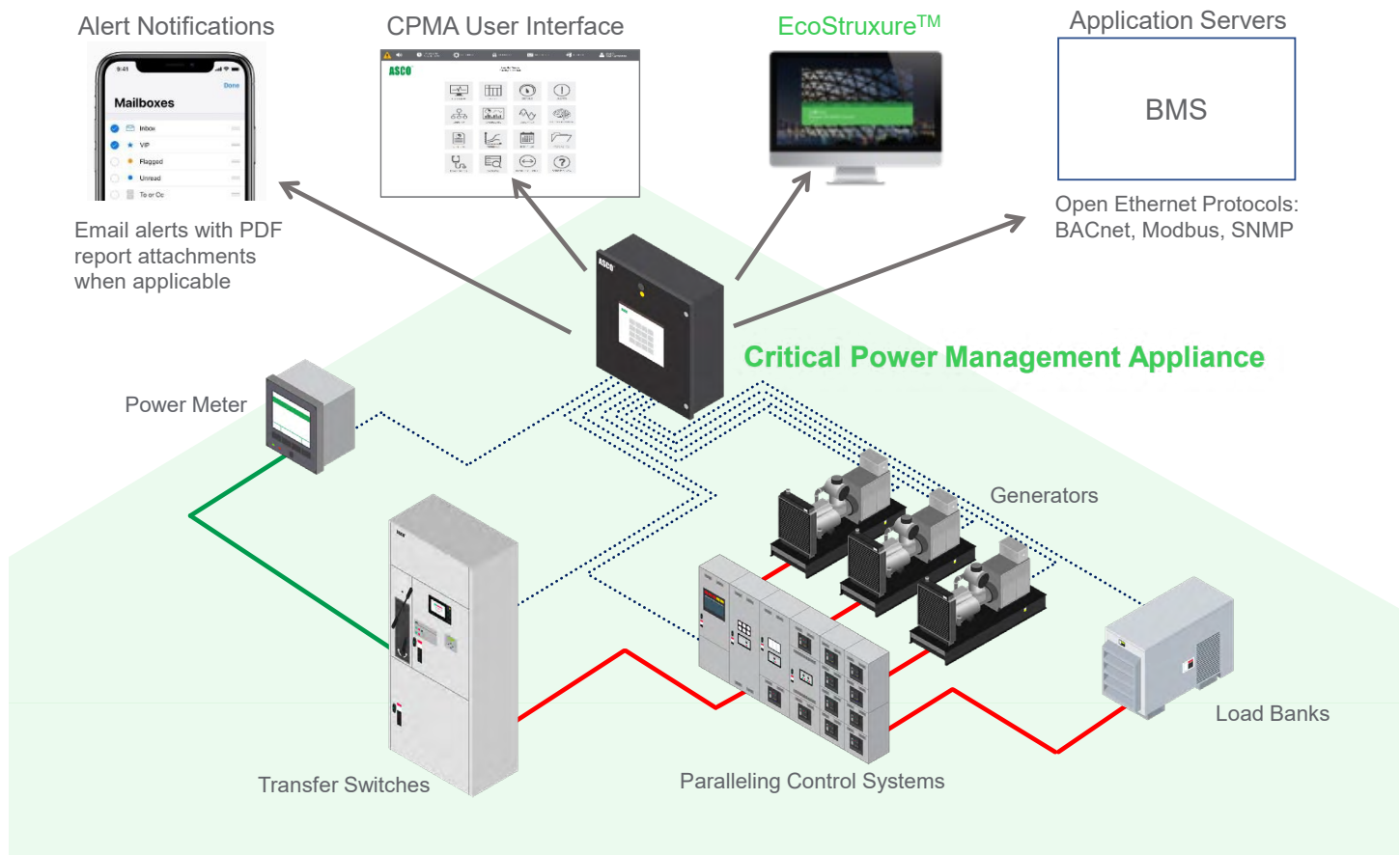
What do these challenges have in common?

All of them can be solved by ASCO Critical Power Management Appliance.

ASCO Solutions

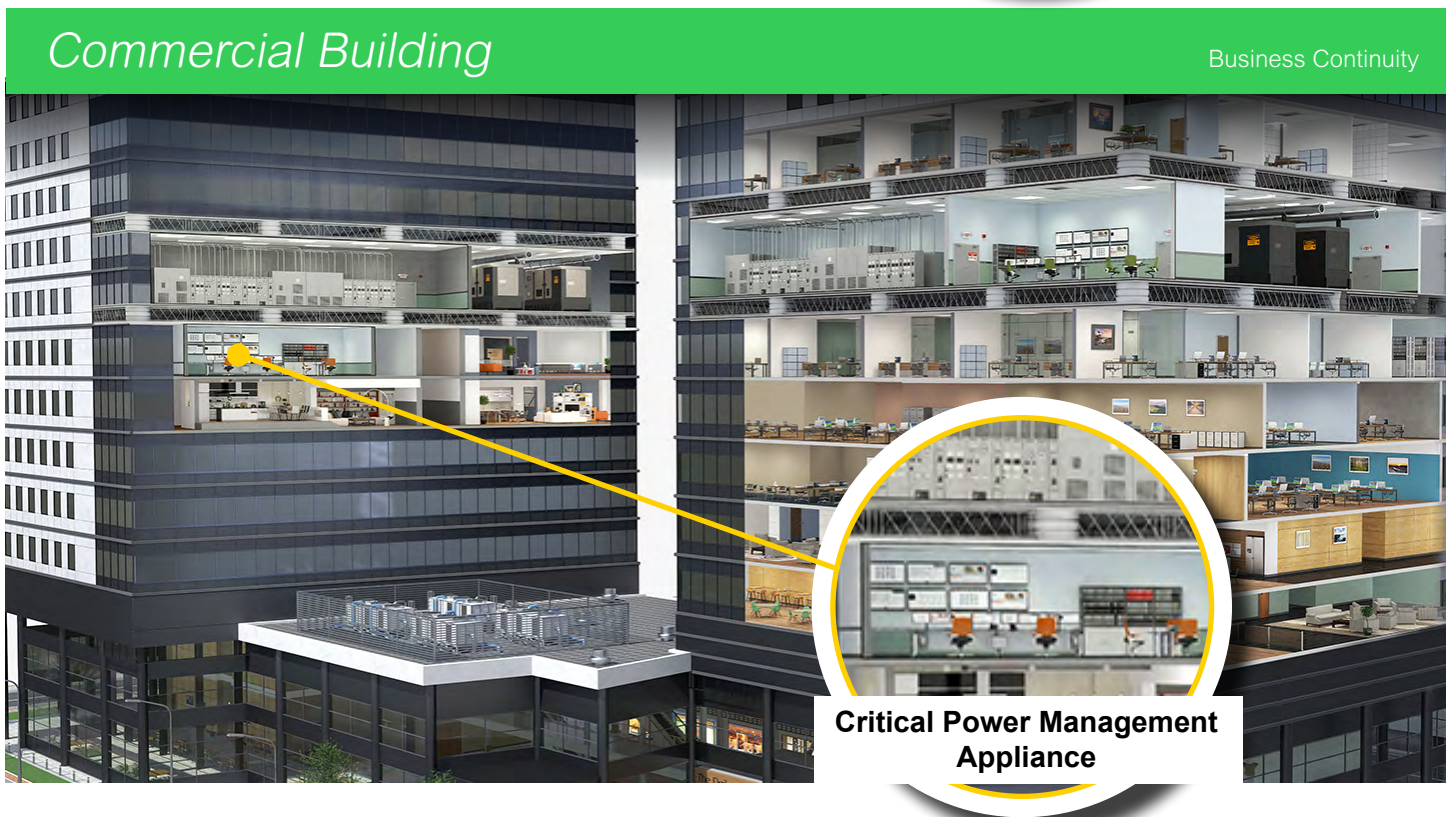
ASCO Critical Power Management Appliance (CPMA) provides scalable solutions for managing engine-generators, transfer switches, paralleling switchgear, load banks, and circuit breakers. They optimize power device monitoring and control in the following ways:

- Automatically log power events and evaluate equipment performance
- Quickly notify users of power conditions and events via email
- Show real-time power equipment status and metrics through computers, tablets, smart phones, and ASCO annunciators
- Enable equipment operation for remote or off-site locations for greater safety
- Improve efficiency of installation and integration with power devices from multiple manufacturers using pre-configured device maps for communicating with equipment
- Use open protocols to integrate critical power equipment monitoring with a Building Management System (BMS) or Schneider Electric's EcoStruxure solutions



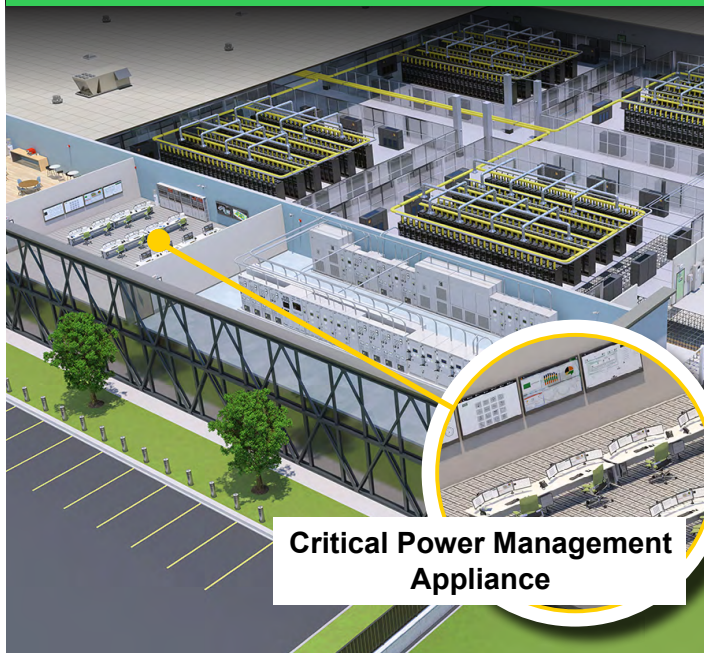
ASCO Solutions

Critical Power Equipment for a Wide Range of Applications



Data Center

Maximum Uptime



Critical Power Management Appliance

Water Treatment Plant

Environmental Protection



Critical Power Management Appliance

Residential Healthcare Facilities

Occupant Safety & Comfort



Model 5705 Annunciator

Small Business/Critical Operations

Public Service



Model 5701 Gateway

CPMA Solutions

Annunciators



Consolidate transfer switch and generator annunciators into a single touch-screen solution with advanced reporting, logging, and notification capabilities.

Gateways

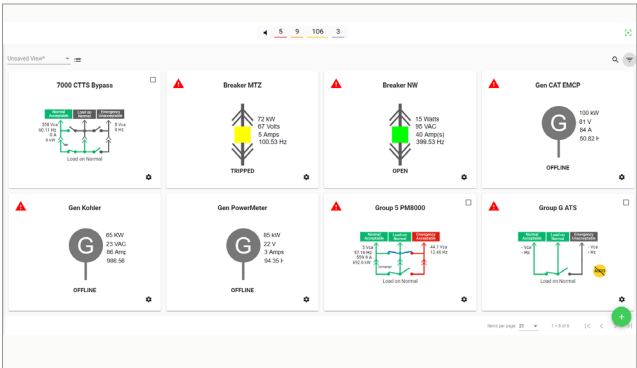


Monitors multiple critical power devices such as transfer switches, paralleling gear, and generators. Preloaded device maps accelerate integration of equipment in CPMA which can interface with EcoStruxure™ or Building Management Systems

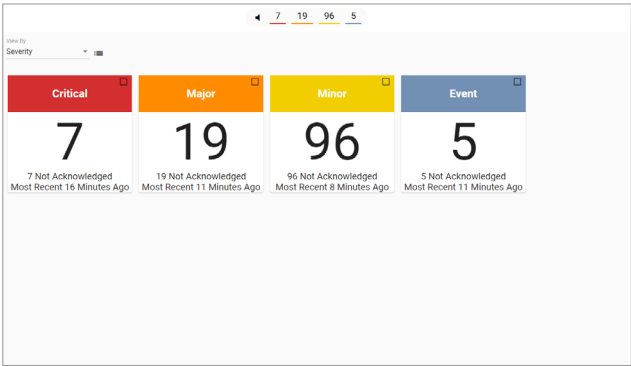


Critical Power Management Appliance makes it easy to see, evaluate, and respond to real-time power events and conditions.

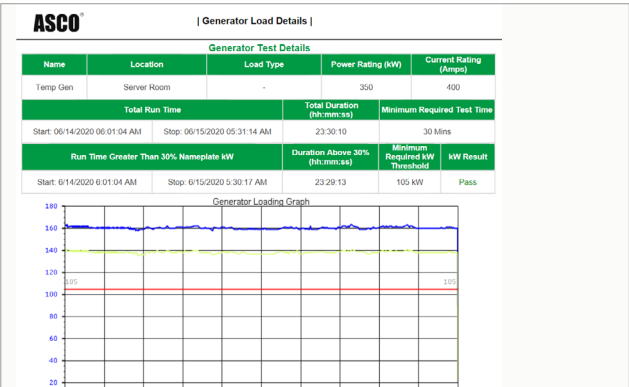
Sample CPMA Screens



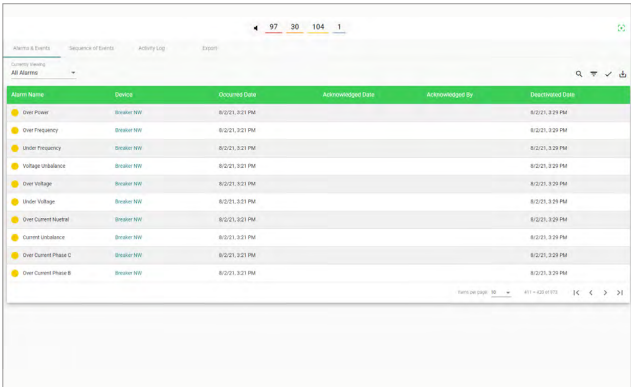
Real-Time Monitoring & System Visualization



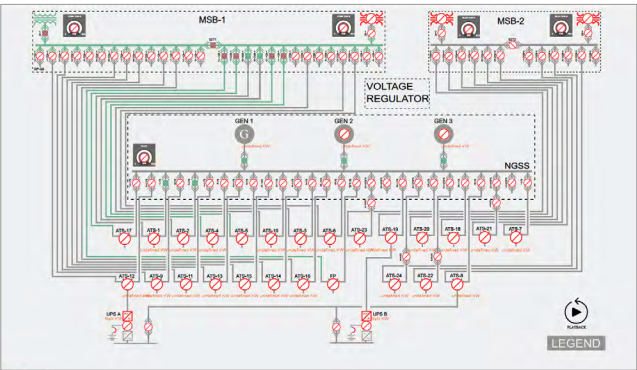
Alarming & Notification



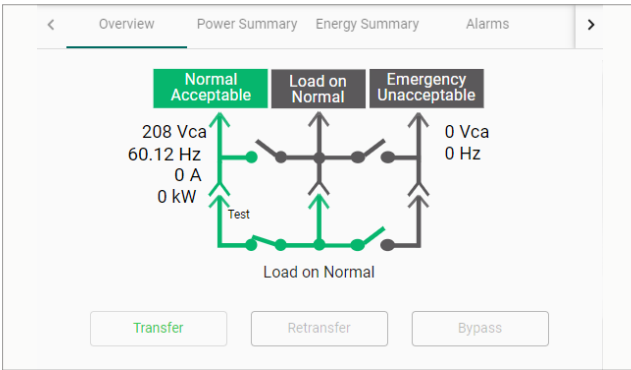
Automated Test Reports



Event Logging



One-Line Diagram with Playback



Equipment Operation

CPMA Gateways

All Benefits in a Single-Device Solution

5701 | 8-Device Gateway



Mounts inside an ASCO Transfer Switch to monitor its operation and the status of generators, load banks, and other power devices.

5702 | Facility Gateway



Enables communication between power equipment with options scaled for size and redundancy. Provides a unified interface for monitoring power equipment.

- Bridges OT and IoT
- Provides a full suite of tools to manage power usage, assess power data, and respond to real-time conditions

Product Details

 [5701 8-Device Gateway](#)

 [5702 Facility Gateway](#)

 [5705 8-Device Annunciator](#)

CPMA Annunciators

Monitor Critical Power Devices from Remote Locations

5705 | 8-Device Annunciator



Consolidates annunciators for up to 8 devices onto a single, wall-mountable, touch-screen interface

- Monitors and displays critical information from devices such as engine-generators, transfer switches, and load banks
- Provides interface for remote testing of generators and transfer switches
- Works with engine-generators from every major manufacturer

“The CPMA displays the functionality of a building’s power system better than the LED indicators we previously used. When power incidents happen, minutes matter ... there are patients on the other end of that incident.” Patrick D, Healthcare Facility Manager

Metering

ASCO Power Meters monitor, display, and communicate the key data needed to make key decisions about power utilization and load planning.

5211/5212 | Power Meter



ASCO Model 5211 is ASCO's standard solution for providing deeper visibility into the electrical conditions within power devices.

- Integrated monitoring for Ethernet and RS485 networks
- Accepts 24VDC or 120VAC operational power

ASCO Model 5212 is a more comprehensive solution. This unit includes the features of the 5211 and adds digital inputs and outputs for monitoring additional equipment.

PM8000 | PowerLogic Meter



Schneider Electric's compact, high-performance, power meter simplifies power quality monitoring and maximizes versatility.

- Reveal and understand complex power quality conditions
- Gather and act on facility-wide energy and consumption data
- Integrates easily with energy management systems

For additional information, see the [PM8000 brochure](#).

Connectivity and Communications

ASCO Connectivity Units make it is easy to create fast, effective, linear monitoring networks.



MODEL	TYPE	CONNECTS	PRODUCT INFORMATION
5160	Remote Connectivity Unit	Up to 14 Ethernet Devices	5160 CPMA Connectivity Units Pub 2057
5161	Serial Connectivity Unit	Up to 4 RS-485 Devices	
5162	IO Connectivity Unit	Up to 60 Hardwired Devices	
5163	Hybrid Connectivity Unit	Up to 14 RS-485 or Hardwired Devices	



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customer care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer care@ascopower.com)

The ASCO 5701 8-Device Gateway centralizes monitoring of critical power equipment through a facility's transfer switch. Mounted inside the transfer switch, it becomes the central point of access for information from generators, load banks, and other power devices. Users can receive alarm notifications and automatically generated compliance status reports. The device can also collect power information and consolidate it in embedded web pages or send it to other devices and systems using standard open protocols.

The ASCO 5701 8-Device Gateway can be ordered with ASCO transfer switches as **Accessory 107G**.



Collects important power information from across critical backup power systems.

Real-Time Monitoring: Monitors a transfer switch and its peripheral power equipment, including power meters, load banks, and generators, regardless of manufacturer.

Data Logging: Records information from a transfer switch and other critical power equipment.

Integrated Communications: Sends information to other devices and systems via Modbus, BACnet, and SNMP protocols.

Provides real-time status and performance insights

Provides access to data from transfer switches, engine-generators, utility power metering, and more. Transmits email notifications of alarm conditions and system events.

Meets NFPA and Joint Commission compliance requirements

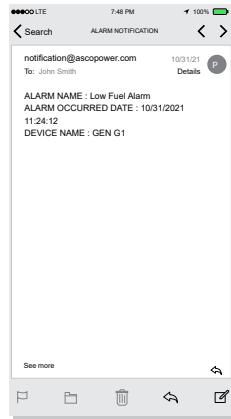
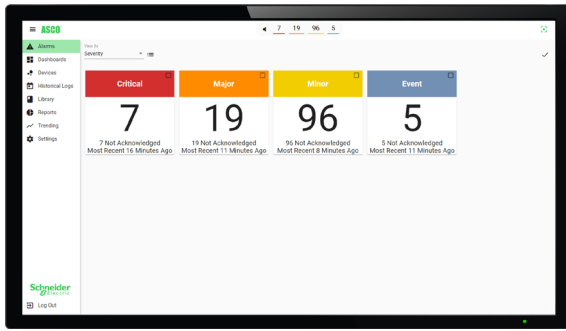
Provides required engine-generator and transfer switch safety indicators and events. Automatically generates NFPA test and utility outage reports.

Integrates with Building Monitoring Systems

Shares power system data with other monitoring systems, enabling greater analysis of operating data and faster response to changing conditions.

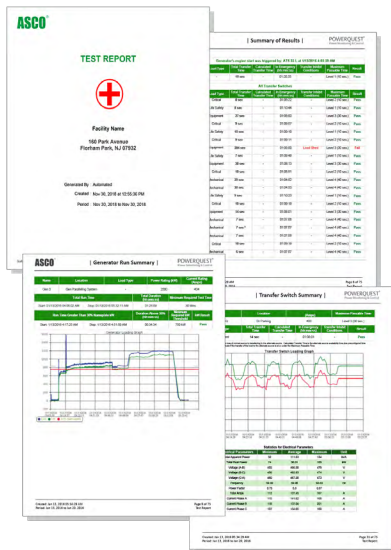
Feature Highlights

Alarms and Notifications



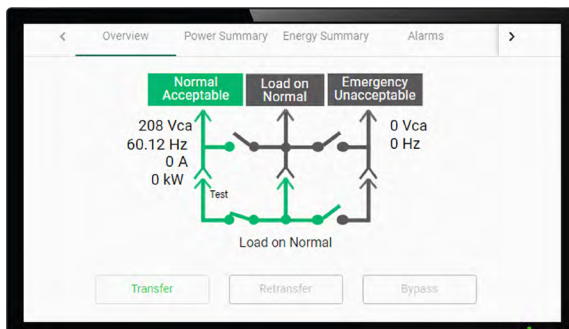
- Provides alarms and notifications for transfer switches and other power devices.
- NFPA 110 indicators and events
- Email notifications to authorized power system users
- Alarm logs with their severities on a web interface
- SNMP Traps for notifications to management systems on a network

Automated Compliance Reports



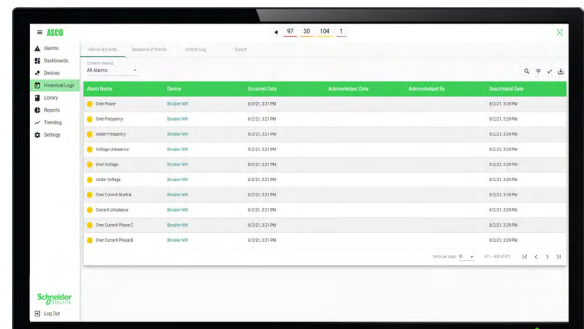
- Automatically generated during load transfers and generator operations
- Automatically saved and distributed to authorized recipients via email
- Streamlines compliance with NFPA, CALEA, The Joint Commission, and CMS requirements

Equipment Monitoring and Remote Control



- Monitors transfer switches and all equipment from a single overview screen
- Displays device status, alarms, and key analog parameters with dynamic graphics
- Enables remote equipment operation to help improve operator safety

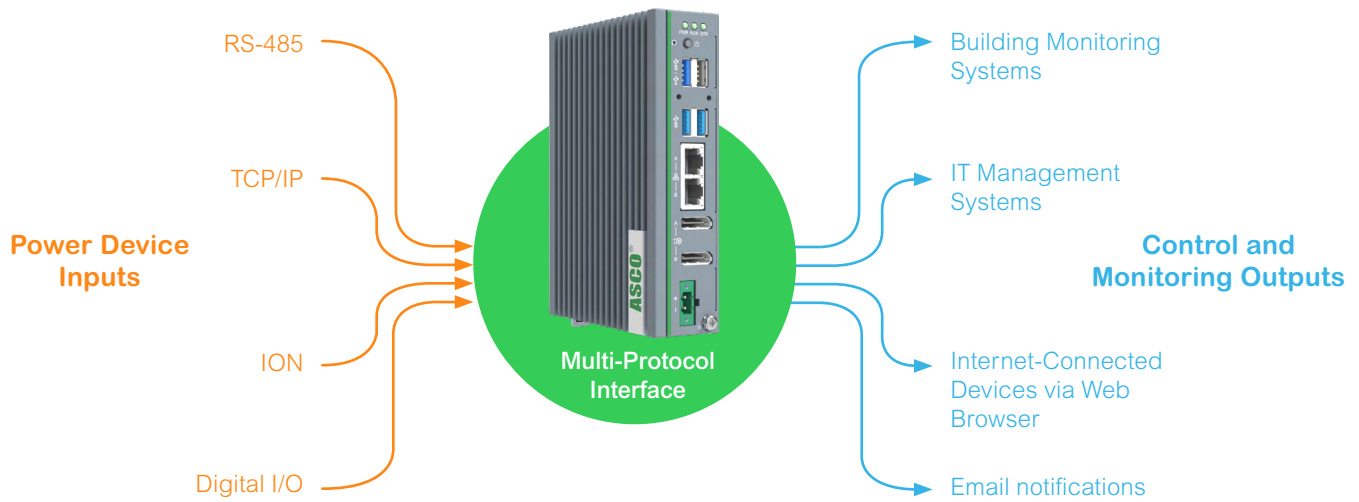
Historical Logs



- Logs events from a transfer switch and all monitored equipment
- Sorts and filters data by equipment name, location, alarm type, timestamp, and other parameters
- Exports data as a .csv file

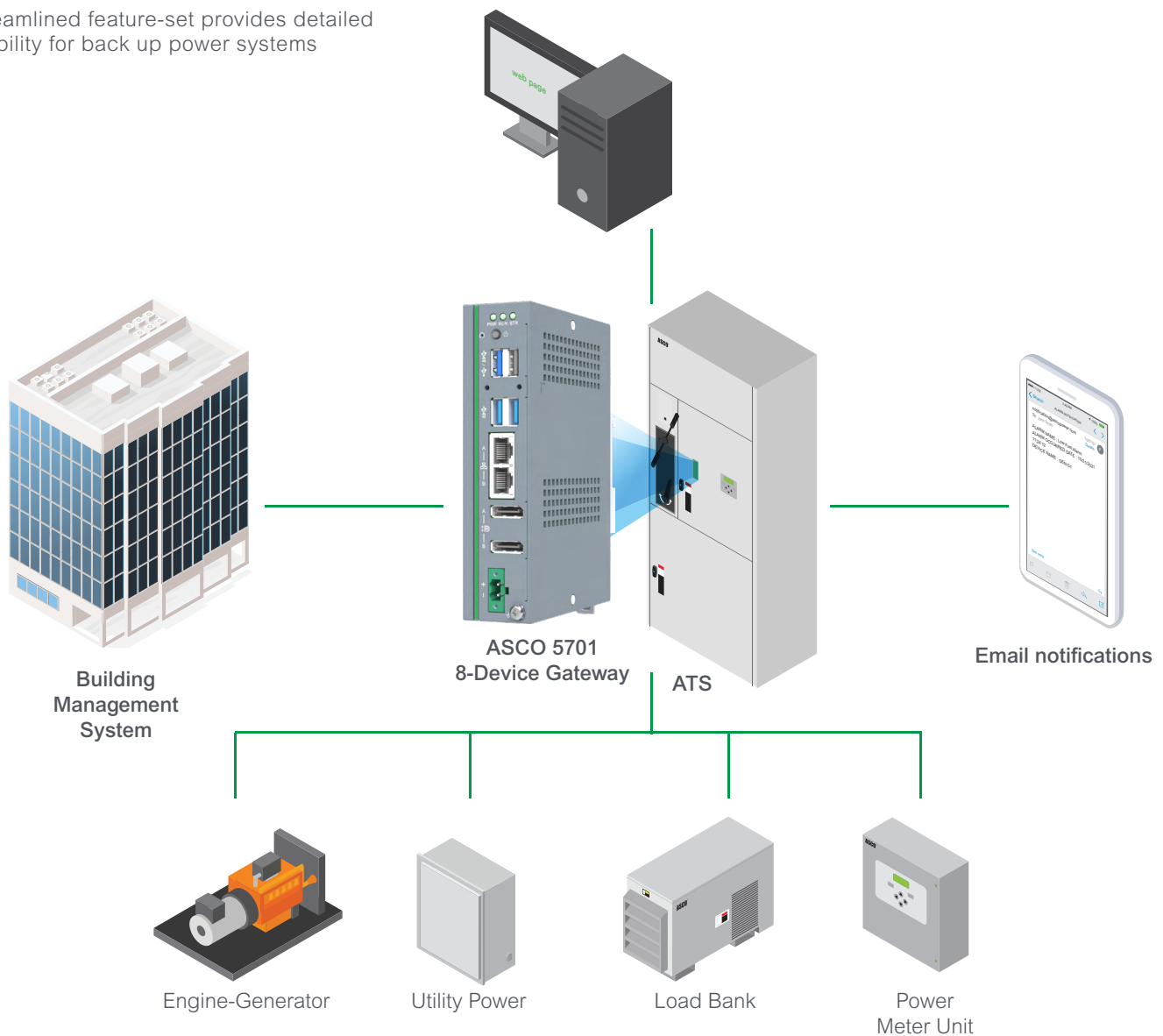
Quickly Integrates by Bridging IoT and OT

Pre-mapped communication parameters streamline integration with other power devices and multiple network communication protocols.



Optimized for Emergency Power Monitoring

Streamlined feature-set provides detailed visibility for back up power systems



Specifications

GENERAL	
Certification	UL, cUL, CE, FCC, CCC, BSMI
Dimensions	1.4 in x 4.1 in x 5.9 in
Mounting	DIN-rail
Weight	1.7 lb
Power Requirement	24VDC
COMMUNICATIONS	
Web Interface	HTTPS
Protocols	Modbus TCP/IP, BACnet/IP, SNMP
Security	AES 128-Bit Encryption
Email	SMTP

INTERFACE	
LED Indicators	Power, Battery, LAN Status
Storage	128GB Solid State Drive
Ports	2x Ethernet, 3x USB 3.2, 1x USB 2.0 (Type A), 2x DisplayPort
Operating Temperatures	-40° ~ 158° F
Shock Protection	IEC 60068-2-27, 50G
Vibration Protection	IEC 60068-2-64
Remote PC Access	Yes

Available as Accessory 107G for 7000 SERIES Transfer Switches.

Ordering Information

To interface with equipment below, the 5701 Gateway must be ordered with the following accessories:

DEVICE	ACCESSORY
ASCO 7000 SERIES ATS	150A OR 150A8 Technology Package
ASCO 7000 SERIES Bypass ATS	150B OR 150B8 Technology Package

The 5701 Gateway must be ordered as **Transfer Switch Accessory 107G**.
The following accessories provide additional capability.

ACCESSORY NUMBER	DESCRIPTION
146A	16 discrete status and alarm inputs
146G	RS-485 input

The ASCO 5702 Facility Gateway enables healthcare and mission-critical facilities to increase power reliability, help ensure regulatory compliance, and increase productivity by centralizing power testing, monitoring, and reporting functions in a single device. It monitors up to 256 connected devices, including transfer switches, paralleling switchgear, engine-generators, and more through a unified control interface. It consolidates power information and can share it with EcoStruxure™ software platforms or Building Management Systems through standard communication protocols.



The ASCO 5702 Facility Gateway provides full monitoring and control of critical power systems.

Bridges OT and IoT: Enables communication between power devices and Building Monitoring Systems for unprecedented power system visibility and control.

Comprehensive Power Management: Provides a full suite of tools for managing power usage, power data, and power conditions.

Scalability: Monitors and controls simple power backup systems to sophisticated multi-building applications.

Provides real-time status and performance insights

Provides access to data from transfer switches, engine-generators, paralleling switchgear, utility power metering, and more. Transmits email notifications of alarm conditions and system events.

Streamlines Joint Commission and NFPA compliance

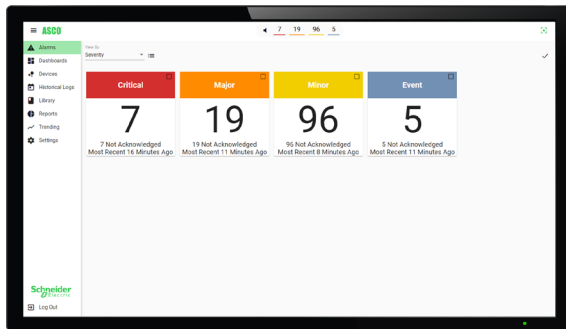
Provides required engine-generator and transfer switch safety indicators and events. Automatically generates NFPA test and utility outage reports.

Interfaces directly with Building Monitoring Systems

Shares power system data with other monitoring systems, enabling greater analysis of operating data and faster response to changing conditions.

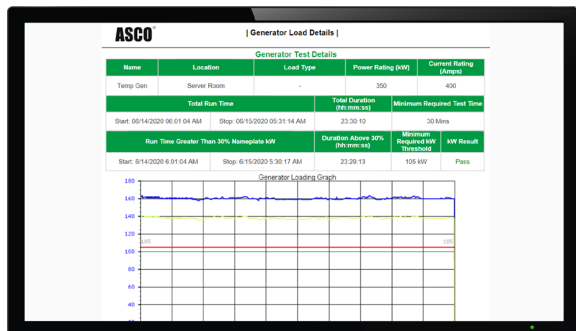
Feature Highlights

Alarms and Notifications



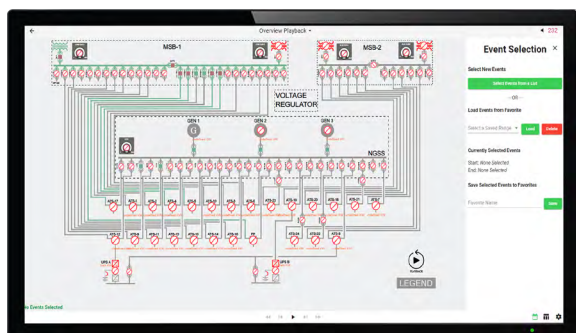
- Displays and logs alarms with severities on a web interface
- Sends email notifications to authorized recipients
- Broadcasts SNMP Traps for notifications to management systems on a network

Automated Compliance Reports



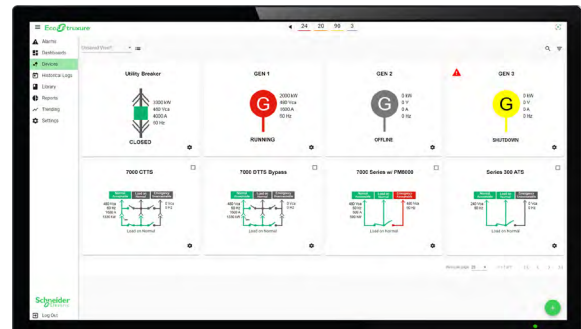
- Automatically generated during load transfers and generator operations
- Automatically saved and distributed to authorized recipients via email
- Steamlines compliance with NFPA, CALEA, The Joint Commission, and CMS requirements

Dynamic One-Line with Playback



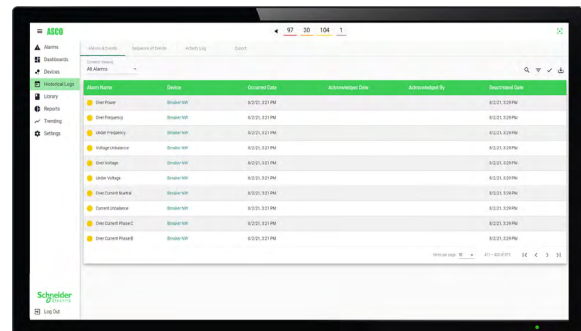
- Displays a responsive custom layout of an installation's power network
- Displays power flow throughout an electrical distribution system
- Replays power system events for analysis, training, or validating automated sequences

Equipment Monitoring and Remote Control



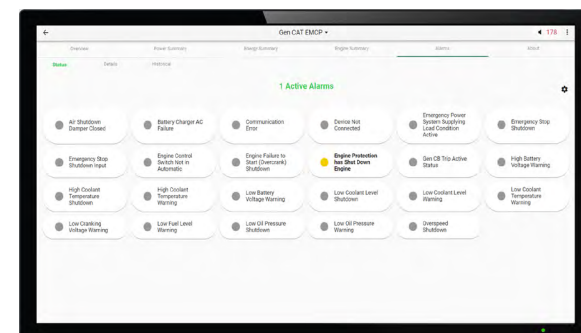
- Monitors transfer switches and power equipment from a single overview screen
- Displays device status, alarms, and key analog parameters with dynamic graphics
- Enables remote equipment operation to help improve operator safety

Historical Logs



- Logs events from transfer switches and all monitored equipment
- Sorts and filters data by equipment name, location, alarm type, timestamp, and other parameters
- Exports data as a .csv file

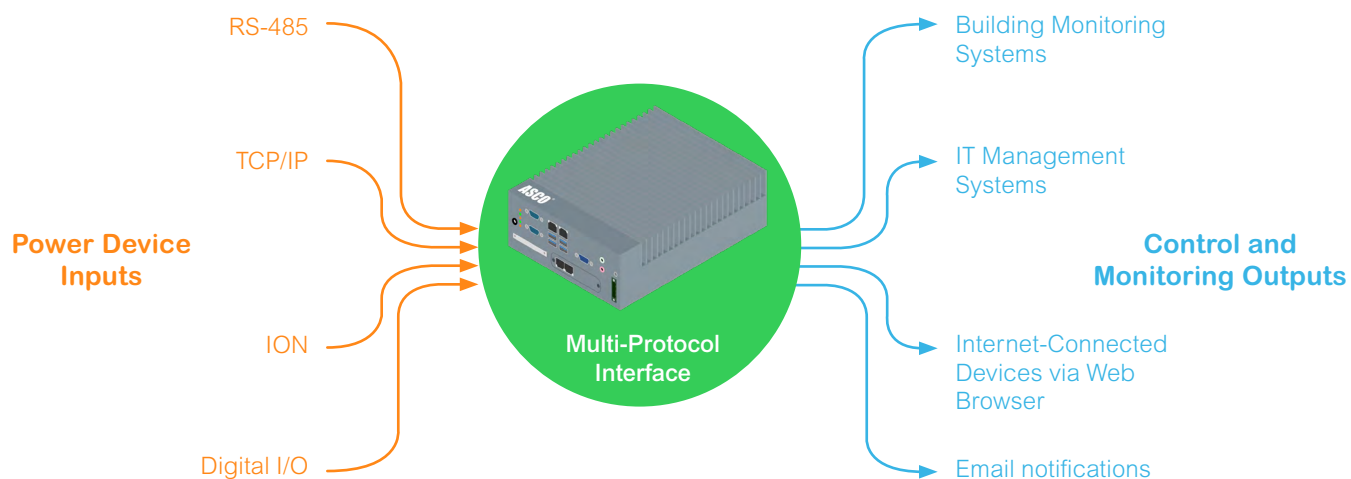
Generator Dashboard



- Displays NFPA 110 indicators and events
- Displays information about engine speed, oil pressure, coolant temp, power output, fuel level, and more
- Enables users to drill down into equipment status and alarm details

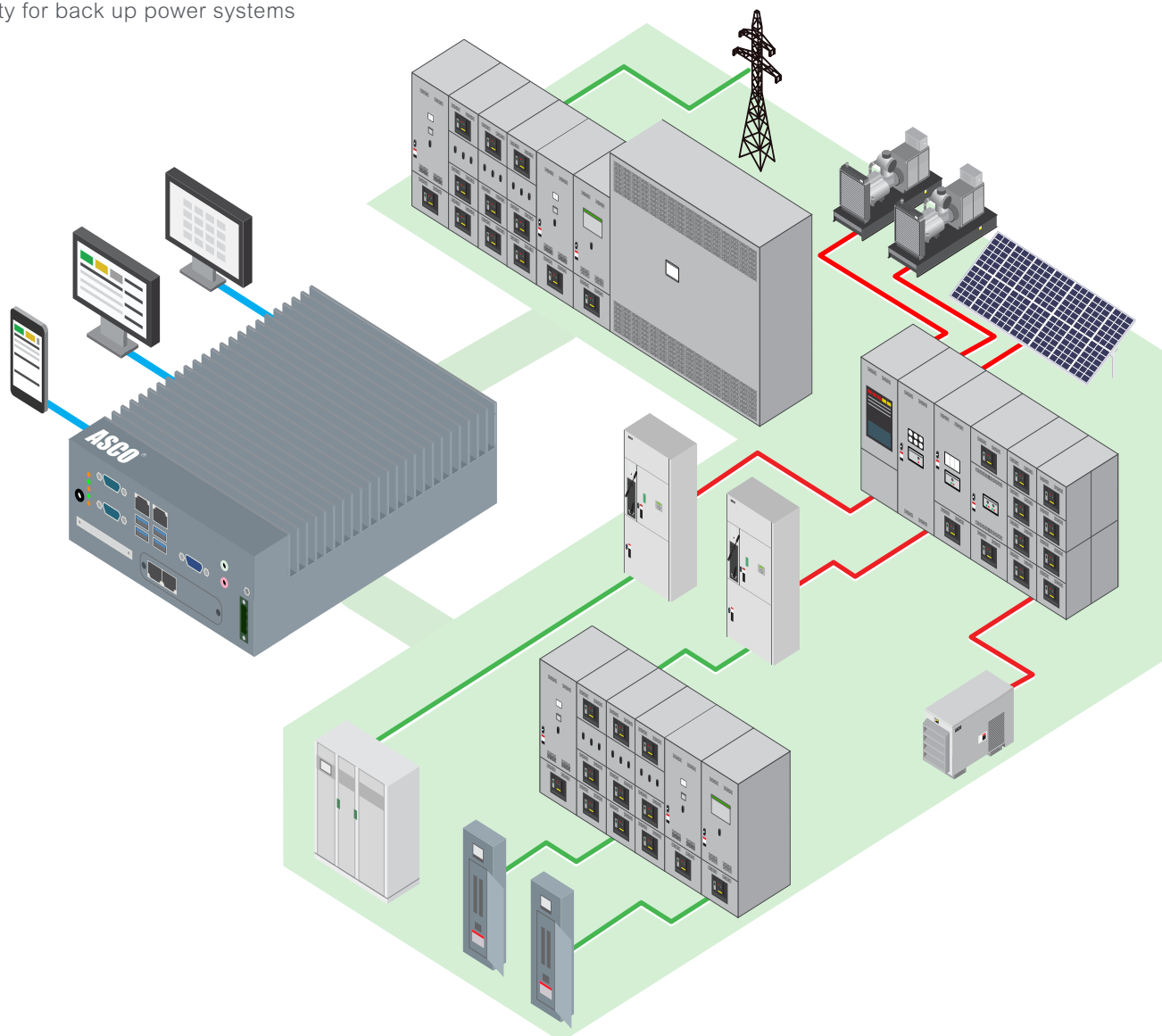
Quickly Integrates by Bridging IoT and OT

Pre-mapped communication parameters streamline integration with other power devices and multiple network communication protocols.



Optimized for Emergency Power Monitoring

Streamlined feature-set provides detailed visibility for back up power systems



ASCO 5702 Facility Gateway Product Catalog Number

BASE NO.	NO. OF DEVICES
5702	32 64 256

Part Numbers

CATALOG NO.	PART NO.	DESCRIPTION
5702-S-32	1290042	Industrial Gateway for 32 devices.
5702-S-64	1290043	Industrial Gateway for 64 devices.
5702-S-256	1290045	Industrial Gateway for 256 devices.

Peripherals Ordering Information

CATALOG NO.	PART NO.	DESCRIPTION
43" Touch Panel Client	987712-010	All-in-one, 43-inch workstation with integrated computer, touch-screen display, and integrated speakers for audible alarms
24" Touch Panel Client	987712-011	All-in-one, 24-inch workstation with integrated computer, touch-screen display, and integrated speakers for audible alarms

Technical Specifications

SPECIFICATION	DESCRIPTION
Storage	256 GB Solid-state (5702-S models)
Ethernet Ports	4 x Gigabit RJ-45
Serial Communications	4 x RS-485 & RS-232 ports
LED	2 x TX, 2 x RX and 1 x Storage
USB	4 x USB 3.0
Audio	2 x (1x line out and 1x line in)
Power Demand	21.469 typical, 44.952W maximum
Control Power	9 to 36 VDC (5702-S models)
Power Supply	120/220 VAC power supply included
Operating Temperature	-20 to 50 °C with 0.7 m/s air flow
Humidity	95% @ 40 °C (non-condensing)
Vibration	3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis
Shock	50G, IEC 60068-2-27, half-sine wave, 11 ms duration
Dimensions (W x H x D)	73 x 192 x 230 mm (2.91" x 7.55" x 9.05")
Weight	2.9 kg (6.39 lbs)
Installation	Panel, Desktop or Wall Mount
EMC Certifications	CE/FCC Class B, CCC, BSMI
Safety	UL, CCC, BSMI

Managing critical power equipment can be challenging. Multiple annunciators utilize different interfaces. Generators and transfer switches require local operation for testing. Compliance requires manual data collection and labor-intensive reporting.



The ASCO 5705 8-Device Annunciator makes power management easy.

Consolidated Annunciator: Monitors and displays up to 8 devices in a single, wall-mount, touch-screen interface.

Alarming: Notification of alarm conditions via audible signal, LED indicator, and email messages.

Remote Testing and Operation: Test transfer switches and engine-generators from every major manufacturer.

Provides real-time status and performance insights

Provides access to data from transfer switches, engine-generators, paralleling switchgear, utility power metering, and more. Transmits email notifications of alarm conditions and system events.

Streamlines Joint Commission and NFPA compliance

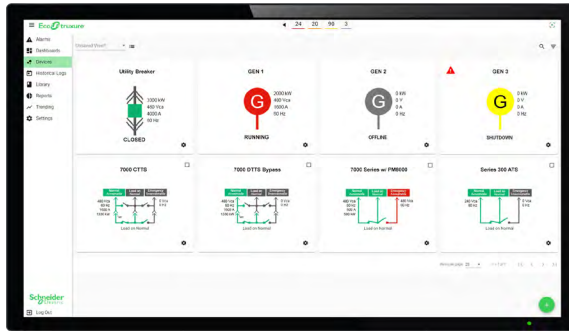
Provides required engine-generator and transfer switch safety indicators and events. Automatically generates NFPA test and utility outage reports.

Interfaces directly with Building Monitoring Systems

Shares power system data with other monitoring systems, enabling greater analysis of operating data and faster response to changing conditions.

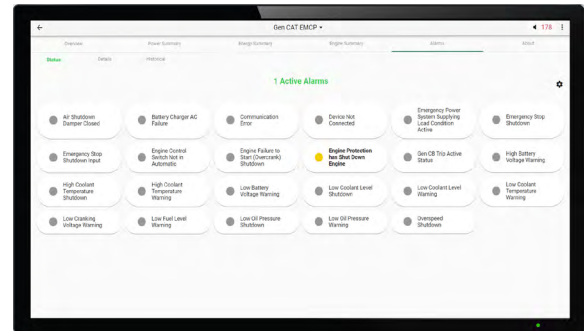
Feature Highlights

Equipment Monitoring and Remote Control



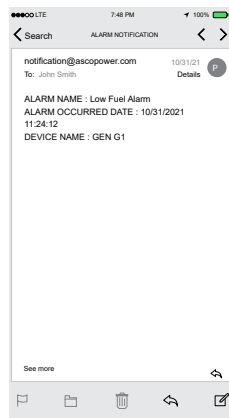
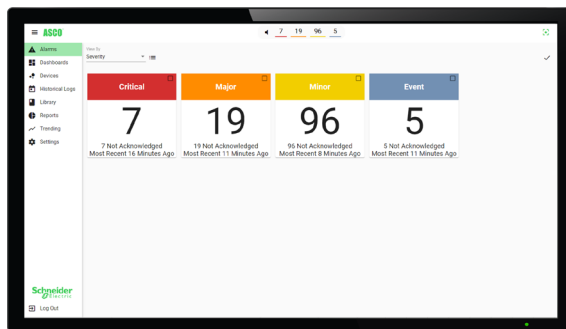
- Monitors transfer switches and power equipment from a single overview screen
- Displays device status, alarms, and key analog parameters with dynamic graphics
- Enables remote equipment operation to help improve operator safety

Generator Dashboard



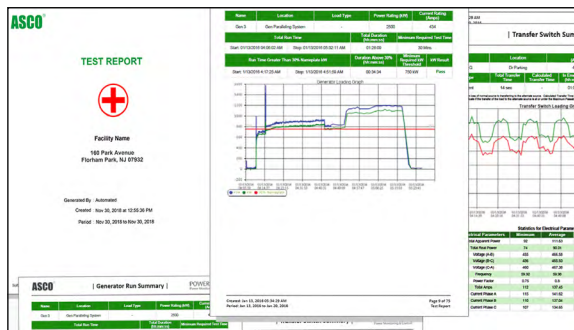
- Displays NFPA 110 indicators and events
- Activates LED indicator and audible signal when alarm conditions are detected
- Displays engine speed, oil pressure, coolant temp, power output, fuel level, and more

Alarms and Notifications



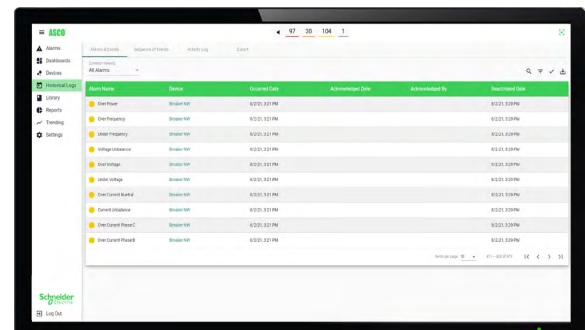
- Provides alarms and notifications from transfer switches and other power devices, including:
 - NFPA 110 indicators and events
 - Email notifications to authorized power system users
 - Audible signal and visible LED indicator on enclosure when alarms are detected
 - Broadcasts SNMP Traps for notifications to management systems on a network

Automated Compliance Reports



- Automatically generated during load transfers and generator operations
- Automatically saved and distributed to authorized recipients via email
- Streamlines compliance with NFPA, CALEA, The Joint Commission, and CMS requirements

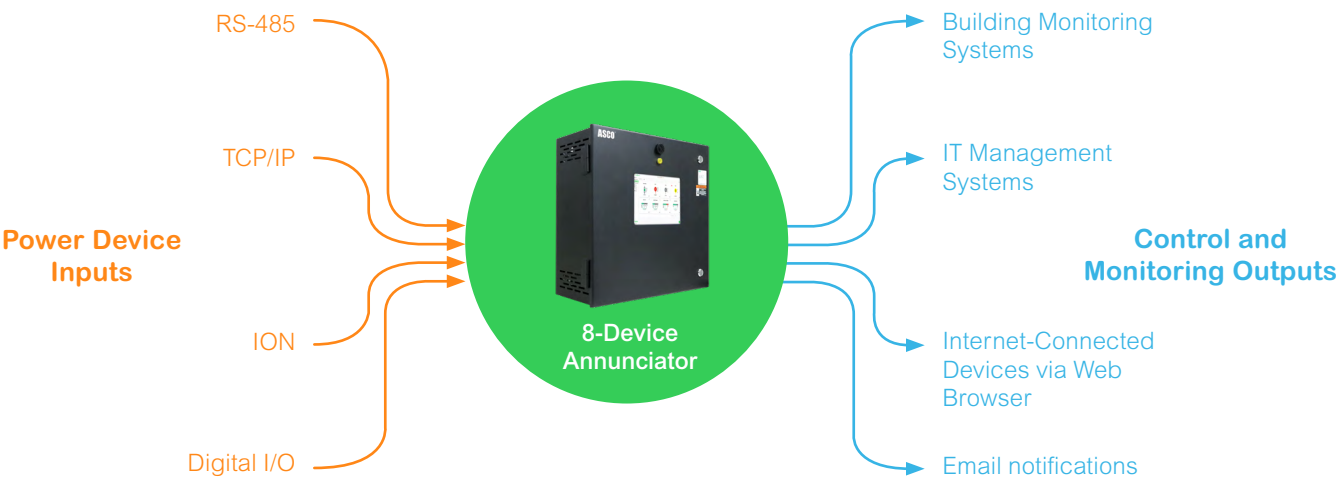
Historical Logs



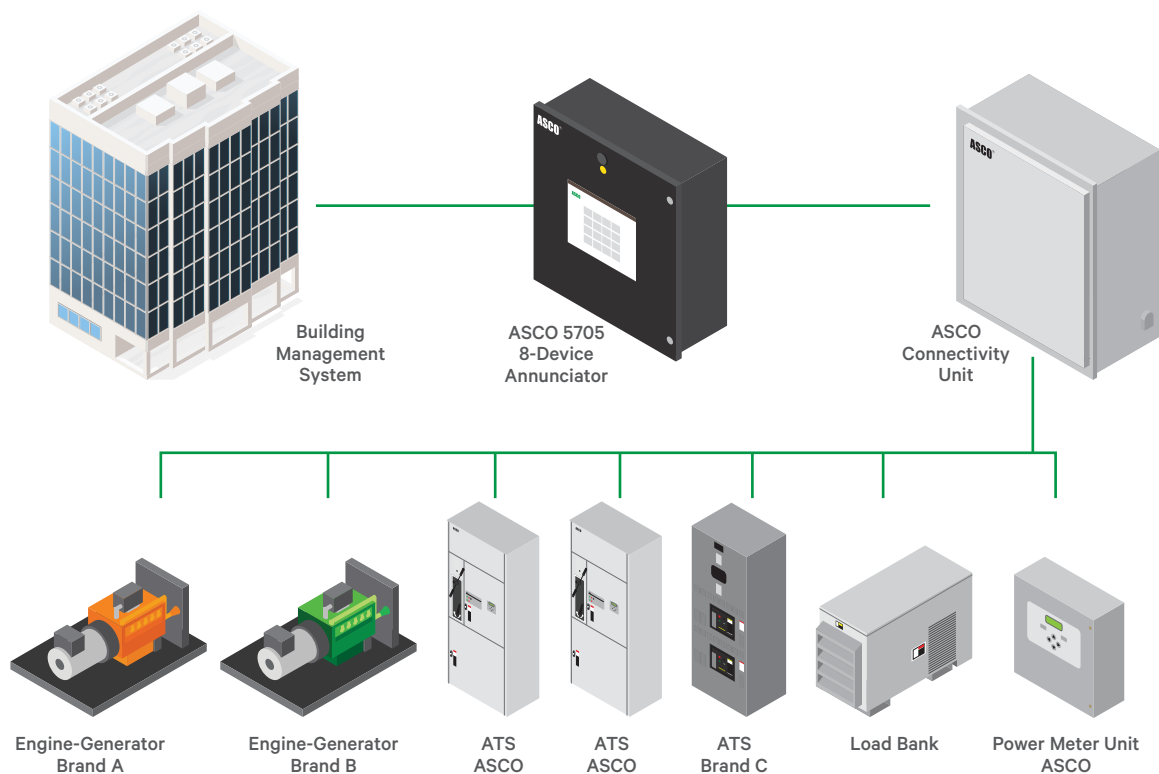
- Logs events from transfer switches and all monitored equipment
- Sorts and filters data by equipment name, location, alarm type, timestamp, and other parameters
- Exports data as a .csv file

Quickly Integrates by Bridging IoT and OT

Pre-mapped communication parameters streamline integration with other power devices and multiple network communication protocols.



Connects with Power Equipment from Every Major Manufacturer



Specifications

GENERAL

Certifications	UL 1008 and cUL 1008
Dimensions	20.36 in x 20.30 in x 8.62 in
Mounting	UL Type-1 Wall Mount
Weight	45 Lbs
Power Requirement	24 VDC or 120 VAC

COMMUNICATIONS

Web Interface	HTTPS
Protocols	Modbus TCP/IP, BACnet/IP, SNMP
Security	AES 128-Bit Encryption
Email	SMTP

INTERACE

LED Indicators	Power, Battery, LAN Status
Storage	128GB Solid State Drive
Ports	2x Ethernet, 3x USB 3.2, 1x USB 2.0 (Type A), 2x DisplayPort
Operating Temperatures:	
Gateway	-40° ~ 158° F
HMI Display	32° ~ 140° F
Shock Protection	IEC 60068-2-27, 50G
Vibration Protection	IEC 60068-2-64
Remote PC Access	Yes



When real-time demand exceeds generator capacity, loads must be connected or disconnected according to load priority to avoid generator overload. **ASCO's 5800 SERIES Load Management Units** automatically supervise ATS transfers to the emergency source according to assigned priorities. These units optimize capacity usage while avoiding overload.

The ASCO 5800 Series Load Management Units provide off-the-shelf solutions for matching loads to real-time generation capacity. Models include:

Model 5810: Essential features reactively manage up to six transfer switches and a single generator

Model 5850: Sophisticated bus optimization features enhance utilization for up to eight transfer switches and up to two generators.

Leverages our industry-leading power control expertise

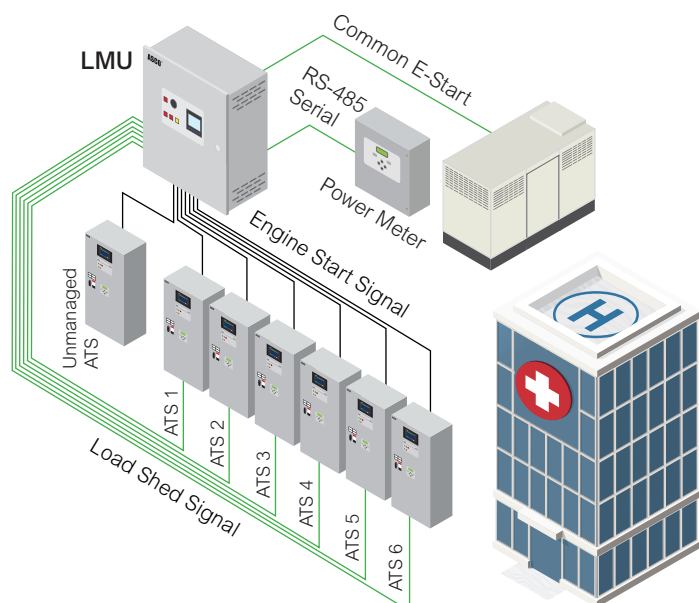
Based on control algorithms for healthcare facilities and data centers, the 5800 SERIES Load Management Units reflect ASCO's unmatched power management experience.

Standard designs provide flexible capabilities

Configurable settings allow for site-specific customization, enabling quick deployment in wide-ranging applications.

Reduce costs by maximizing generator utilization

Cost-effectively deploy generators at new and expanding facilities by sizing capacity for true demand, which is typically below maximum possible load.



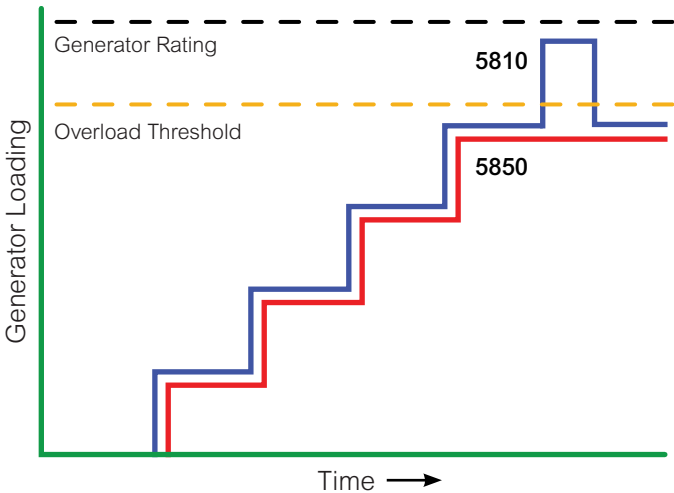
SYSTEM CONFIGURATION

Following issuance of engine start signals, the **5800 SERIES Load Management Unit** receives generator loading information from the ASCO 5210 Power Meter via serial communication. Based on this real-time data, a unit regulates the transfers using load shed signals, according to assigned priority.

Load Management Strategies

The **Model 5810** adds ATS loads until the user-configured threshold is momentarily exceeded, then removes the last ATS added. This strategy offers simple set-up and operation.

Before connecting an ATS, the **Model 5850** compares available generator capacity to the expected size of the next load, preventing transfers that could exceed overload thresholds. This strategy offers sophisticated control and precise load management.



Value-Added Features

Manual Overrides

Some circumstances could require facilities to force loads off-line or on-line, despite their assigned priority. All 5800 Series models enable users to manually force loads off of the Emergency source and allow supervised requests to connect loads to the Emergency source, regardless of assigned priority.

Time Sequencing

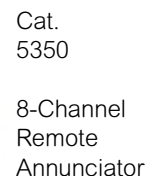
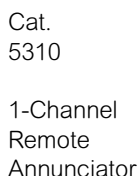
The ASCO 5850 Load Management Units can cycle individual loads onto and off of Emergency sources for user-defined periods. This allows capacity to sequentially serve multiple loads, providing power to each ATS for a user-defined interval.

Features and Specifications

Model	5810	5850-SG	5850-DG
Part Number	1232238	1193586	1240925
FEATURES			
Max Managed ATSS	6	8	8
Generators	1	1	2 (Paralleled)
Operation Principal	Reactive	Proactive (Bus Optimization)	Proactive (Bus Optimization)
Time Sequencing	No	Yes	Yes
LED/Audible Alarm Indicators	No	Yes	Yes
Interface	Black & White Touch Screen		
Manual Overrides	Yes via screen (supervised)		
Communications	Modbus TCP/IP		
TECHNICAL SPECIFICATIONS			
Primary Control Power	120Vac, 60Hz, 2A		
Secondary Control Power	24Vdc, 5A		
Dimensions (HxWxD)	21" x 21" x 9"		
Add/Shed Signal	24 Vdc		

Note: A separate ASCO Power Meter is required for each generator. See the [ASCO 5210 Digital Power Meter Data Sheet](#).

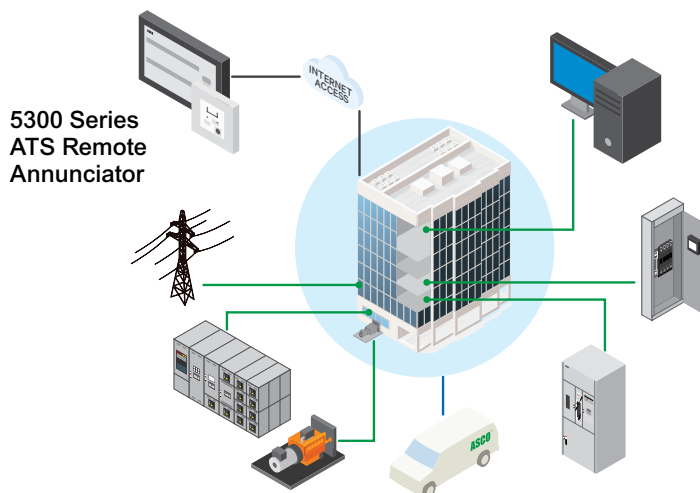
For custom load management solutions, contacts a local ASCO sales representative.



- Monitor and control up to 8 transfer switches at multiple locations per unit
- Embedded webpages for configuration and troubleshooting
- Compatible with the 185, 300, and 7000 Series ATSS
- Scalable for future expansion
- Surface or flush mountable
- Dual integrated Ethernet ports for daisy chaining other Ethernet devices or more remote annunciators
- Simple transfer switch one-line with LED indication of source availability, time delay, switch position, and transfer test

- Key lock for security of all control functions
- Endures 100ms power interruption ride through
- Status and control for each ATS:
 - Switch position
 - Source availability
 - Time delay active
 - Transfer test
 - Bypass Transfer to Emergency and Retransfer to Normal time delays
- Common alarm active on communications error, locked out, ATS position error, fail to synchronize, extended parallel, or not in auto, ATS bypass active conditions.
- Power indication
- Lamp test push button (5350 only)
- Audible alarm conditions
- Alarm silence push button

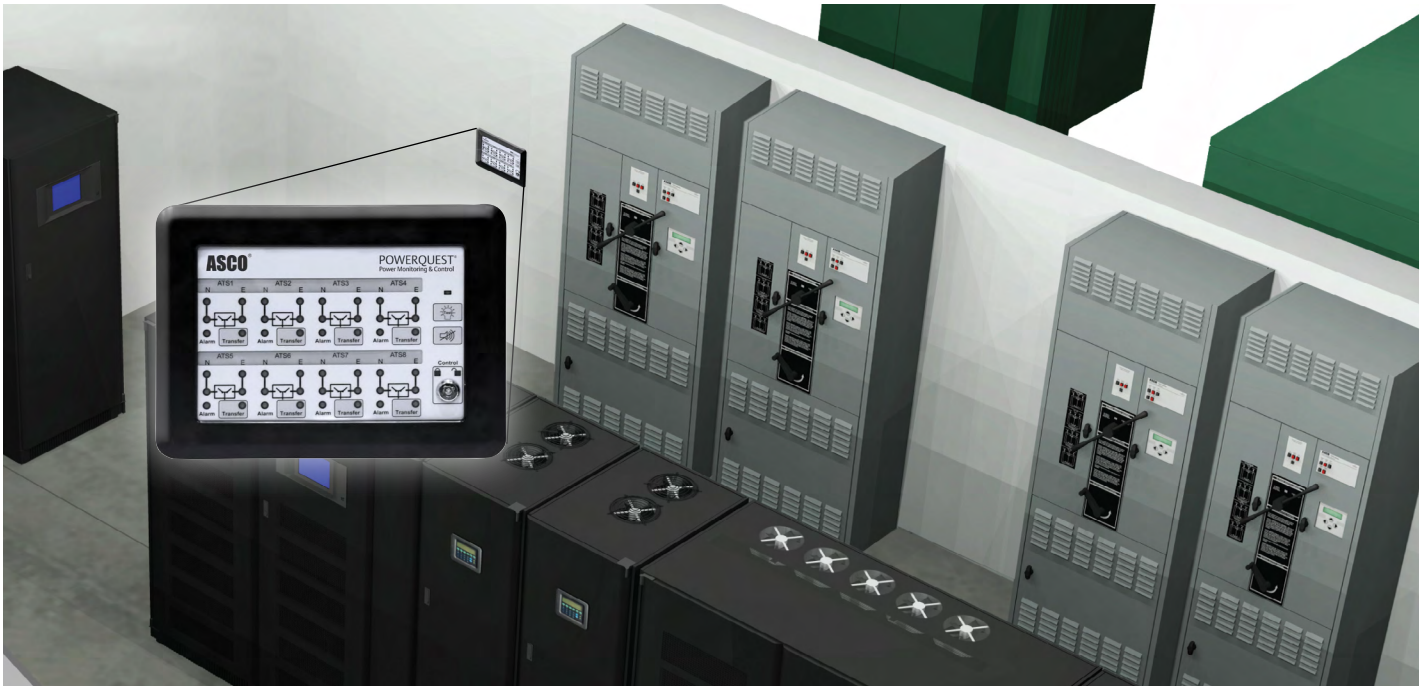
With a quick glance, you will be able to monitor ATS position, source acceptability, and alarm information. You may also transfer your transfer switches remotely with the push of a button. The remote annunciators are compatible with ASCO's new and legacy controllers and various protocols including Modbus. Ethernet is incorporated for more reliable, faster, and secure communications.



* 5350 only

Product Benefits

- **Monitoring Capability** – monitor transfer switches distributed throughout a site at a central or multiple locations
- **Transfer Test Operation** – remotely perform transfer test operation on individual switches with the push of a button
- **Redundancy** – utilize additional annunciators for real-time redundancy in various locations
- **Scalability** – additional remote annunciators can be daisy chained using integrated Ethernet ports
- **Flexibility** – Integrated Ethernet ports, support of Modbus protocol and ability to interface with various controllers makes integration to existing systems easy



ASCO 5300 Series ATS Remote Annunciator Enables Flexible Configuration

Stand-alone, industrial grade interface devices provide transfer switch status indication and transfer control for up to 8 transfer switches per unit. Future expansion has never been easier with the built-in Ethernet daisy-chaining capability.

Embedded web pages accessible using an internet browser provide configuration, more detailed alarm information, and communications performance.

ASCO®

POWERQUEST™
Power Monitoring & Control

Configurations ↔ Annunciator

Configurations

> Annunciator

> ATS

Diagnostics

> Packet

> Alarm

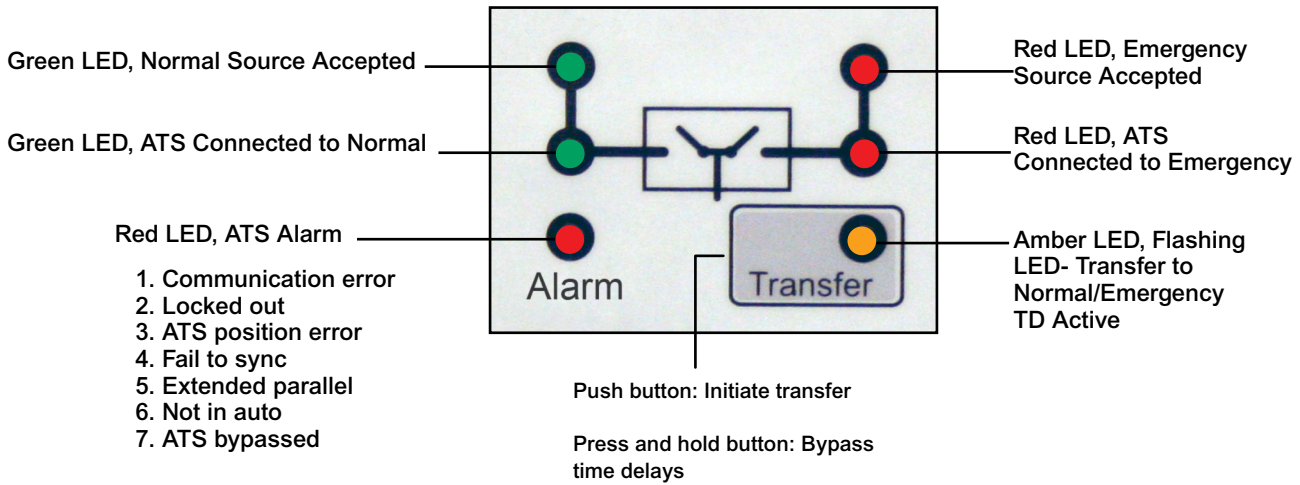
Annunciator Name	ATS1_4		
Software Version Number	827419 - 001 Upgrade		
Hardware Address	00:00:68:1C:80:06		
IP Address	155	104	6 .250
Subnet Mask	255	255	255 .0
Gateway Address	155	104	4 .1
Port Number	10001		
Encryption	☐ Enable ☒ Disable		
Buzzer Mode	Disable		
Beep Every	10	mins	
Silence Buzzer After	1	mins	
Update			

Status LED's

From the front panel, the operator will be able view source acceptability, transfer switch position and common alarm as well as control the transfer switch for

test operations. The "Transfer" button provides transfer and re-transfer controls using the security key. The "Transfer" amber light blinks faster as expiration

of the transfer time delay approaches giving indication of when the transfer will actually occur.



Alarm Details

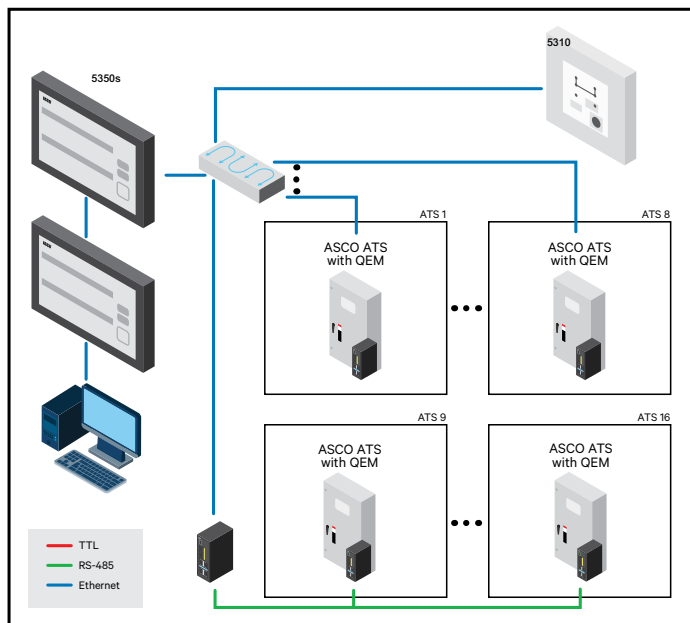
The remote annunciators have an alarm light indication as well as an audible alarm. More detail on alarms is available by logging into the embedded web page.

A list of all connected ATSs will be displayed along with specific alarms, including communication error, locked out, ATS position error, fail to synchronize, extended parallel, not in auto, and ATS bypass active standard alarms.

Manage Multiple Annunciators

Multiple annunciators overseeing the same transfer switches can be placed in different locations, allowing redundant, distributed monitoring and control. The remote annunciators can interface with ASCO's 185, 300, and 7000 Series transfer switches with either an independent ASCO Quad-Ethernet Module (QEM) or daisy-chained QEMs. The network architecture below illustrates

a single site utilizing both of these configurations. Two (2) 5350s are used to monitor 16, and one (1) 5310 is used to monitor the critical transfer switch from a second location.



Ordering Information

CATALOG NO	PART NO	DESCRIPTION
5310	827420	1-Channel ATS Remote Annunciator
5350	811440	8-Channel ATS Remote Annunciator
5350 Serial Kit	K871966-001	8-Channel ATS Remote Annunciator w/ separate surface or flush mount enclosure, power supply, and connectivity module.

Specifications

CATALOG NO		
Dimensions	5310	11.4cm H x 11.7cm W x 9.9cm D
	5350	19.7cm H x 25.3cm L x 6.5cm D
Mounting	5310 / 5350	Flush Mount Surface Mount
Power Requirements	5310 / 5350	24VDC Nominal, 9-36VDC Min/Max 120-240VAC Nominal, 90-264VAC 50/60 Hz Min/Max

COMMUNICATIONS	
Web Interface	HTTP
Ethernet	2 10/100 Base-T (RJ-45) Ethernet Ports Half/Full Duplex Capability

INTERFACE	
Operating Temperature	-4 to 158 °F (-20 to 70 °C) at 5 to 85% Humidity
Storage Temperature	-40 to 185 °F (-40 to 85 °C)

A PORTAL FOR CRITICAL POWER MONITORING AND CONTROL

Transfer switches provide the ideal location for monitoring critical power systems. Situated between power sources and loads, they offer a pathway for collecting power data and controlling important functions. The ASCO 5170 Quad-Ethernet Module is key to gathering critical information from 7000 series Transfer Switches as accessory 72EE2.



The 5170 Quad-Ethernet Module unlocks critical power data:

- Enables remote testing of transfer switches and generators
- Sends email notifications of power system events and alarms
- Displays information via embedded web page dashboards and provides connectivity to monitoring systems

Access Information to Optimize Operation	Control Critical Power Functions Remotely	Securely Transmit Critical Power Data
Assess device state, event logs, and equipment settings for transfer switches, generators, and meters.	Initiate load transfers between sources through the 5170 integrated web pages. Start and stop generators and bypass time delays remotely.	Transmit and receive data using open protocols and the built-in Ethernet switch. Enforce end-to-end data security by meeting Advanced Encryption Standard (AES).

- Remote Transfer Control and Generator Test
- Email Notification for Critical Events and Alarms
- Remote Monitoring using Modbus and SNMP Protocols

The **5170 Quad-Ethernet Module** is an easy-to-deploy solution for connecting, monitoring, controlling, and securing transfer switches in critical power systems.

Monitor

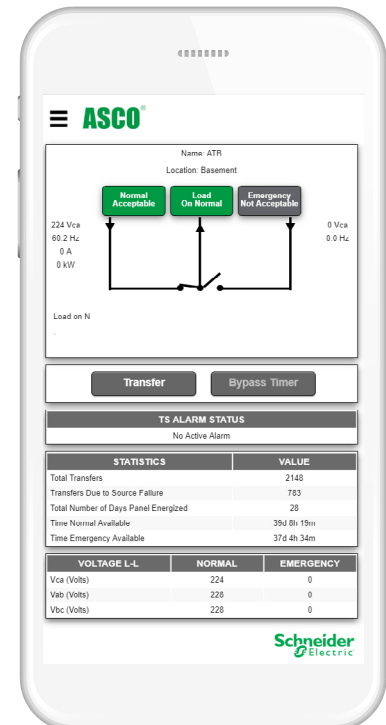
- Monitor utility sources supplying low and medium voltage transfer switches
- View transfer switch status and statistics
- Monitor generator status, operating data, safety indicators, and shutdowns
- See dynamic one-line displays of transfer switch or bypass-isolation switch
- Aggregate and assess power demand and energy consumption
- View alarms, event logs, and active timers
- See pick-ups, drop-outs, time delays, engine exerciser schedule, and feature settings

Control

- Remotely exercise and test engine-generators using the 5170 integrated web pages
- Remotely transfer loads between sources
- Bypass active transfer time delays on demand
- Selectable fail-safe sequences for load control during communication delay or failure

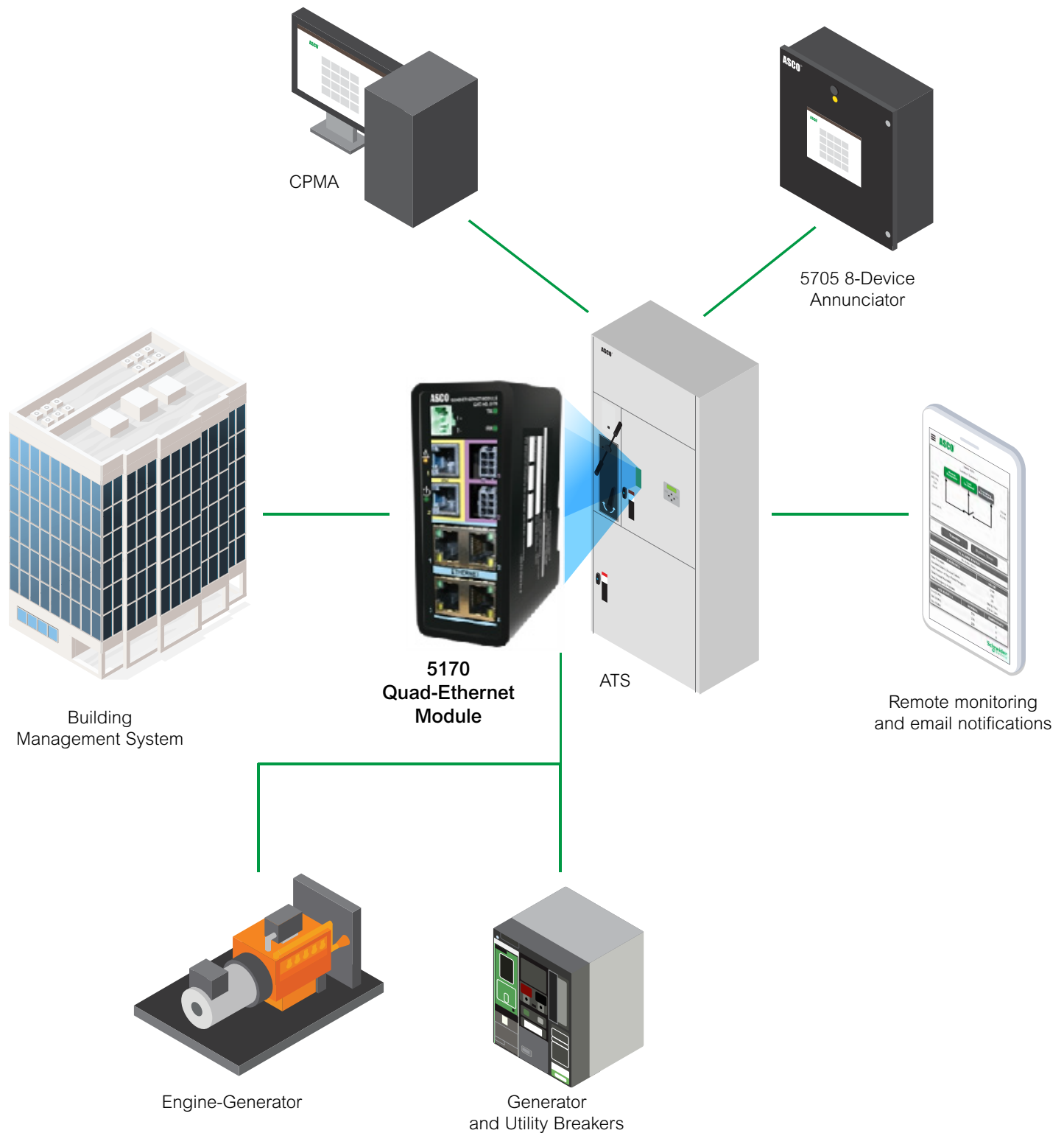
Connect

- Use integrated four-port Ethernet Switch to network multiple devices and transfer switches
- View transfer switch information via 5170 integrated web pages
- Use Modbus and SNMP protocols to share data with power and building monitoring systems
- Send email notifications for critical events and alarms
- Use the RS-485 port to connect the transfer switch controller to legacy monitoring systems using Modbus RTU



Secure

- Manage access to monitoring, control, and configuration with three user authentication levels
- Use signed boot loader and firmware to prevent the intrusion of malicious programs
- Use Advanced Encryption Standard (AES) 128-bit encryption to enhance data communication security
- Configure data protocols to mitigate probing by network intruders
- Limit and recover from denial-of-service attacks



Ordering and Specification Information

Product	
Catalog Number	5170
Catalog Name	Quad-Ethernet Module
Dimensions (Inches)	4.625H x 1.760W x 3.570D
Weight	1 Pound
Mounting	DIN Rail
Redundant Control Power	24VDC

Ports		
	Ethernet	RS485
Quantity of Ports	4	1
Type of Ports	RJ45, 10/100 Base TX	2-Wire or 4-Wire
Protocols	Modbus TCP/IP, SNMP, SMTP	Modbus RTU

Ordering Information		
Item	Designation	Description
Accessories for New Equipment		
Transfer Switch Accessory	72EE2	5170 Quad-Ethernet Module
ATS Basic Technology Package	150A	- 5170 Quad-Ethernet Module - 5210 Digital Power Meter - UPS for controller and metering
ATS PM8000 Technology Package	150A8	- 5170 Quad-Ethernet Module - PM8000 Power Quality Meter - UPS for controller and metering
ATB Basic Technology Package	150B	- 5170 Quad-Ethernet Module - 5210 Digital Power Meter - Bypass monitor - UPS for controller, bypass monitoring and metering
ATB PM8000 Technology Package	150B8	- 5170 Quad-Ethernet Module - PM8000 Power Quality Meter - Bypass monitor - UPS for controller, bypass monitoring and metering
Kits for Existing Equipment		
Transfer Switch Controller	K1106217	- 5170 Quad-Ethernet Module - Mounting hardware - Cable for one controller or meter
Transfer Switch Controller with Meter	K1106217-001	- 5170 Quad-Ethernet Module - Mounting hardware - Cables for controller and meter

ASCO Critical Power Management Appliance (CPMA) must connect to backup power monitoring equipment and any remote client devices. ASCO Connectivity Units meet this need by converting device data for transmission by Ethernet or Fiber Optics, and sends it to the CPMA platform. Using ASCO 5160 Series Connectivity Units, it is easy to create a power management network that maximizes the value of new and existing ASCO CPMA systems.



ASCO Connectivity Units Simplify CPMA Implementation

Versatility: 3R Enclosure accepts AC or DC operational power to establish a network for any application.

Long Distance Solution: Establishes long-distance, high-bandwidth networks with simultaneous fiber optic and Ethernet communications.

Pull Data from Power Equipment: Communicates with power devices from major manufacturers by converting serial data and discrete inputs to Modbus TCP/IP.

Create a Flexible CPMA Network over Ethernet

Transmit power information up to 300 feet using Ethernet communications.

Create a High-Performance CPMA Network Using Fiber

Extend transmission distances beyond 300 feet using optical fiber.

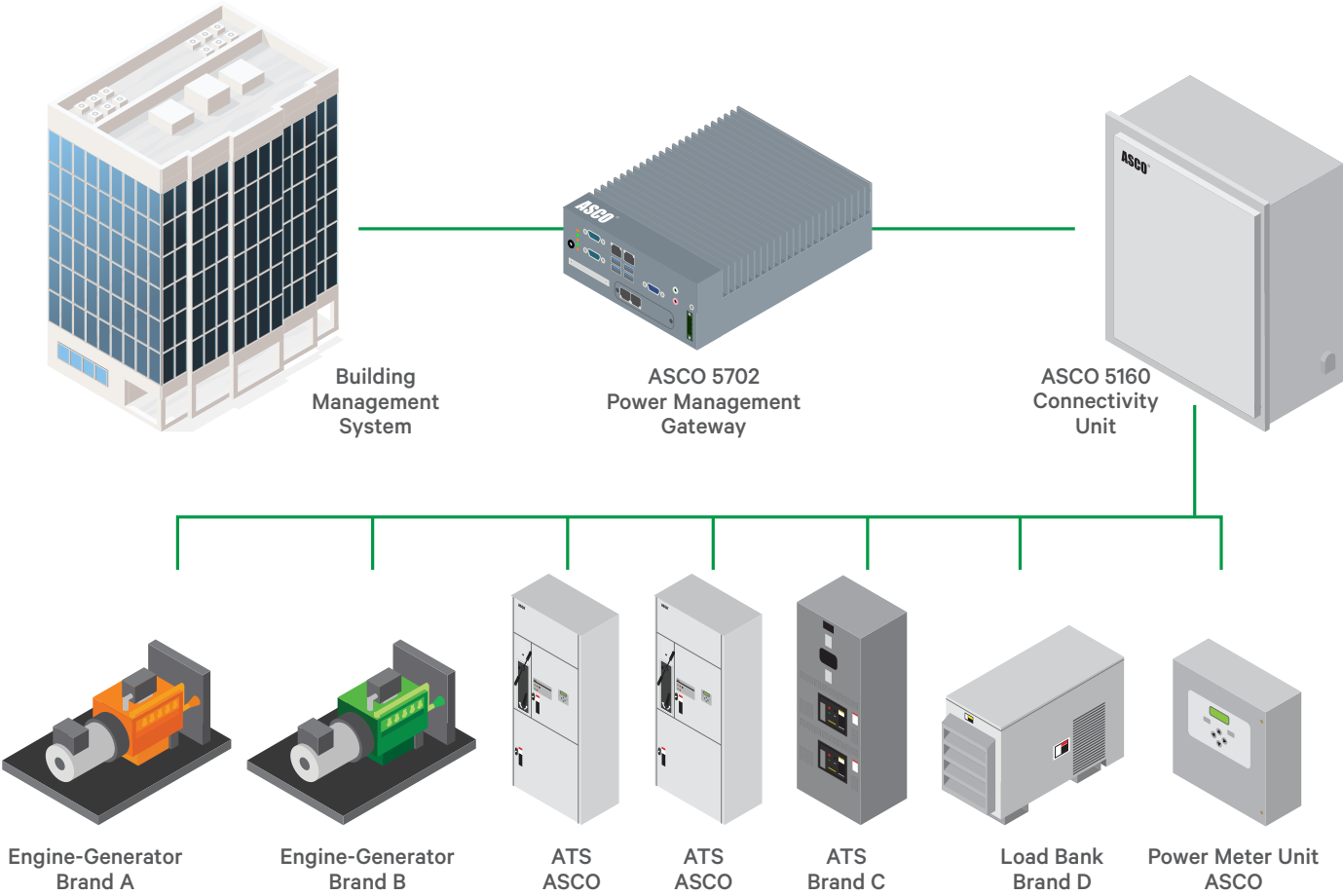
Use Multiple Connectivity Units to Extend CPMA Networks

Add connectivity units to relay power information across greater distances.

Create Simplified Networks using ASCO Connectivity Units



Connect Equipment from Major Manufacturers to ASCO's CPMA Platform

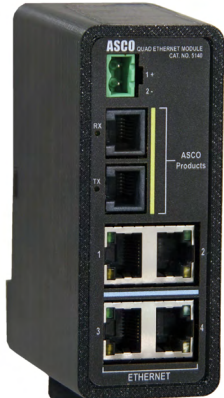


Specifications

Dimensions	10.7"D x 18.3"W x 19.9"H
Enclosure Rating /Type	Type 1 Polycarbonate Wall Mount
Operational Power	120VAC or 24VDC
Ride through time	20 seconds
RJ45 Ports	10/100 Base TX
Fiber Optics Ports	100 Base FX, Multi-Mode, 1300nm Wavelength, ST Connector

Features and Ordering Information

Model	Application	Managed Ethernet	Ports					Part Number
			Ethernet	RS485	I/O	100-Megabit Fiber	Gigabit Fiber	
5160	Connects up to 14 Ethernet devices	No	14	0	0/0	2	0	917131
5161	Connects up to 4 RS-485 devices	No	6	4	0/0	2	0	1116627
5162	Connects up to 60 hardwired devices	No	6	0	60/4	2	0	1084447
5163	Connects up to 4 RS485 or 60 hard-wired devices	No	6	4	60/4	2	0	1116643



ASCO 5140
(Accessory
72EE)

The ASCO 5140 Quad-Ethernet Module offers remote monitoring for Series 300 ATSs and 5210 Power Meters. For the ATS, the optional 5140 provides remote ATS and generator control, monitoring, and connectivity features via integrated web page dashboards. Once connected via Ethernet, Wi-Fi, or cellular connection, the dashboards can easily be pulled up by any mobile or desktop device on the network by multiple users.

Control

The control capabilities allow remote transfer and retransfer of the Automatic Transfer Switch (ATS), while allowing you to view time delays and bypass functions. The generators can also be called to start and stop for emergency situations as well as for testing and maintenance. Generator pick-up and drop-out setpoints are also viewable for comprehensive understanding of control events.

Monitoring

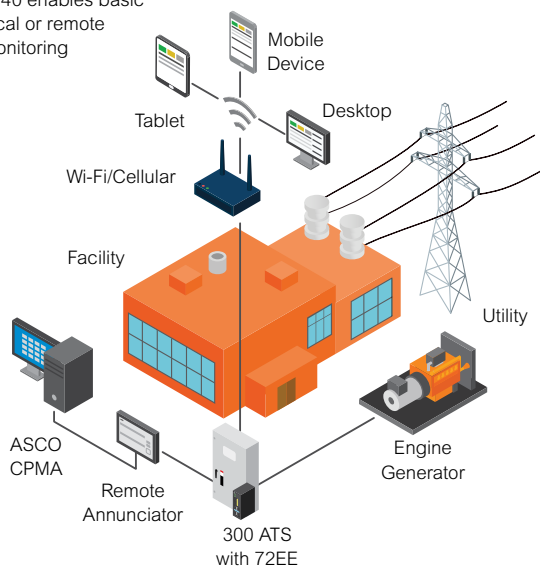
Monitor transfer switch and generator health, system state, metering, and review calculated transfer statistics and activity. Active control timer information allows the operator to anticipate an automated control action, such as, generator start or ATS transfer. The device can also interface to an email server to keep users up-to-date on critical power events and device alarms.

In addition the 5140 can interface to an optional 5210 Power Meter, for enhanced monitoring features, such as, power metering, demand, and energy usage.

Connectivity

Connect and extract ATS and metering data using industry standard open protocols, such as, Modbus and SNMP. An integrated four port Ethernet Switch maximizes connectivity options and flexibility. Embedded password protection will only allow access to appropriate users, and Advanced Encryption Standard (AES) 128-bit encryption is available for enhanced data security per National Institute of Standards and Technology (NIST).

5140 enables basic local or remote monitoring



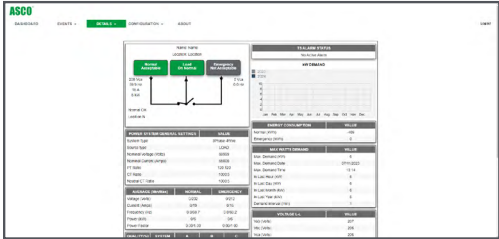
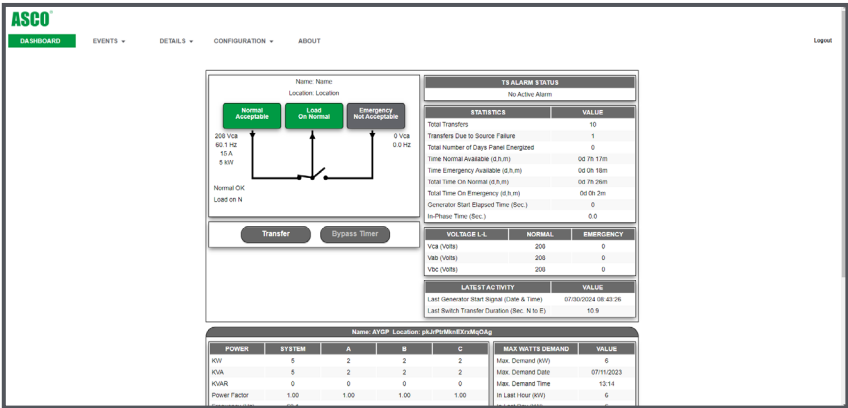
Control Features

- ATS transfer/re-transfer
- ATS timer bypass
- Generator start
- Generator test

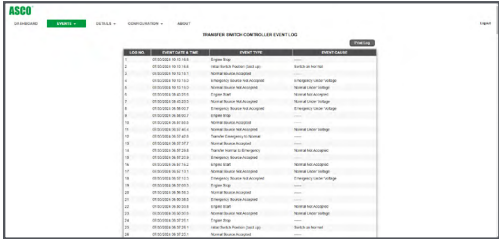
Monitoring Features

- ATS and generator status
 - Alarms
 - Voltage and frequency
 - Statistics and activity
 - Email notifications
 - Event log (300 events) optional
- Monitoring features
- Energy consumption
Acc 135L required
 - Power Demand
Acc 135L required

Sample drawing for demonstration purposes only.
Consult ASCO for exact connection specifications.



Power Metering Screen



Events Screen

Specifications and Ordering Information

Environmental	
Operating Temperature	-20 to 70°C
Storage Temperature	-40 to 85°C
Humidity Rating	5% to 95% relative humidity

Ordering	
Catalog Number	5140
Catalog Name	Quad-Ethernet Module
Transfer Switch Accessory	72EE
Part Number for Kit	948551

Hardware	
Dimension (HxWxD)	4.456" x 1.890" x 3.570"
Weight	3lbs
Mounting	DIN Rail
Control Voltage	24VDC

Ports	
Ethernet	
Number of Ports	4
Type of Ports	RJ45, 10/100 Base TX
Protocol	HTTP, Modbus TCP/IP, SMTP, SNMP

An engine-generator must start automatically when it receives a start signal from an automatic transfer switch. If signaling wires are damaged, an engine will not receive the start signal needed to begin supplying mission-critical power. Without engine start circuit monitoring, facility personnel will never know when wiring is compromised, placing the facility at risk for an extended outage. For this reason, **NEC Article 700.10** requires monitoring of engine start circuits to detect compromised wiring.



ATS Engine Start Module
ASCO Model 5101-ATS



Generator Engine Start Module
ASCO Model 5101-GEN

The ASCO Engine Start Circuit Monitor system offers a complete solution for complying with NFPA 70 requirements:

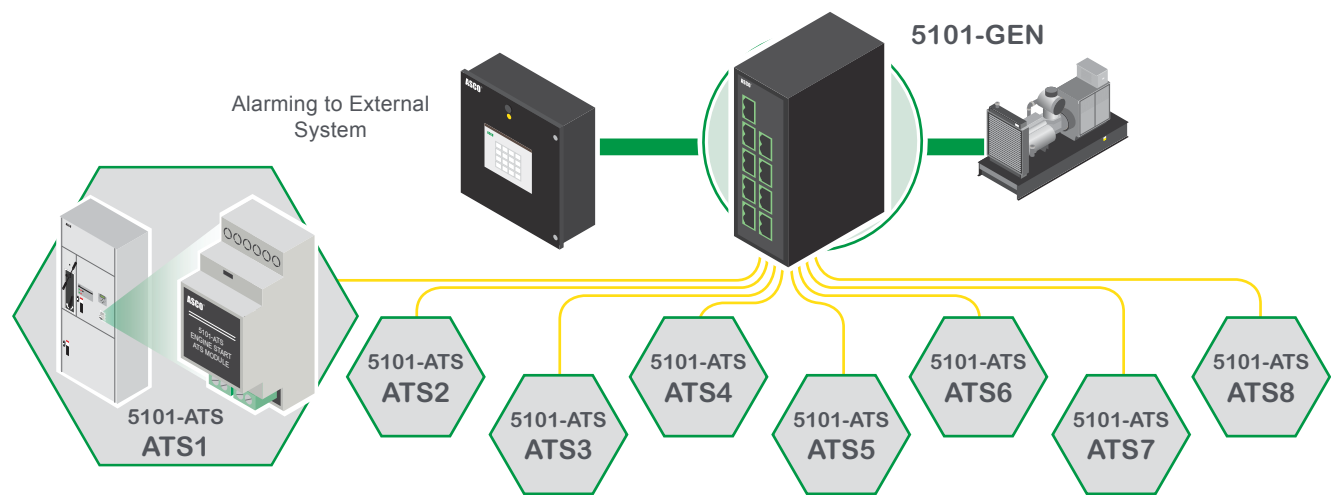
- Continually monitors operability of engine start circuits
- Indicates faults at local and remote annunciators
- Automatically starts engine-generators when faults occur

Complies with Mandated NEC® Start Circuit Monitoring Requirement	Monitors conditions, annunciates faults, and starts engines in accordance with Article 700.10(D)(3) of NFPA 70.
Designed to Fit on New Equipment and Legacy Systems	Uses one module at the engine-generator, and one module at each ATS. Installs on industry standard two wire engine control wiring for efficient deployment on new and existing backup power equipment.
Integrates with ASCO CPMA Solutions	Interfaces with the ASCO Critical Power Management Appliance products and external building management systems to provide notifications and remote alarms.

Operating Description

Up to 8 ATS engine start circuits can be monitored from a single Generator Engine Start Module (5101-GEN). A Transfer Switch Engine Start Module (5101-ATS) is installed at each ATS. These modules monitor signaling on start circuit wires and differentiate between normal and fault conditions. During normal operation, the modules relay start signals to the engine when needed.

When a fault is detected in wiring between the modules, the 5101-GEN starts the generator and issues an alarm. The 5101-GEN module can interface with ASCO CPMA systems. For example an ASCO 5705 8-Device Annunciator can provide full NEC 2017 engine start compliance, meet NFPA 110 alarm and test reporting requirements, and provide remote generator and ATS testing, alarming and notification information via email to mobile devices.



Features

- The generator module monitors up to 8 ATSs.
- The generator module provides two Form C contacts, one for engine start and one for alarming.
- Status LEDs for each channel are provided on the generator module, allowing for quick assessment of system status (channel disabled, wiring fault, engine start inactive, engine start active).
- ATS module is compatible with, and wires into, any contact-based engine start signal.

Main specifications

Parameter	Description
DC Power	9-27V 15w Max (GEN Module) / ATS module does not require power
Internal Ride Through Power	3 seconds minimum
Mounting	35mm DIN
Operating Temperature Range	-20°C to 70°C
Maximum Distance	1000 ft one way from ATS to GEN (2000 ft loop)*
Maximum Wire Loop Resistance	Resistance must be less than 100Ω ohms
Generator Module Start Contact	1A 30VDC (Form C)
Generator Module Alarm Contact	1A 30VDC (Form C)
Wire Gauge	12-30 AWG stranded

*Contact ASCO Power for longer distances.

Ordering Information

Catalog No.	5101-ATS Kit	5101-GEN Kit	5101-ATS Accessory
Part No.	1256473	1256475	Acc 7ES
Description	ATS Module Field Kit	Engine Module Field Kit	Factory-Installed ATS Module

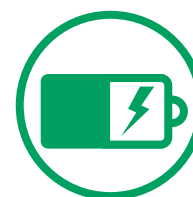
The 5210 Digital Power Meter (DPM) is ASCO's standard solution for providing deeper transparency in an electrical circuit. The meter is used to monitor, communicate, and display key electrical parameters that are critical to understanding the real-time health and activity of loads or power sources. The data given by the meter provides the information needed to make key decisions on-site regarding energy management, optimization, utilization, and load planning.



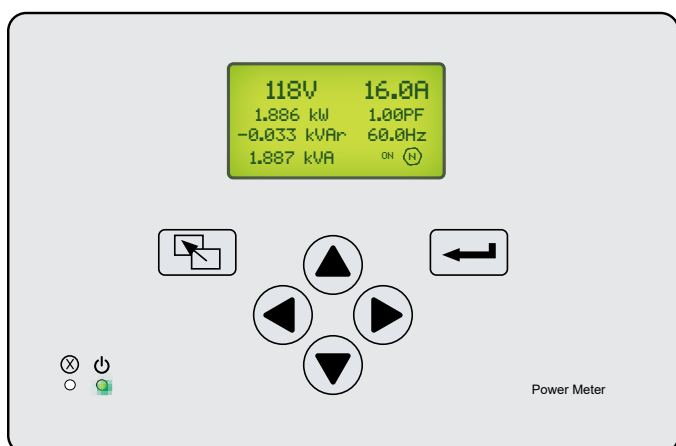
Real-Time Monitoring



Utilization & Load Planning



Energy Management



The DPM includes a backlit graphic LCD display and membrane control (keys). All monitoring and control functions can be done from the front of the unit for convenience and safety.

Often times, existing sites are the locations with the most need for added monitoring but are often the hardest to modify. The 5210 has the flexibility to allow installation in numerous environments. The 5210 can be installed into new or existing Transfer Switches or switchgear.

Additionally the 5210 can be purchased pre-mounted in a wall mount enclosure for monitoring third party equipment or as a loose meter for integration into other systems. Regardless of where it is installed, the 5210 will provide data to allow knowledgeable and insightful decision making on a daily basis.

118V16.0A 1.886 kW1.00PF -0.033 kVAr60.0Hz 1.887 kVAON (N) Overview	ØV-LLØAMPs AB206A437 BC206B451 CA206C446 Voltage & Current	ØWATTSPF A41.42k0.93 B49.27k0.87 C45.31k0.91 Total136.0k kW & Power Factor
kWh - Normal IMPORT >847.3 EXPORT >0.000 NET >446 Energy	% Full Load ØAMPsWATTS A60%58% B54%52% C54%55% Utilization	Max kW Summary Last 60 Mins136.0kW Last 24 Hr157.4kW Last 30 Day198.7kW Last 12 Month243.9kW Max. Demand
Monthly Max Demand 20152014 Jan229.2kW219.1kW Feb221.3kW207.3kW Mar243.9kW237.6kW Monthly Max. Demand	VOLTAGE THD Ø% THD A>3.69 B>3.37 C>3.15 Total Harmonic Distortion %	AVG UNBAL AMPs444.62% V-LL206.31% V-LN118.91% Unbalanced

The 5210 runs off the monitored voltage and does not require additional control power.

Once connected the meter will begin displaying data such as voltage, current, and power along with advanced metrics such as total harmonic distortion, kW demand, and energy. All the monitored data is available over Modbus via the on-board serial connection or the optional Quad-Ethernet module which includes a remote and mobile friendly webpage.

ASCO 5210 Digital Power Meter Specifications

Metered Parameters

• Voltages (LL/LN) & Current	• Total Harmonic Distortion (%)
• Unbalance (V & I)	• Utilization
• Power (kW, kVA & kVAR) & Power Factor	• kW Demand (multiple periods and historical) Complies to NEC 220.87
• Frequency	• Engine Run Time
• Energy (kWh, kVAh & kVARh)	• Min/Max Historical Values

Device Ratings

Current	0 to 5 A ac nominal secondary CT. 4000 V ac isolation, minimum Burden: Less than 0.25 VA per phase
Voltage	70 to 600 V ac nominal, phase to phase (Expandable via power transformers for medium voltage applications)
Frequency	45 Hz to 65 Hz fundamental. True RMS measurements up to and including the 31st harmonic.
Source Selection Input	26 V dc maximum, >10 V dc = active, <1 V dc = inactive
AC Power Requirements	Minimum 70 V L-L Ac/103 mA / 7.2 VA with 50/60 Hertz (Parasitic from voltage sense lines)
DC Power Requirements	Optional backup power supply 9-36 V dc 10 watts. DC power supply should be UL Listed.
User Interface(s)	Isolated RS485 - 2/4 Wire (for external Modbus RTU communication) Optional ASCO Quad-Ethernet communication module
Operating Temperature	-4°F to 158°F (-20°C to 70°C)
Storage Temperature	-22°F to 176°F (-30°C to 80°C)
Measurement Category	III
Pollution Degree	PD 2
Humidity	Relative humidity 5% to 85%, non-condensing
Accuracy ¹	0.25% Current, Voltage, Power, Frequency 1.00% Energy, Power Factor, Demand
Standards	UL 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use — Part 1: General Requirements
	CSA-C22.2 No. 61010-1, 2nd Edition, 2004-07 Electrical Equipment for Measurement, Control and Laboratory Use — Part 1: General Requirements



ASCO 5210 Digital Power Meter mounted on a transfer switch including optional ASCO Quad-Ethernet communication module. (Remote webpage shown)

Ordering Information

Transfer Switch Accessory	Acc 135 Family
Tech Bundle Accessory	Acc 150A for ATS ² Acc 150B for BPS ^{2, 3}
Standalone Meter Kit (Meter & Manual Only)	PN# 966071
In Type 1 Enclosure (5211 PMU) ^{2, 4}	PN# 947905
In Type 1 Enclosure with IO (5212 PMU) ^{2, 4}	PN# 997684

Notes:

1. Further accuracy details available upon request in user manual.
2. Includes ride through power module and Quad-Ethernet communication module.
3. Includes discrete IO module for bypass status.
4. Enclosures include shorting blocks, fusing, and auxiliary power supply.

The performance of an ASCO Critical Power Management Appliance (CPMA) is vital to your business. ASCO CPMA Maintenance Services are a cost-effective way to keep systems up-to-date, minimize equipment downtime, and maintain compliance with industry and regulatory standards. Maintenance service agreements ensure that ASCO can provide timely security patches, adjustments, and preventive maintenance.



CPMA Maintenance Framework

- **Adapt** – Keep systems compatible with emerging business and technical requirements. Whether it's updating an operating system or alarm settings or adding and removing equipment, our services address evolving facility needs.
- **Optimize** – Adjust settings and functions to optimize system operation. Manage storage capacity and synchronize device timing to improve system performance.
- **Repair** – Detect and correct errors to increase system compliance and efficiency. ASCO experts diagnose faulty hardware, troubleshoot device communications, and execute repairs.
- **Enhance Safety** – Protect CPMA equipment from potential vulnerabilities, predict problems, and receive recommended solutions. From security updates to software patches, ASCO foresight provides peace-of-mind.



ASCO MAINTENANCE SERVICES MAXIMIZE THE VALUE OF CPMA

Enhanced Reliability

Periodic inspections and maintenance help assure proper equipment performance and can help increase service life. ASCO corrects minor issues before they cause major problems.

Security & Compliance

ASCO evaluates threats, installs security patches, and updates application software. These services help protect critical power assets and support compliance with industry codes and standards.

24x7x365 Support

ASCO's integration specialists and technicians are trained to meet customer demands. ASCO service teams work around-the-clock to maximize CPMA availability.

Scope of Services

ASCO assigns a dedicated CPMA integration specialist to each site. All CPMA service agreements include the following emergency and technical support services:

- Support via phone and Email
- 24x7 emergency support
- Periodic remote inspection and service
- Available on-site service
- Remote troubleshooting
- Software updates

During the first consultation, our specialist will recommend maintenance routines to update systems, detect anomalies, and prevent malfunctions. Thereafter, ASCO will provide remote or on-site services as recommended. Maintenance events include the following baseline tasks:

✓	Verify proper communication between CPMA and network switches
✓	Verify proper communication between CPMA servers and each monitored device
✓	Verify CPMA server and workstation performance
✓	Verify Global Position System synchronization and Network Time Protocol settings
✓	Check time synchronization across devices
✓	Backup databases, server images, and network configuration settings
✓	Manage configuration of alarms, settings, and reports
✓	Clean and inspect servers, server racks, network panels, workstations, and metering panels
✓	Monitor and record network utilization and packet loss trends
✓	Identify login attempts by unauthorized users
✓	Install application and operating system updates and security patches
✓	Test CPMA UPS battery under load, if applicable
✓	Run diagnostic tests for operating system and network hardware
✓	Provide an ASCO performance & diagnostic report for each service event

ASCO Integration Specialists can recommend specific services to help maximize the performance and value of ASCO CPMA for every facility. To learn more, contact ASCO at 800-800-ASCO or servicesales@ascopower.com.

CPMA Software Licenses

ASCO Critical Power Management Appliance (CPMA) provides scalable solutions for monitoring and control of the critical power infrastructure. In order to leverage the value of CPMA software with flexibility on selection of hardware, customers can choose to purchase a CPMA software license for installation on their own server.

CPMA Software Upgrades

Because the CPMA system is central to managing critical power equipment, its performance and accuracy is essential to your business. Keeping the system up to date over time helps to ensure the security of the system, proper support for compliance with industry codes and standards, and availability of the latest software features. Customers can purchase a software upgrade for their CPMA system to be installed by ASCO services.



ASCO 5702
Facility Gateway



ASCO 5705
8-Device Annunciator



ASCO 5701
8-Device Gateway

CPMA Software Services Enhance Site Monitoring and Control

Flexible

Software licenses offer the installation of Critical Power Management Appliance software on a customer-provided server. Sites can benefit from monitoring, control, and industry code compliance features without purchasing ASCO CPMA hardware.

Adaptive

Software upgrades help ensure that CPMA systems are up to date with the latest features to efficiently monitor and control all elements of the critical power system.

Corrective

Software upgrades provide security enhancements to reduce risk and help protect the electrical infrastructure.

Specifications

The following requirements must be met by a customer-provided server to facilitate the installation of a CPMA Software License.

SERVER REQUIREMENTS – UP TO 64-DEVICE SYSTEM	
Operating System (OS)	Microsoft Windows Server 2019 or 2022 (2022 recommended)
Processor	Intel Xeon E-2334
Number of Cores	4
Number of Threads	8
Cache	8 MB L3 CACHE
Bus Speed	8 GT/s QPI
Memory	32 GB 3200 MT/s DDR
Hard Disk	600 GB Write Intensive
Database	Microsoft SQL Server 2019 or 2022 (2022 recommended)
Network Adapters	2

SERVER REQUIREMENTS – UP TO 256-DEVICE SYSTEM	
Operating System (OS)	Microsoft Windows Server 2019 or 2022 (2022 recommended)
Processor	Intel Xeon Silver 4108 Octa-Core
Number of Cores	8
Number of Threads	16
Cache	11 MB L3 CACHE
Bus Speed	8 GT/s QPI
Memory	64 GB 2666 MT/s DDR4
Hard Disk	600 GB Write Intensive
Database	Microsoft SQL Server 2019 or 2022 (2022 recommended)
Network Adapters	2

Ordering Information

Please contact your local ASCO sales representative for more information.

The following part numbers are available for CPMA Software Licenses.

CATALOG NO.	PART NO.	DESCRIPTION
ASCOVIRTUALCPMA032	5759000-1-32	CPMA Software License for a system with up to 32 downstream devices.
ASCOVIRTUALCPMA064	5759000-1-64	CPMA Software License for a system with up to 64 downstream devices.
ASCOVIRTUALCPMA256	5759000-1-256	CPMA Software License for a system with up to 256 downstream devices.

The following part numbers are available for CPMA Software Upgrades.

CATALOG NO.	PART NO.	DESCRIPTION
ASCOCPMA256UPG3X	5759000-2-256-003	Software Upgrade for a CPMA system currently running on version 3.X with up to 256 downstream devices.
ASCOCPMA256UPG9X	5759000-2-256-009	Software Upgrade for a CPMA system currently running on version 9.X with up to 256 downstream devices.
ASCOCPMA256UPG2020	5759000-2-256-010	Software Upgrade for a CPMA system currently running on version 2020 with up to 256 downstream devices.

ASCO Power
Technologies™

Services and Support



Life Is On

Schneider
Electric



ASCO Power Technologies™

Modernize Your Emergency
Power System



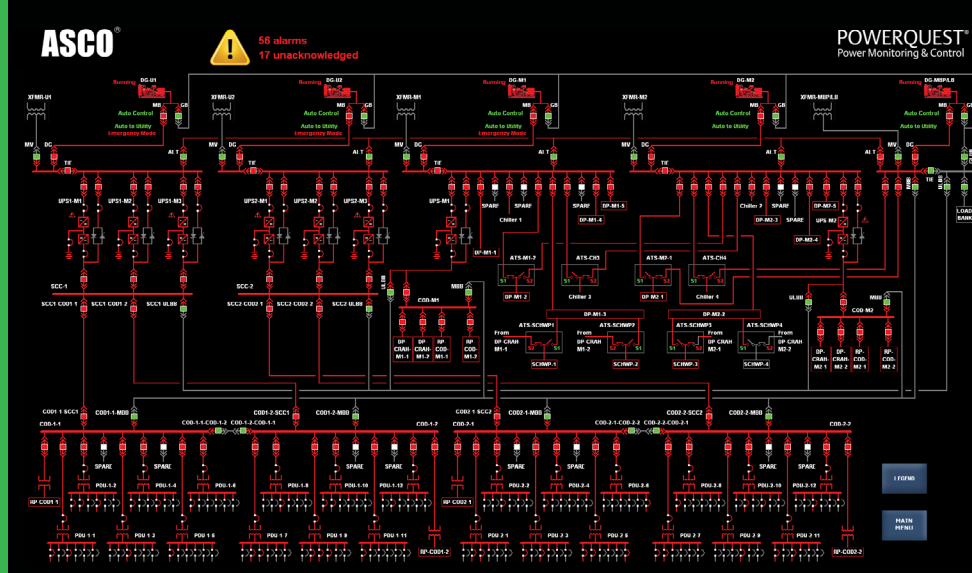
se.com

Life Is On

Schneider
Electric

A touch panel for a modern power control system can be part of a custom engineered upgrade of an aging emergency power system.

The panel and other technology can improve system operation, monitoring and control.



Renew, Rather Than Replace

ASCO Custom Engineered Services can modernize paralleling control switchgear and power transfer switches

You have a proven...but aging... emergency power system.

It doesn't have the flexibility you need. It's a maintenance headache. And you want better operational control and more precise information quickly.

Replacing it will cost more money than is available in your budget. It becomes a "next year" item on a

long list of To Do's. Maybe the job can be tackled piece-meal. Even so, you don't look forward to the capital expense, rental generators and disruptions to operations.

"I Didn't Realize..."

There's a better way. Don't replace your emergency power system. Renew it. Modernize it so it gives

you the flexibility, maintainability and control that you require. "I didn't realize I could do that," say many facility and engineering customers of ASCO Custom Engineered Services. After they consider both replacement and renewal, they select renewal.

Three Benefits Prove Decisive

1. Lower Cost
2. Quicker Completion
3. Fewer Disruptions

Custom engineered upgrades of an emergency power system save about one-half to two-thirds of the cost of replacing an entire generator paralleling system.

Projects can be completed in less time because no construction and no long lead items are required. Custom engineered upgrades can possibly eliminate emergency power system downtime and disruption of business operations.

Advantages of Custom engineered upgrades:

- Retain engine-generators, fuel systems, radiators and piping, main electrical wiring, gear enclosures, and in most cases, bus and breakers.
- Eliminate electrical and mechanical work, modifications and rigging required to decommission and remove old gear and install new gear.

- Avoid renting and locating temporary generators on site.
- Ensure continuous availability of emergency or standby power in most cases.
- Meet rigid project time lines and deadlines.

Modernization can expand your generator paralleling control system features and optimize performance.

ASCO Power Services technicians always comply with NFPA, OSHA, & NEC regulations when working on equipment.

52G2
GENERATOR 2
MAIN

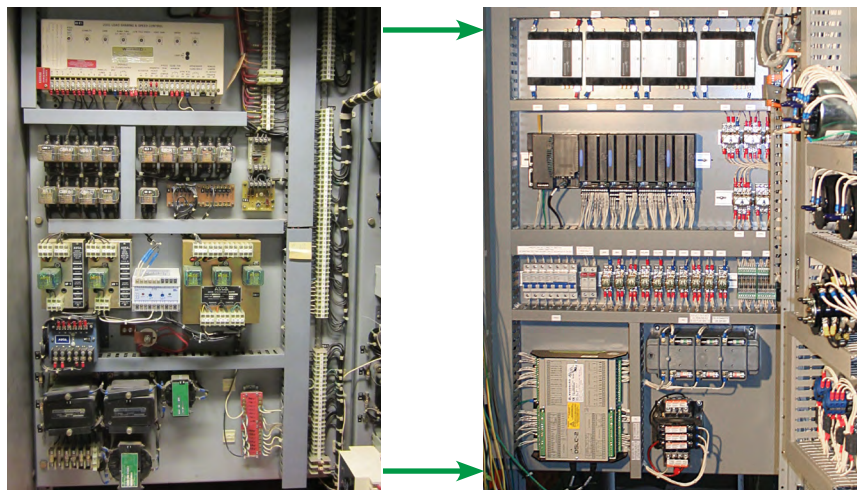
Custom Engineered Upgrades

Which Is Right for Your Business-Critical Operation?

Component and project level upgrades can be customized to satisfy the requirements of many ASCO emergency or standby power systems.

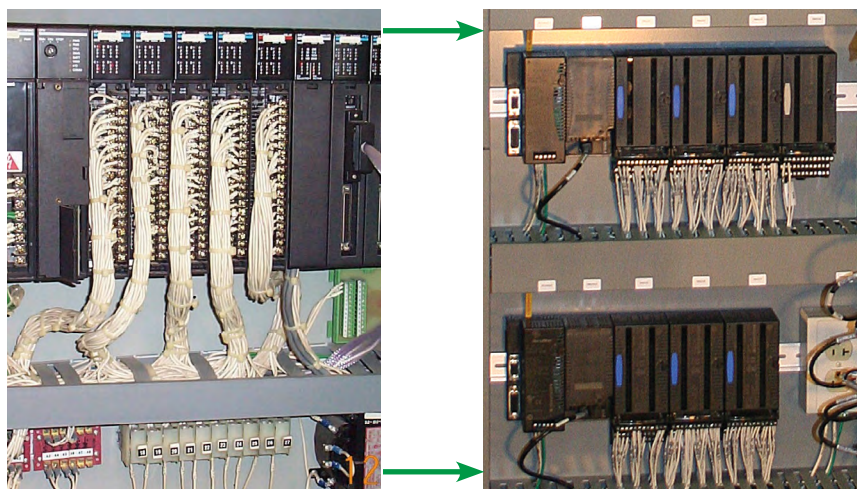
These upgrades include paralleling control switchgear upgrades, programmable logic controller upgrades, paralleling control system expansion and custom controls.

Whether your power system requires a component or project level upgrade, ASCO Power Services offers ongoing support to maintain it.



1. Paralleling control switchgear engine control upgrades

This includes adding new engine-generator controls and completely replacing ASCO control systems with today's current technology.



2. Programmable logic controller upgrades and changes

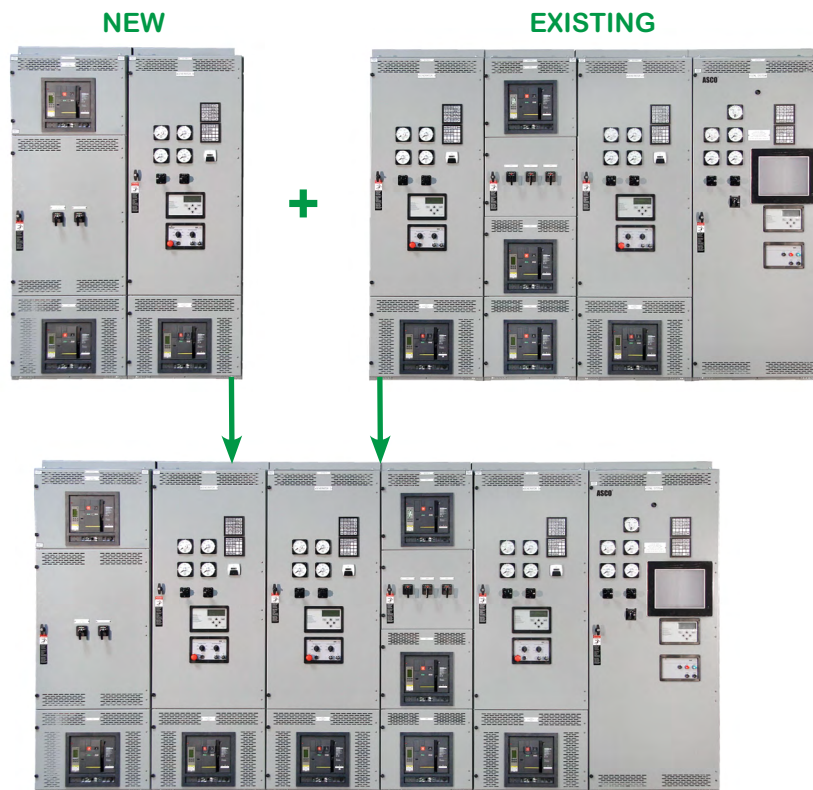
Obsolete GE PLC's are converted to RX3i or RX7i controllers. This is a low cost way to improve the reliability and functionality of your controls. This type of component upgrade can add redundancy and additional functionalities that enhance operation.

Remote monitoring console for upgraded emergency power system.



3. Paralleling Control System Expansions

Paralleling control system expansions include adding distribution, changing breaker sizes and types and adding generator control sections.



4. Custom Controls

Adding ASCO PowerQuest Power Monitoring and Control Systems, to provide the monitoring and control capabilities you want.





Modernizing Paralleling Control Switchgear

Data centers, hospitals and other business-critical operations require paralleling control switchgear that meets today's requirements for reliability, flexibility, communication, sophisticated functionality and ease of operation.

ASCO Power Services has developed an innovative design and manufacturing process that satisfies those needs, while reducing or eliminating downtime.

It's Called Enhanced On-Site Construction

Enhanced On-Site Construction is a two-part process.

Engineering, manufacturing and initial testing of the new switchgear are completed at the factory module by module.

ASCO Power Services then assembles the modules one at a time on site. This process integrates today's paralleling technology on time and ensures it is fully commissioned with minimal downtime.

The process is built on field-proven design and construction practices that have been implemented successfully by ASCO Power Services across the country and internationally.

Enhanced On-Site Construction starts with accurate project information and coordination. This includes identifying critical issues, communicating clearly, establishing effective working relationships and ongoing planning, directing and reviewing of the project.

ASCO Power Services partners with our customers to ensure successful project implementation and execution.

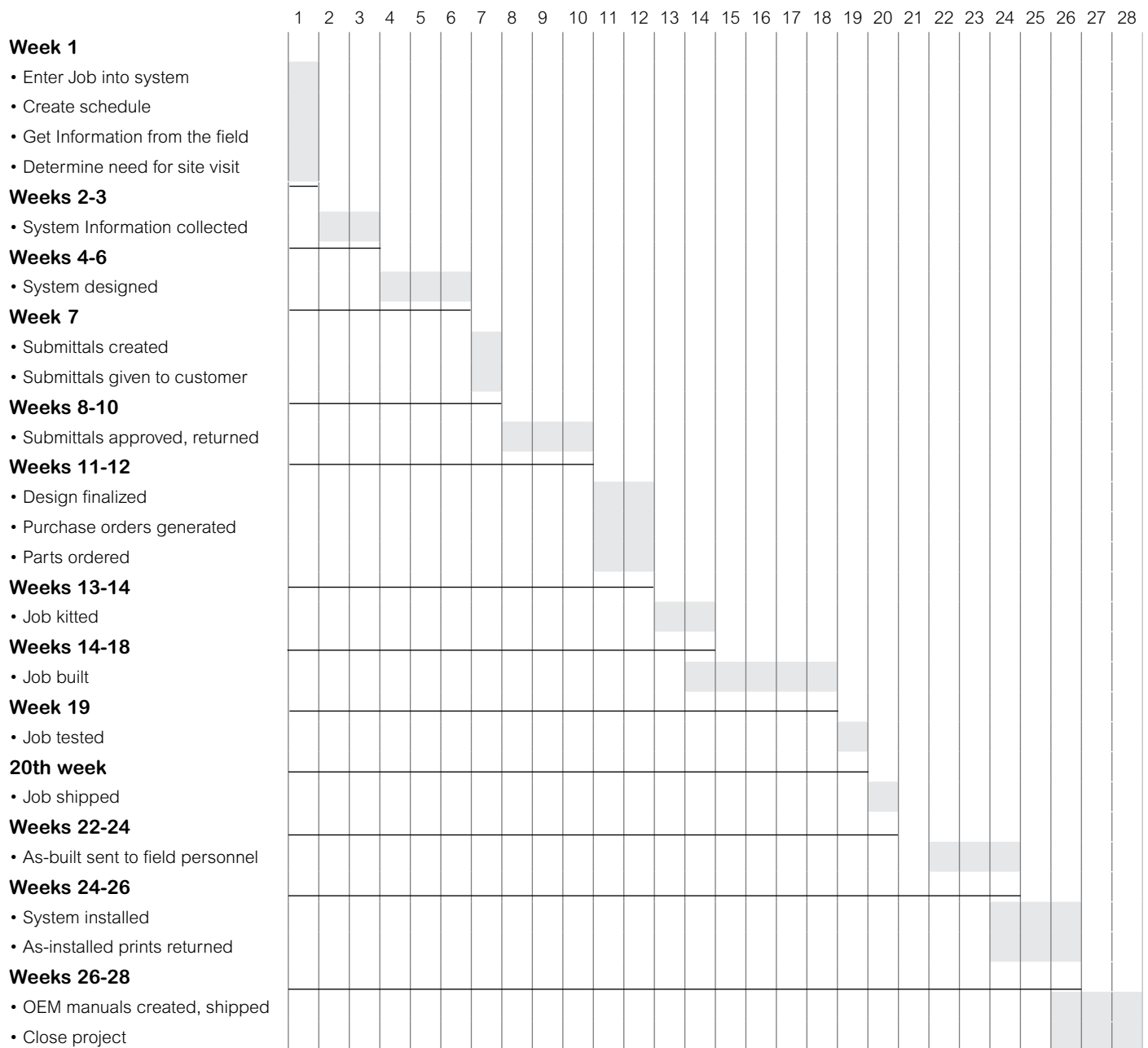
Enhanced On-Site Construction Features, Functionalities

Enhanced On-Site Construction for paralleling control switchgear includes:

- **ASCO's current technology control platform**
- **Circuit breakers ANSI rated, UL 1066, manufacturer of choice**
- **Listing to UL 1558**
- **Redundant engine and master processors that will help ensure continuous, reliable operation**
- **Sophisticated communications for seamless integration with existing communication infrastructures**
- **Remote diagnostics, monitoring and control**
- **Generator load demand control**
- **Bus optimization and load management**
- **Data trending**
- **On-site project management**
- **Nationwide, 24/7/365 support from ASCO Power Services—the largest power transfer and generator paralleling switchgear service company**

**LEFT: Upgraded three-engine medium-voltage
ASCO 4000 paralleling control switchgear**

Custom Engineered Upgrades: Step-By-Step Process





Banks, brokerage firms, hospitals, telecommunications companies, data centers, hotels, resorts and other organizations with business-critical operations have upgraded their emergency power systems by partnering with ASCO Power Services.

Project Highlights

Project	Scope of Work	Project Detail	Savings
U. S. Customs	Added fourth generator, upgraded existing three engines	Controls only on existing engines. Switchgear cabinets, bus and breakers remained. Supplied controls for fourth engine with new switchgear cubicle built to mate with existing switchgear busing.	65%
Bank of New York	Replaced two, three-engine paralleling system controls	Controls only. Switchgear cabinets, bus and breakers remained.	30%
Morgan Stanley	Replaced controls for a six-engine paralleling system	Controls only on four of the engine-generators. Switchgear cabinets, bus remained. Replaced two of the engine-generator breakers. Installed remaining master with hot, synchronized redundant 90/70 PLCs.	85%
Oschner Medical Center	Added fourth generator and upgraded existing three engines and distribution breaker	Controls only on the existing engines. Switchgear cabinets, bus and breakers remained. Fourth engine breaker and bus were specially integrated into an exiting cubicle.	80%
Barnes Hospital	Replaced two-engine paralleling system	Controls only. Switchgear cabinets, bus and breakers remained.	60%
Bank of America	Replaced a three-engine and utility paralleling system	Controls only on the existing engines. Switchgear cabinets, bus and breakers remained.	55%
EnergyWorks	Replaced nine engine generator controls	Controls only on the existing nine engines. Switchgear cabinets and bus remained. Also added a utility interconnection cubicle and controls. Customer now can purchase or sell power to the government power grid.	88%

ADP	Replaced two-engine paralleling system controls	Controls only. Switchgear cabinets, bus and breakers remained.	50%
St. Tammany Parish 911 Center	Factory reconfiguration and controls upgrade of two-engine gear removed from Parish Hospital	Gear that had been in storage was sent to ASCO factory for re-configuration and mechanical testing and complete upgrade of controls for use in Parish 911 Center.	45%
Plaza Hotel	Replaced two-engine paralleling system controls and circuit breakers	Complete controls upgrade. Switchgear cabinets and bus remained. Replaced generator and distribution circuit breakers with modern models.	57%
Sumitomo Mutsui Bank	Replaced two-engine paralleling system controls	Controls only. Switchgear cabinets, bus and breakers remained.	75%
Compass Bank	Controls and mechanical modification of existing gear and addition of new custom switchgear	Changed control programming, added new distribution sections and circuit breakers, and increased ampacity and interrupt ratings of existing bus. Provided new custom switchgear with power transfer switches and circuit breakers.	89%
Manatee Waste Water Treatment Plant	Upgraded controls and added third generator	Controls-only upgrade for existing two engines. Switchgear cabinet, bus and breakers remained. Manufactured new sections to match existing sections with controls and breaker for generator number three.	77%



Case Study Brief

Mt. Zion Medical Center

Challenge

Engineering staff at the 100-bed hospital on the University of California-San Francisco campus, wanted more 'intelligent' paralleling control switchgear with expanded capabilities for its emergency power system.

Solution

Rather than replace the 20-year-old gear, the hospital, one of the nation's top 10 cancer research centers, decided to modernize it by replacing relay logic.



Yiorgos Andritsakis, chief engineer for Mt. Zion Medical Center at the University of California-San Francisco, said upgrading the paralleling control switchgear improved load management.

ASCO Power Services designed, installed and tested a new control system using micro-processor-based digital controllers.

ASCO assembled the control system then shipped one controller at a time for installation on site. This ensured the hospital always had enough capacity to carry life safety, critical and other loads, such as MRI equipment.

Wiring connection interfaces for engines and master controller were managed on site. Installation took about a month.

"It went smoothly even though this kind of upgrade can be a difficult and cumbersome undertaking," said Yiorgos Andritsakis, the hospital's chief engineer. "Like every job, there were hurdles to be overcome and everything fell into place."

ASCO and the hospital's engineering staff stood by 24/7 in case of an emergency.

The primary difference between the old and the new gear is better load management. "Now, the system monitors every engine operating parameter as well as load

changes," Andritsakis said.

"It can decide whether to drop an engine to optimize system operation, shed transfer switches for some reason if an engine is lost, or if the load increases, add an engine. "It knows if it needs to start shedding the lowest priority loads. It can make intelligent decisions to shed loads in stages, rather than in blocks," he explained.

ASCO Power Services also helps engineering staff maintain the system.

"I go home at night and sleep peacefully," he said.



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Tel: 800 800 ASCO

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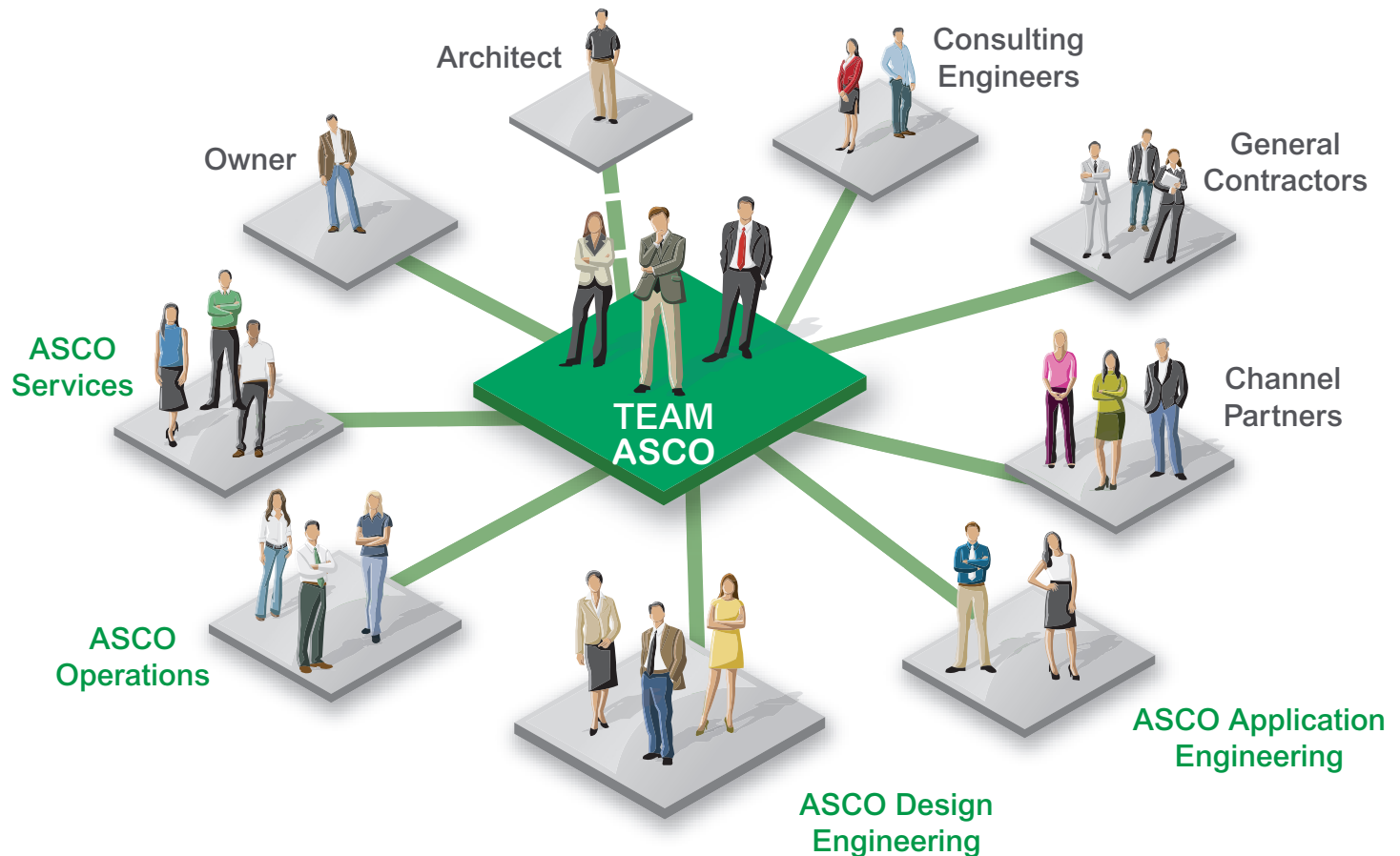


Providing the Communication Necessary for
Effective Execution from Concept to Closure.

ASCO Project Management: Concept to Closure.

Professional, responsive, customer-focused and dependable.

Team ASCO understanding of our customer's critical needs and requirements ensures the right solution. We recognize the importance and complexity of large critical power systems in today's infrastructure. Outstanding customer service starts with the organization of an effective Project Management Team. See below the key touchpoints of how Team ASCO coordinates and executes each project from **Concept to Closure**.



Team ASCO performs these critical functions to ensure your project is completed successfully.

- Develop and maintain the project schedule and generate the commitment timeline.
- Ensure all communication and information is provided to all necessary parties involved.
- Manage and monitor all phases of the project to meet all established project milestones.
- Manage any project requirement changes.
- Maintain project punch list to ensure completion and final resolution.
- Conduct all required project meetings for kickoff, status, follow-up and review.
- Function as the technical resource for support and coordination throughout the life cycle of the project.
- Coordinate with and support the field service organization during the startup and the commissioning process.
- Ensure all drawings, submittals, approvals, changes, deliveries, interfaces, startups, training, sign-offs, etc. are done accurately and on time.



Peace of Mind

Let ASCO Power Services give you peace of mind by providing the regular maintenance your power switching and controls require.

You can take comfort knowing that true power switching and controls professionals will help keep your equipment ready to run at peak performance.

More than 120 ASCO Power Services technicians comprise one of the largest power switch and controls service units in the country. They are the best in the business.

Continuous training and certification on leading-edge equipment and simulators help ensure they

remain the most qualified to service ATS's both new and old. They also adhere to strict safety practices to help protect personnel and equipment.

ASCO Power Services is a wholly owned subsidiary of ASCO Power Technologies, LP, the world's largest manufacturer of automatic transfer switches, engine control systems, switchgear, and monitoring systems. They are uniquely qualified to test and maintain your equipment.

ASCO Power Services partners with other divisions to offer a broad range of complementary services and can therefore provide a bundled service solution.

Who Should You Call...

When it's time to service your power switching and controls?

When you have a minor issue in the middle of the night...or, more importantly, a major one?

To solve your maintenance problems RIGHT NOW?

ASCO Power Services. Period.

Select from two preventative maintenance solutions to help keep your standby or emergency power system running at peak performance...when you need it most.

Why Preventative Maintenance?

The most common cause of transfer switch failure is lack of regular maintenance.

Because power failures are life threatening and costly to your business, there is no room for error when it comes to maintaining a transfer switch.

ASCO Power Services maintains a range of transfer switches from a variety of manufacturers. Technicians resolve potential problems stemming from corrosion, overheating, contact erosion and other typical effects of normal operation. However, these effects can affect proper operation and the product life cycle if they are not addressed.

Besides maintaining equipment, ASCO Power

Services can design, install and upgrade power transfer switches and power control systems. Having a regular maintenance program assures you that these product enhancements will extend the usable life of your equipment.

Compare Service

Like a finger print, no two backup or emergency power systems are exactly alike.

Each has its own unique features which tailor it to the infrastructure it supports.

Every system, though, has a common goal—providing business critical continuity.

Consider ASCO Power Services.

ASCO Power Services Preventative Maintenance Solutions



Fully stocked vans support ASCO Power Services technicians during on-site visits, often eliminating the need to order parts.



ASCO Power Services technicians always comply with NFPA, OSHA, & NEC regulations when working on equipment.

Each technician is provided a complete set of Personal Protective Equipment (PPE) and is required to attend a minimum 16 hours of safety training annually.

No other service provider can compare to ASCO Power Services safety program.

Essential Program

The Essential program provides your power switching and controls with the necessary care it needs to ensure proper operation. The Essential program includes:

- Scheduled maintenance services in accordance with the manufacturer's recommendations, customer requirements, and accepted industry standards.
- All labor, travel, and expenses for emergency service calls.
- Reduced pricing on service parts required during repair.
- Priority emergency service response.
- Reduced labor rates and parts pricing for additional services.
- Comprehensive report detailing the results of the maintenance and any recommendations.

* Any exclusions to replacement parts will be indicated at quotation time.

Preferred Program

The Preferred program provides your equipment with every aspect of care. The Preferred program can greatly reduce the potential for unexpected problems and unexpected costs. This allows your facility to budget for the service of your equipment in advance.

The Preferred program includes:

- Scheduled maintenance services in accordance with the manufacturer's recommendations, customer requirements, and accepted industry standards.
- All labor, travel, and expenses for emergency service calls.
- Replacement parts at no charge.*
- Priority emergency service response.
- Comprehensive report detailing the results of the maintenance and any recommendations.
- Custom solutions for system upgrades at competitive prices.

Renew Rather Than Replace Your Aging System

Modifications and upgrades are attractive alternatives to replacement when equipment ages, components become obsolete or current needs exceed system capacity.

Custom solutions from ASCO Power Services can achieve desired results while minimizing cost and

disruption to your facility. The typical outlay for upgrading a major generator control system is far less than total replacement. And, you save on the ancillary construction costs related to replacement.

ASCO Power Services' ability to leverage ASCO Power Technologies'

expertise in design and implementation is a major advantage to their customers. This enables them to deliver unique solutions that match demanding facility requirements.

ASCO Power Services will survey your ATS or Power Control System and prepare

a customer proposal describing upgrade options. These upgrades range from simple component replacement to total control redesign.

In many cases upgrades can be installed and tested while maintaining full functionality of your emergency power system.

For more information on ASCO Power Services maintenance programs, call (800) 800-ASCO or visit www.ascopower.com

My.ASCOPowerServices.com is the customer portal that enables you manage your service agreement more efficiently. This on-line tool provides real-time 24x7 access for managing services for your power switching equipment. My.ASCOPowerServices.com organizes all your account information, provides easy access from anywhere, and simplifies how you communicate with us. The portal centralizes service information for all of your facilities in one place



Request records of all services completed by ASCO technicians.



Access the complete list for all equipment covered by an ASCO Power Services contract. Review the maintenance schedule for each piece of equipment.



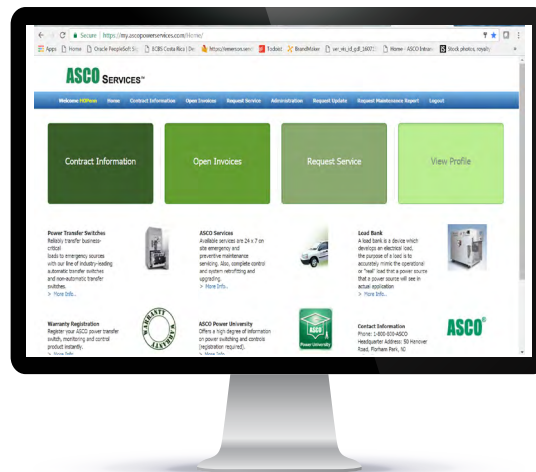
Update your user account by adding new contact personnel or changing phone and email information.



Receive email notices documenting completed services and changes to account information.



Schedule equipment services without having to place a phone call or send an email.



Obtain and review copies of unpaid invoices for your account. Check past and future contract billing schedules.



24/7 access to critical data for site equipment. Reduces the need to make phone call and send emails. Particularly helpful to property managers that have multiple contracts for different buildings in their portfolio.

Life Is On

Schneider
Electric



Directory of Services

Product Based Services

- Service agreements
- Start-up and commissioning
- Emergency power system

troubleshooting and repair

- Transfer switch replacements
- Warranty service

- Operator training
- Surge protection
- Replacement parts

Retrofits & Upgrades

- Transfer switch control center upgrades
- Transfer switch

accessory upgrades

- Metering
- Communications
- Programmable logic

controllers (PLC)

- Power Monitoring and Control

Site Level Services

- Preventative maintenance services
- Repair services

- Inspection services
- Standby services
- Load testing services
- Emergency response

- Infrared testing
- Circuit breaker testing
- Load bank services

Project Level Modifications

- Paralleling switchgear controls upgrades
- Paralleling switchgear expansion

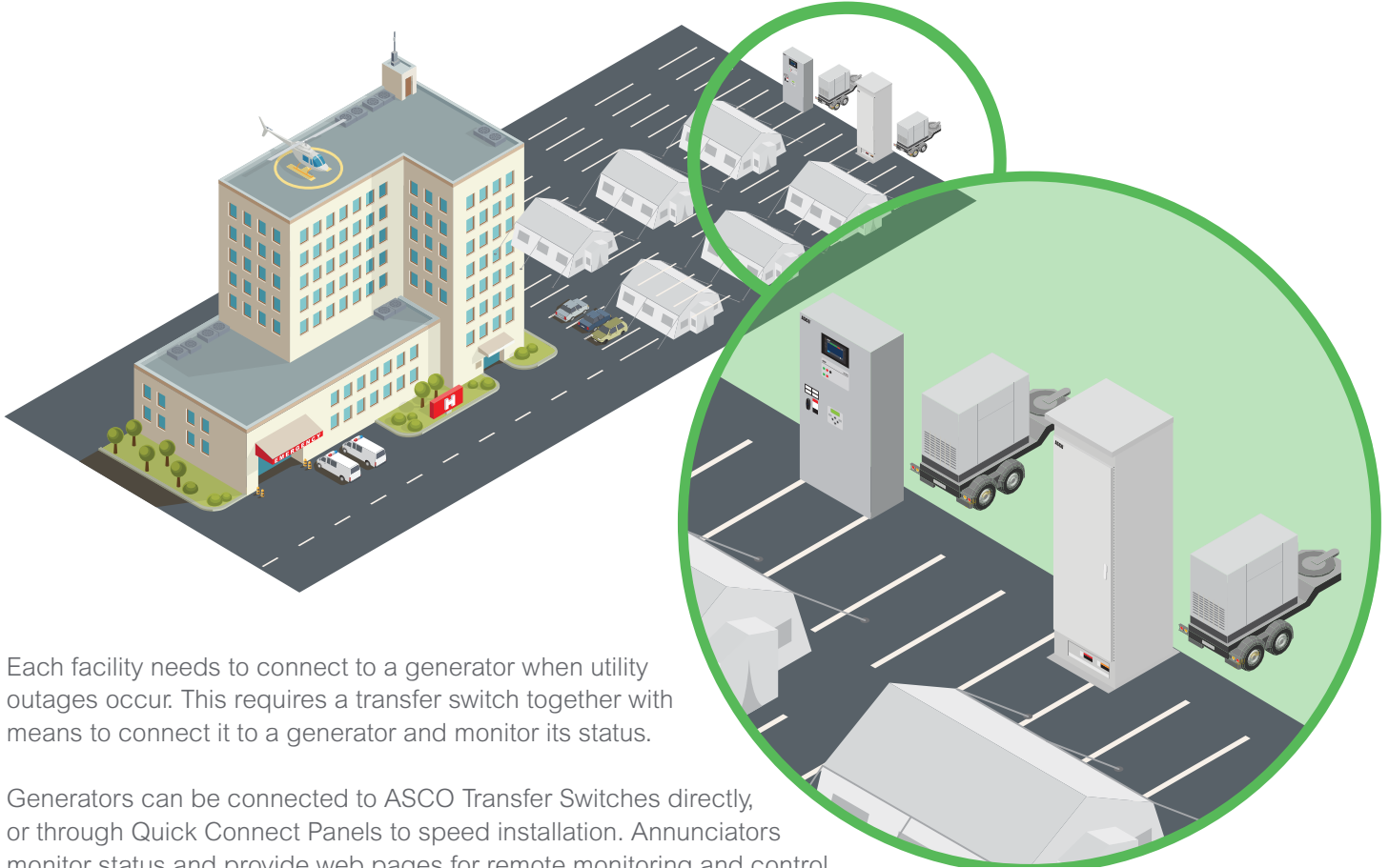
- Distribution switchgear expansion
- ASCO PowerQuest® upgrades

- Circuit breaker retrofits
- Engineered controls solutions

Life Is On

Schneider
Electric

Emerging community health concerns require adding patient capacity by constructing temporary facilities. These facilities need backup power systems that can be obtained and installed quickly.



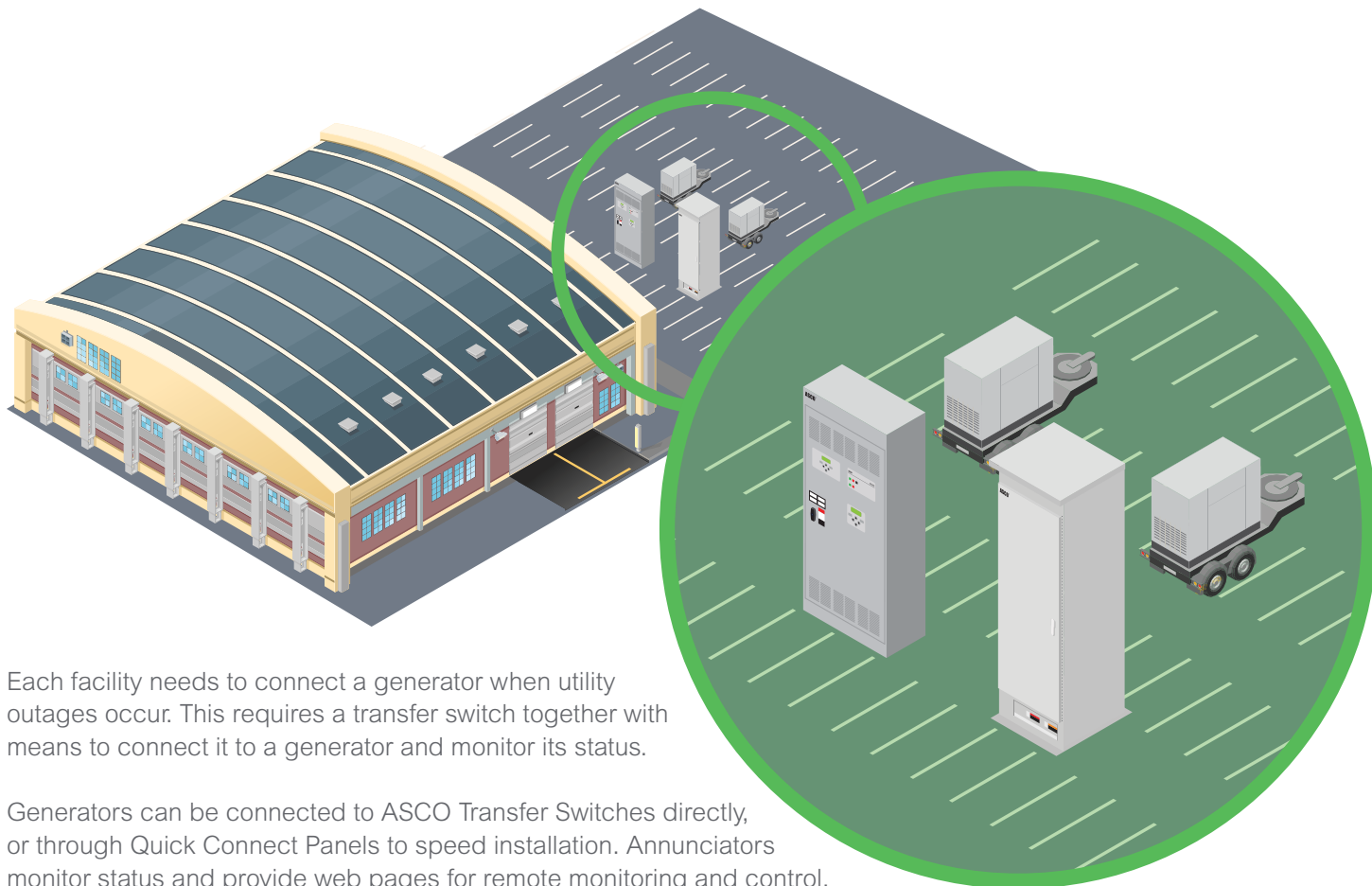
Each facility needs to connect to a generator when utility outages occur. This requires a transfer switch together with means to connect it to a generator and monitor its status.

Generators can be connected to ASCO Transfer Switches directly, or through Quick Connect Panels to speed installation. Annunciators monitor status and provide web pages for remote monitoring and control. Options for indoor, outdoor, and multi-generator applications are available.

For more information, review the documents below and contact an ASCO representative.

- [7000 SERIES Automatic Transfer Switches](#)
- [SERIES 300 Manual Transfer Switch with Integrated Quick Connects](#)
- [5705 8-Device Annunciator](#)

Emerging community health concerns require adding patient capacity by converting existing buildings. Facilities need backup power systems that can be obtained and installed quickly.



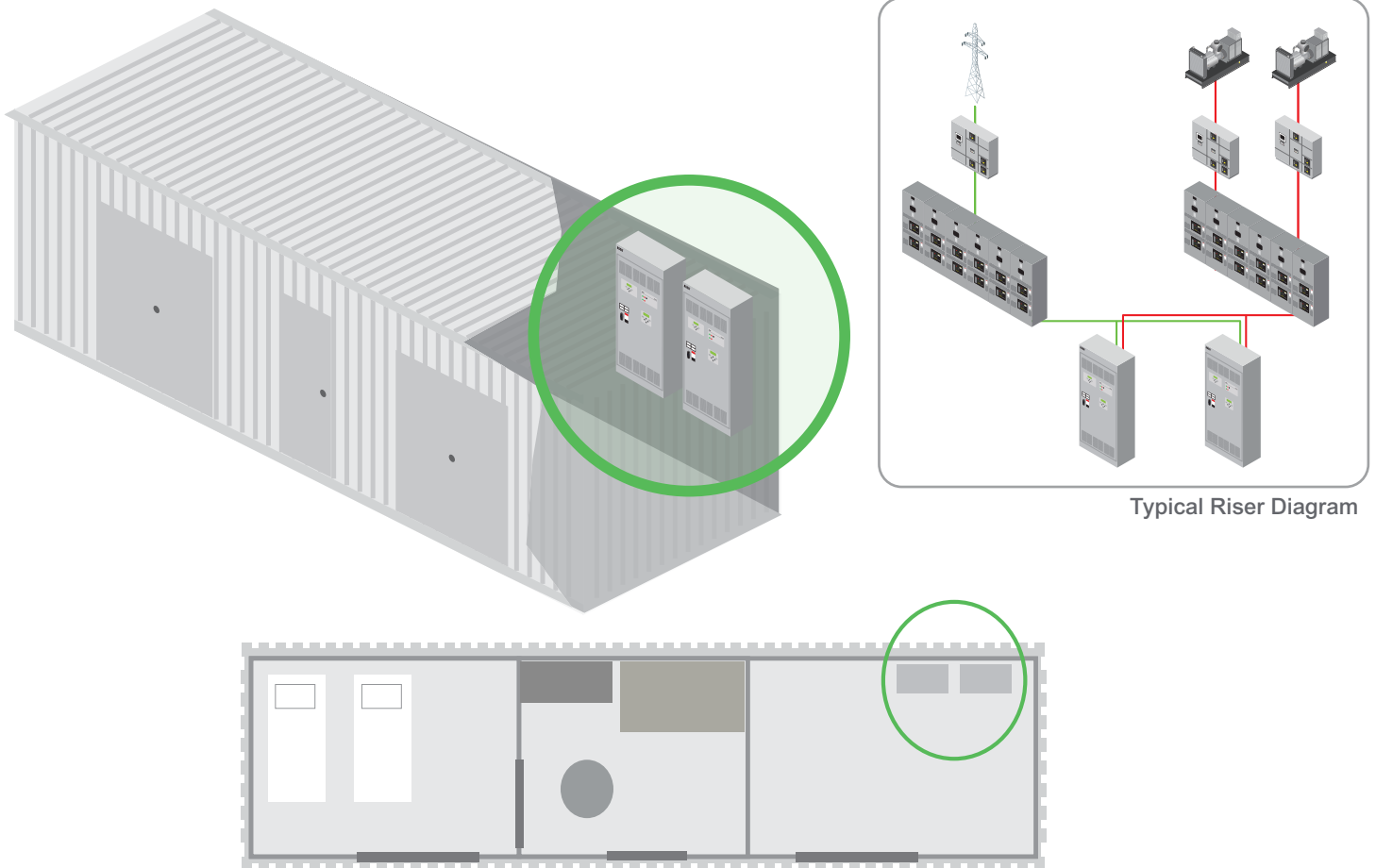
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For more information, review the documents below and contact an ASCO representative.

- [4000 SERIES Automatic Transfer Switches](#)
- [SERIES 300 Manual Transfer Switch with Integrated Quick Connects](#)
- [5705 8-Device Annunciator](#)

Emerging community health concerns require adding backup power quickly to temporary medical facilities. Containerized solutions can be quaintly installed alongside existing facilities.



Each facility needs to transfer its power distribution system to a generator when utility outages occur. This requires a transfer switch together with means to connect it to a generator and monitor its status.

ASCO 4000 SERIES Automatic Transfer Switches can be installed in modular medical facilities. This device connects backup power when utility outages occur.

For more information, review the documents below and contact an ASCO representative.

- [4000 SERIES Power Transfer Switch](#)



ASCO Power
Technologies™

Engine Generator Dealer Partner Program Guide

se.com

Life Is On

Schneider
Electric

Introduction

100 years of **IMPACT** with power source switching and controls

Resilience in an era of disruption



For over 100 years, ASCO Power Technologies has led the way in Power Source Switching and Controls innovation - pioneering the first commercialized automatic transfer switch and continuously advancing critical power solutions. This legacy of resilience and reliability directly benefits our Engine Generator Dealers (EGDs) by providing access to proven, industry-leading technologies that are trusted across millions of installations worldwide. As part of the EGD Partner Program, dealers not only gain access to ASCO's robust product portfolio but also benefit from a century of engineering excellence, compliance with over 30 global standards, and the support of more than 1,200 dedicated professionals. This enduring foundation empowers EGDs to deliver superior solutions, build customer trust, and grow their business with confidence in an ever-evolving energy landscape.

Engine Generator Dealers (EGD) are a key link between ASCO Power Technologies and its equipment end-users. When EGDs understand and sell ASCO products, everyone succeeds. For this reason, ASCO created the **Engine Generator Dealer Partner Program** to support and reward engine generator dealers who sell ASCO critical power products.

This document guides dealers through **ASCO's EGD Partner Program**. It describes the elements of the EGD program, including tools and resources that streamline product ordering, and highlights rewards enrolled dealers can earn. Important program elements include:

- Financial incentives to reward successful dealers
- ASCO's Best-in-Class technical and sales support
- Our EGD Partner Website my.ascopower.com for ordering ASCO products directly
- Access to my.ascopower.com, an e-learning platform that provides courses on ASCO and Schneider Electric products and services

By participating in the partner program, EGDs gain expanded access to the resources of ASCO Power Technologies and its parent company Schneider Electric. This includes ASCO and Schneider Electric training that can enhance the technical knowledge of EGD staff, and ASCO's class-leading support can result in better solutions for customer applications.

In addition, the EGD Partner Website streamlines ordering for our most popular products, including the SERIES 300 Transfer Switch product lineup. Through my.ascopower.com, dealers can order equipment directly from ASCO without

working through an ASCO sales representative. This reduces complexity for dealers and streamlines procurement, resulting in greater success for dealers and increased customer satisfaction.

Through the EGD Partner Program, participating dealers earn rewards and incentives for their successes. Learn more below.

PROGRAM ELEMENTS

1. FINANCIAL INCENTIVES

ASCO offers three types of incentives, in the form of rebates, to dealers participating in the EGD Partner Program in 2025.

a). Loyalty & Growth Rebates

This rewards dealers for sustaining and growing ASCO product sales. The Overall Sales Growth target in 2025 is +18%, calculated from last year's end sales. After the EGD reaches 100% of its prior year revenue, they are eligible to receive:

A rebate of 1% on all sales once dealer surpasses 118% of the previous year's sales

b). Strategic Growth Rebate

This rewards dealers annually for increasing the sales of specific ASCO products. The Product Boost target for the Quick Connect Product Offer in 2025 is +25%, calculated from last year's end sales. Qualifying dealers are eligible to receive:

- A 2.5% rebate on sales exceeding 125% of the dealer's prior year sales of products from ASCO's SERIES 300 Quick Connect Product Offer.

c). Digital Drive

This rewards dealers for converting orders thru the MyQuotes tool in MyASCOPower. When you convert your orders thru the tool you will be eligible to receive a 3% rebate when the orders ships.

2. REBATE PAYMENTS

Annual rebates are paid during the first quarter of the following calendar year based on the following payout scale: The utilization rate is calculated by comparing the number of Packaged Power orders converted through the MyQuotes tool to the total number of Packaged Power orders submitted to the field office. For example: If 10 Packaged Power orders are placed in a year and 6 of them are converted using the MyQuotes tool, the utilization rate is 60%. Achieving a 60% utilization rate qualifies you to receive 100% of the incentive dollars across all three tiers.

Utilization Rate: Paid annually on Invoices / Shipments

>=60% 100% payout

>=40% to <60% 75% payout

>=20% to <40% 50% payout

<20% No rebate

3. DIGITAL TOOLS

To streamline business transactions, participating EGDs receive access to the following digital tools:

a). MyASCOPower

[MyASCOPower](#) is an exclusive extranet for ASCO partners and customers. The site offers account and order management tools, a simple product configurator, and an online ordering tool for ASCO SERIES 300 Automatic Transfer

Switch Products. It also provides information about other ASCO products and services, access to ASCO business tools, and partner communications.

The [MyASCOPower User Manual](#) provides additional information about the website and its use.

b). MyQuotes

[MyQuotes](#) is a web-based quotation tool accessed through the MyASCOPower in the EGD Partner Program and can be reached when you are logged onto www.my.ascopower.com.

Digital Quick links:

1. MyASCOPower - www.my.ascopower.com
2. MyQUOTES - <https://my.ascopower.com/contents/MyQuotes>

** MyQuotes tool can be found on the menu bar located on www.my.ascopower.com.

** Please log into MyASCOPower to access the quotations tool

4. COORDINATION WITH SCHNEIDER ELECTRIC BRAND PORTFOLIO

ASCO Sales offices will ensure coordination of projects if the opportunity has potential with other Schneider Electric Brands, for example, APC by Schneider Electric and/or Square D by Schneider Electric. We will prioritize these relationships to build collaboration with you in the marketplace.

This gives EGDs the opportunity to grow their market share and customer base. There may be more opportunities to win more projects together.

5. TRAINING

EGDs and their staff can access ASCO Power Technologies product training to increase their knowledge about critical power systems. See options below:

ASCO Product & Professional Training		
	Onsite product training from ASCO experts	Your local ASCO Sales Office can arrange specific training based on your requirements.
	Product Webinars hosted by ASCO	ASCO hosts multiple webinars throughout the year with various training topics. Please follow the link here for the latest Webinar information.
	Lunch and Learn Sessions	Your local ASCO Sales Office can host these one-hour lunch sessions. Please contact them for further information.
	Professional Development Courses	ASCO offers a full suite of product training courses that award either CEU or PDH credits.
	E-learning	ASCO and Schneider's extensive online training program is available for EGD's through the EGD Partners Portal site.

EGDs can learn more about training opportunities [here](#).

DOING BUSINESS WITH ASCO

Selecting, Quoting and Ordering Products

Products from ASCO's SERIES 300 Transfer Switch Line-Up are among the products EGDs order most often. To streamline the entire procurement process for SERIES 300 devices, ASCO created the [MyQuotes](#) ordering portal for EGD Partner Program participants. The portal provides (1) summary descriptions of 300 SERIES products; (2) links to associated product data sheets, product drawings, example project specifications, and warranty documents; and (3) a tool for quoting prices and ordering select SERIES 300 products from ASCO directly.

Information about the entire range of ASCO transfer switches, power control systems, power monitoring and more can be found through the company's public website at <https://www.se.com/us/en/brands/ascopower/> and on our partner program extranet at [MyASCOPower.com](#). There, EGDs can find digital binders, product data sheets, product drawings, example project specifications, and warranty documents for all ASCO products. All products not presented in MyQuotes must be ordered through a local ASCO sales office.

GETTING SUPPORT FROM ASCO

ASCO provides EGDs with the best support and resources in the critical power equipment industry. To make it easier for EGDs to transact business successfully, ASCO offers support throughout the product life cycle. Our EGD support for marketing, sales, technical issues, project management, and warranty issues is described in the following sections.

Sales Support

ASCO's sales organization is available to assist EGDs with all aspects of product sales. When questions go beyond website resources, local ASCO sales offices can provide EGDs with support for product information, pricing, quotations, ordering, and product tracking.

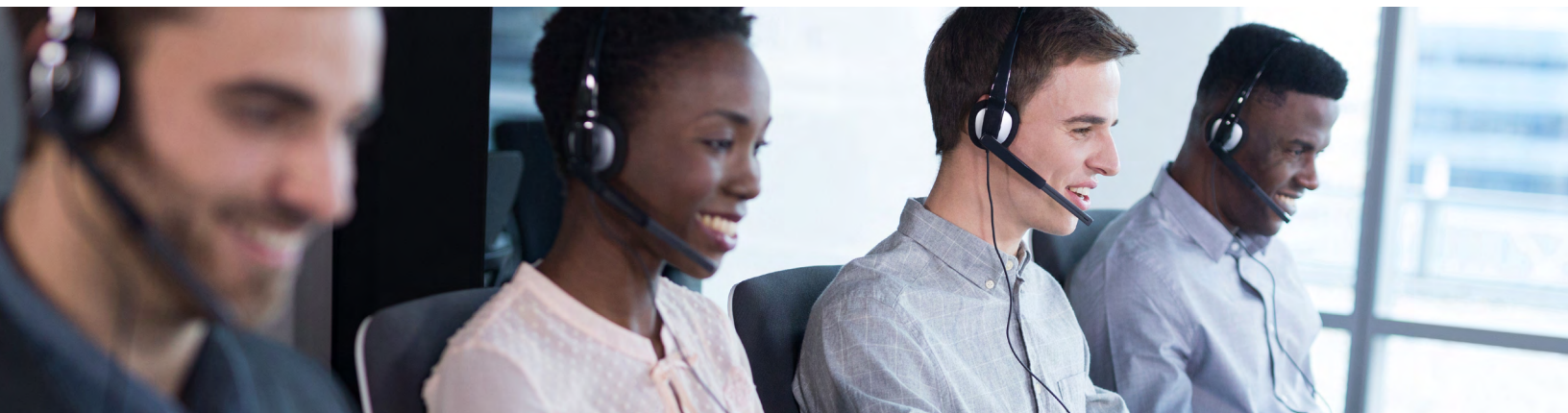
Marketing Support

The ASCO Global Marketing Group provides comprehensive marketing resources for marketing ASCO products and services. Support can be obtained in the following ways:

- **Marketing and Sales Literature:** Documents about product and service offers can be viewed and downloaded from the ASCO public [website](#) or through [MyASCOPower.com](#). In addition, EGDs can have our sales teams use our Print-on-Demand services to order sales collateral.
- **White Paper Library:** ASCO White Papers explain critical power concepts and solutions. These educational documents can be viewed and downloaded [here](#).

Technical Support

EGDs can obtain technical support directly from ASCO by contacting our Customer Care Center. The Center provides 24x7 support for troubleshooting ASCO equipment, updating software and firmware, and escalating complex technical issues. EGDs can access the Customer Care Center by calling the following support numbers:



ASCO CUSTOMER CARE CENTER	Telephone Number
Available 24 Hours a day	1 (800) 800-ASCO (2726)
Switch Emergencies or to Schedule a Service Call	Press #1
If you have an Existing Case Number	Press #2
For Technical Support	Press #3
For Sales Support	Press #4
For Warranty Information	Press #5
Regarding Accounts Receivable	Press #6
All Other Inquiries	Press #7

HOW TO PARTICIPATE IN OUR PROGRAM

EGD Enrollment

Equipment dealers should contact their local ASCO sales representative to enroll in the EGD Partner Program. Below are the requirements:

- EGD Partners must sign a Non-Disclosure Agreement with ASCO Power Technologies.
- EGD Partners and ASCO Power Technologies must establish sales targets for the EGD.
- The EGD must enter at least 60% of their 300 SERIES Product Offer orders quantity through the MyQuotes online portal.

APPENDIX A: TERMS, CONDITIONS, AND POLICIES

General Conditions of Sale

Transactions for products sold by ASCO Power, including all sales to EGDs in ASCO's EGD Partner Program, are subject to the published Terms and Conditions of Sale of ASCO Power in effect at the time of the sale, which may be contained in applicable ASCO quotations and acknowledgments. By participating in ASCO's EGD Partner Program, the EGD consents to the applicability of ASCO's Terms and Conditions of Sale, which are subject to change.

Access ASCO Power's current Terms and Conditions of Sale [here](#).

Return Policy

ASCO Return Policy:	
a)	No equipment may be returned without first obtaining permission from ASCO.
b)	Returned equipment must be of current manufacture, in the original packaging, unused, undamaged and in saleable condition, with RMA # and RMA Packing List attached to the return.
c)	Any cost incurred by ASCO to put equipment in saleable condition will be charged to the Purchaser.
d)	Returned items will be credited at the price invoiced by ASCO less a restocking fee of 25% of the invoice price. G Frame and all 7000 SERIES products are not returnable unless approved.
e)	Returns are limited to within 90 days of shipment.
f)	Original and return freight costs will be the responsibility of the Purchaser.
g)	PCS is not eligible for Return.

Cancellation Policy

All Cancellation or Return Requests must be made to ASCO in writing, referring Order number, Catalog number, and Order Value.

All products (including PCS) are subject to the following cancellation schedule:

- 20% after issuance of approval drawings
- 50% after release to manufacturing
- 100% after start of fabrication

About ASCO Power Technologies

ASCO Power Technologies has provided power reliability solutions for more than 125 years. As part of Schneider Electric, ASCO Power offers industry-leading power source and load management solutions that maximize resilience and sustainability to solve emerging power challenges. The firm designs, manufactures, services, and supports automatic transfer switches, power control equipment, and critical power management appliances. ASCO products serve mission-critical functions in data centers, healthcare facilities, telecommunication networks, commercial buildings, and industrial operations.

About Schneider Electric

Schneider Electric is leading the Digital Transformation of Energy Management and Automation in Homes, Buildings, Data Centers, Infrastructure, and Industries. With global presence in over 100 countries, Schneider is the undisputable leader in Power Management – Medium Voltage, Low Voltage and Secure Power, and in Automation Systems. We provide integrated efficiency solutions, combining energy, automation, and software. We believe that great people and partners make Schneider a great company and that our commitment to Innovation, Diversity and Sustainability ensures that Life Is On everywhere, for everyone and at every moment.

100 years of **IMPACT** with power source switching and controls



1st

Automatic Transfer
Switch in the Industry



2M+

Install Base



117

US Patents



30+

Compliance Codes
and Standards



1200+

Dedicated
professionals



60+ countries

Global Presence



Life Is On



ASCO Power Technologies - Global Headquarters

160 Park Avenue
Florham Park, NJ 07932
Tel: 800 800 ASCO

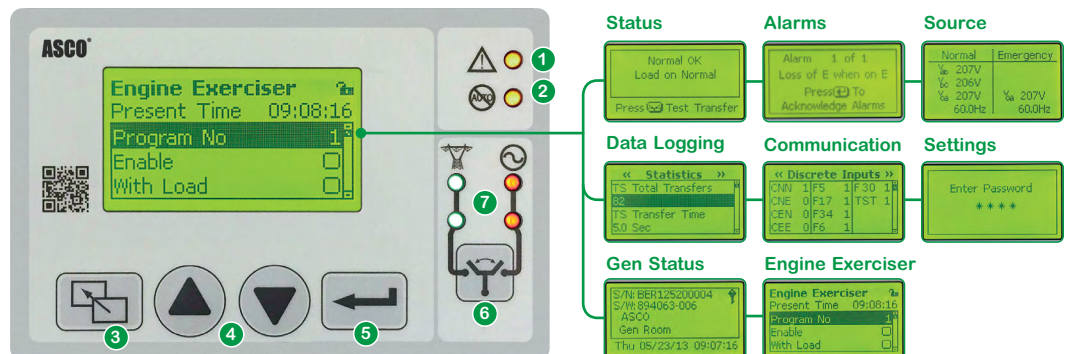
[www.se.com/us/en/brands/ascopower/
customer care@ascopower.com](http://www.se.com/us/en/brands/ascopower/customer care@ascopower.com)

Upgrade the Performance of your ASCO SERIES 300 Power Transfer Switches.



Group G Features

- 1 Common Alarm
- 2 Not In Auto Indicator
- 3 Escape Key
- 4 Scroll, Up/Down Arrows
- 5 Enter Key
- 6 Transfer Test/Time Delay Override control push-button
- 7 LED Source Availability and Switch Position Indicators



- Easy to navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not in auto, and alert condition.
- Statistical ATS system monitoring information.
- Standard engine exerciser to automatically test backup generator each week, with or without load 20 minutes, not adjustable.
- Controller and feature settings are adjustable without opening enclosure door.
- Integrated multi-lingual User Interface for configuration and monitoring.
- Password protection to prevent unauthorized tampering of settings or controls.

Group G upgrades require minimal downtime.

For a relatively small investment, older transfer switching equipment with properly maintained electromechanical infrastructure can be upgraded to take advantage of advanced control functionality and extend transfer switch life.

The Group G upgrade kit will accommodate legacy products and incorporate a user interface and display similar to that of the Group G Controller. The kit was designed to be mounted to the same mounting enclosure door studs and the user interface and display to fit in the same enclosure cut out as the Group 1 user interface.

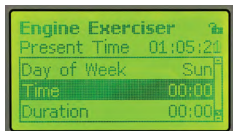


Group G Upgrade Kit
User Interface and Display

ASCO SERIES 300 Transfer Switch Controller Comparison

Features	Group 1	Group G
128 x 64 Graphical Display		✓
User Interface - Key Pad		✓
Door Mounted Source Available & ATS Position	✓	✓
Real Time Engine Exerciser		✓
Real Time Clock		✓
Historical Event Log		Optional (Acc. 11BE)
System Status Screen		✓
Adjustable Settings & Features without Opening Door		✓
ATS Statistics & Diagnosis		✓
Common Alarm Indicator		✓
Not In Auto Indicator		✓
RS 485 Communications	Optional	Optional
Ethernet Communications	Optional (Acc. 72E - 1 Port)	Optional (Acc. 72EE - 4 Ports)
Modbus RTU or TCP/IP		Optional
Remote Transfer Capability over the Internet		Optional (Acc. 72EE)
Source Availability Contacts		Optional (Acc. 18RX)
Power Meter		Optional
One Controller for 208 - 480 Nominal Voltage		✓

Optional accessories now available with Group G



Accessory 11BE

An enhanced, fully programmable engine exerciser with seven independent routines to exercise the engine generator; event log and RS 485 communication port.



Accessory 1UP

This feature allows controller to run for three minutes minimum without AC Power, includes ribbon cable connector. Recommended when communication options are selected.



Accessory 23GA/GB

Load current metering card measures either single (23GA) or three (23GB) phase load current. Includes current transformers (CT's) and shorting block. Parameters can be viewed via the user interface screen.



Accessory 72EE

Connectivity module offers remote monitoring of ATS via ethernet, WiFi or cellular connection. Once connected, the dashboards can easily be retrieved by any mobile or desktop device on the network by multiple users.



Accessory 18RX

Relay expansion module (REX) provides for some commonly used accessory relays, includes one form C contact for source availability of normal (18G), and one form C contact for availability of emergency (18B). Additional output relay is provided, the default is to indicate a common alarm.

Group G Upgrades includes:

- Group G Controller
- Controller Set Up
- New ATS Product Identification Label
- Installation
- Complete ATS Functional Test



Standard designs for commercial and light industrial facilities that are simple to procure, install, and commission.

Value Prop:

ASCO Transfer Switches make backup power possible. They enhance power availability by transferring electrical loads to alternate sources of power. From simple backup solutions to mission-critical facilities, transfer switches connect backup power to enhance safety and sustain operations.

Questions to Ask:

- Do you have a Generator?
- If so, do you have an existing switch?
- How old it is?
- Can we look at it?
- If yes, and in need of a Transfer Switch, ask the following:
Service Entrance, Non-Service Entrance, amperage, voltage, enclosure type, number of switched poles, open, closed or delayed transition, start up required?

Typical Applications

- Reliably transfer loads between two or more power sources
- Service and maintain equipment without disrupting power to loads
- Reduce equipment space requirements
- Transfer loads without impacting downstream equipment
- Add capability for a “backup-to-the-backup”



- Outpatient Healthcare Facilities
- Small & Midsize Businesses
- Light Industrial Applications
- Integrated & Stand-Alone Quick Connects

[ASCO Transfer Switch Overview Download](#)

Transfer switch models differ by type of operation:



Automatic

Automatic models switch loads to emergency power and back again whenever outages occur, without human intervention.



Non-Automatic

Non-Automatic models use operator initiated, local or remote electrical controls to transfer loads on command.



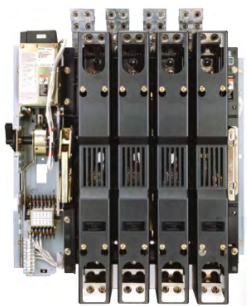
Manual

The simplest type, manual transfer switches require a person to operate a mechanical switching mechanism

Transfer Switch Components

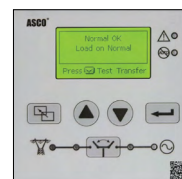
1 Enclosure

Available in a range of UL-rated types, rugged enclosures protect equipment and ensure promote reliability for a variety of indoor and outdoor environments.



2 Transfer Mechanism

Electrically operated and mechanically held, solenoid-powered operating mechanisms reliably transfer load quickly for even the most demanding applications



3 Controller

Electronic controller stores operating criteria, senses electrical conditions, executes transfer sequences, and tracks operational data.



4 Communications & Metering

From simple indicators to remote annunciators, from real-time monitoring and control to interfacing building automation systems, communication features increase usability and system reliability.

[ASCO Digital Binder Download](#)

Accessories	Part No.	Description
1UP	935149	Provides internal ride-through power for the controller to ensure consistent communication while awaiting generator start up
18RX	935148	Provides dry contact outputs to signal the acceptability of each source
11BE	935147	Bundle provides RS-485 Serial Modbus Comms, Advanced Engineer Exerciser Scheduler, 300 Entry Historical Event Log, Alarm Output
72EE	948551	Provides Ethernet communication module that allows for remote monitoring via a built webpage, Modbus TCP, SNMP, or email alerts
44G	K613127-003	Provides internally powered strip heater to prevent condensation 208V - 399V
44G	K613127-002	Provides internally powered strip heater to prevent condensation 400V - 600V
125A	125A	Request at bid - Seismic Rating
135L	135L - Power Meter 5210	Request at bid - 5210 Power Meter added to load side of switch which displays current, power, energy, and THD

Power Source Switching and Control

Common Applications

ASCO 300 Series Open Type Transfer Switch

Open-style transfer switch designed for seamless integration into existing enclosures. Available in 2-4 poles with ampacity sizes from 30 through 3000 Amperes, making it ideal for retrofit applications. Includes Group G controller (K894000-002), pre-wired harness with plug, and installation instructions. Requires door modification if upgrading from legacy models without the Group G panel. Reliable switching performance in a compact, open configuration.



ASCO 300 Series Quick Connect with Breakers

Reliable and ready for rapid generator connection, this panel integrates overcurrent protection for safe, code-compliant backup power. Rated from 150 to 4000 Amps, it supports both input (generator) and output (load bank) configurations. UL 1008/UL 891 listed, with standard cam-locks, weatherproof NEMA 3R enclosures, and options for stainless steel. Ideal for NEC 700.3 compliance and critical infrastructure support



ASCO 300 Series Manual Transfer Quick Connects

Manual transfer switch with quick-connects for fast generator hookup. Rated for 120–600 VAC and 150–1200 Amps, with multiple breaker configurations (utility, generator, or both). UL 1008 listed and available in NEMA 1–4X enclosures. Ideal for temporary power, load bank testing, and maintenance support.



ASCO 300 Series Automatic Transfer Switch

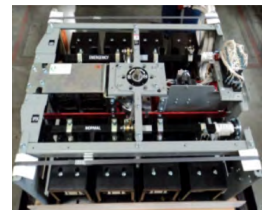
Automatic transfer switch for commercial and light industrial use. Rated for 120–600 VAC and 30–3000 Amps, with 2–4 poles and NEMA 1–4X enclosures. Features a graphical LCD, LED indicators, and single-solenoid operation. UL 1008 and NFPA 110 compliant—ideal for healthcare, telecom, and retail facilities.



Data Center & Custom Applications

ASCO 7000 Series Open Type Transfer Switch

High-speed transfer of loads between alternate sources of power, regardless of ampacity size, is achieved by a reliable, field-proven solenoid operating mechanism. When combined with a programmable microprocessor controller with keypad and LCD display, they offer the most advanced method of transferring all types of loads, such as motors, electronic drives, UPS's and microprocessor-based systems. Available in ampacity sizes from 30 through 4000 Amperes with the largest selection of optional accessories offered anywhere.



ASCO 7000 Series Bypass Isolation Transfer Switch

Provides uninterrupted power during maintenance with bypass and isolation features. Rated from 150 to 4000 Amps, it supports open, closed, and delayed transitions. Includes heavy-duty interlocks, draw-out ATS design, and quick-make, quick-break bypass operation. Simple two-handle control with mechanical indicators. Available in shallow-depth designs for 800–1200A.



Power Source Switching and Control

ASCO 7000 Series Power Transfer Switch

High-performance switch for critical power applications, offering automatic or manual control with open, closed, or delayed transition modes. Rated up to 600 VAC and 30–4000 Amps, with solid, switched, or overlapping neutral options. Features include a solenoid operator, programmable microprocessor controller, LED indicators, front-replaceable contacts, and remote communication capability. UL 1008, CSA, and IEC certified.



ASCO Custom Transfer Switches

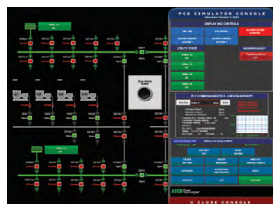
Engineered for unique site requirements, ASCO Custom Transfer Switches offer tailored solutions up to 4000 Amps. Options include dual ATS switchboards, service entrance-rated systems, and three-source configurations. UL 1008 listed, and CSA certified, with integrated breakers, metering, and protective relays—ideal for complex power setups in healthcare, utilities, and industrial facilities.



Software & Controls

7000 SERIES Power Control System Simulator

Portable simulator for training and testing power control systems. Simulates generator paralleling, load transfer, and alarms without live equipment. Features a touchscreen HMI, Ethernet/serial ports, and standard 120V AC input—ideal for operator training, demos, and system validation.



Critical Power Management Appliance: Gateways, Servers, and Annunciators

Advanced monitoring and control system for critical power infrastructure. Provides equipment status, alarms, event logs, and system reports. Offers remote access and integration to third-party BMS or SCADA systems, making it ideal for hospitals, data centers, and other critical facilities.



Accessories

ASCO 5140 and 5170 Quad-Ethernet Modules (Acc. 72EE, 72EE2)

ASCO 5140 Quad Ethernet Module ASCO Power Technologies Remotely Monitor and Control ASCO Transfer Switches Enhances connectivity for ASCO transfer switches with four 10/100 Mbps Ethernet ports. Supports remote monitoring, control, event logging, and alarms via embedded web dashboards, Modbus TCP/IP, and SNMP. Includes AES 128-bit security, email alerts, and stores up to 300 events, ideal for facilities needing secure, real-time power system access.

- Series 300 Model 5140 Accessory 72EE (compatible with Group G controllers)
- Series 7000 Model 5170 Accessory 72EE2 (compatible with Group 5 controllers)



ASCO 5310 and 5350 LED Remote Annunciators

Compact monitoring units for 1-8 ASCO transfer switches. Offers LED status indicators, remote transfer control, and alarm logging, and is ideal for centralized monitoring in healthcare, data centers, and industrial sites. Available in flush or surface mount and supports 120-240V AC or 24V DC input with two Ethernet ports and Modbus TCP/IP.

- ASCO 5310 - 1-CH Remote Annunciator
- ASCO 5350 - 8-CH Remote Annunciator.





Build the future of Critical Power infrastructure in America with ASCO Power Technologies

Products and solutions that fall under the Buy America umbrella must be made in the U.S. or another approved country. ASCO Power's Critical Power experts will work with you to choose compliant critical power products for your industry.

See the list of ASCO Power products that comply with Build America, Buy America, (BABA) Buy American Act, (BAA) and Trade Agreement Act (TAA) on this page.



Product Page
**Automatic Transfer
Switches**



Product Page
**Paralleling
Switchgear**



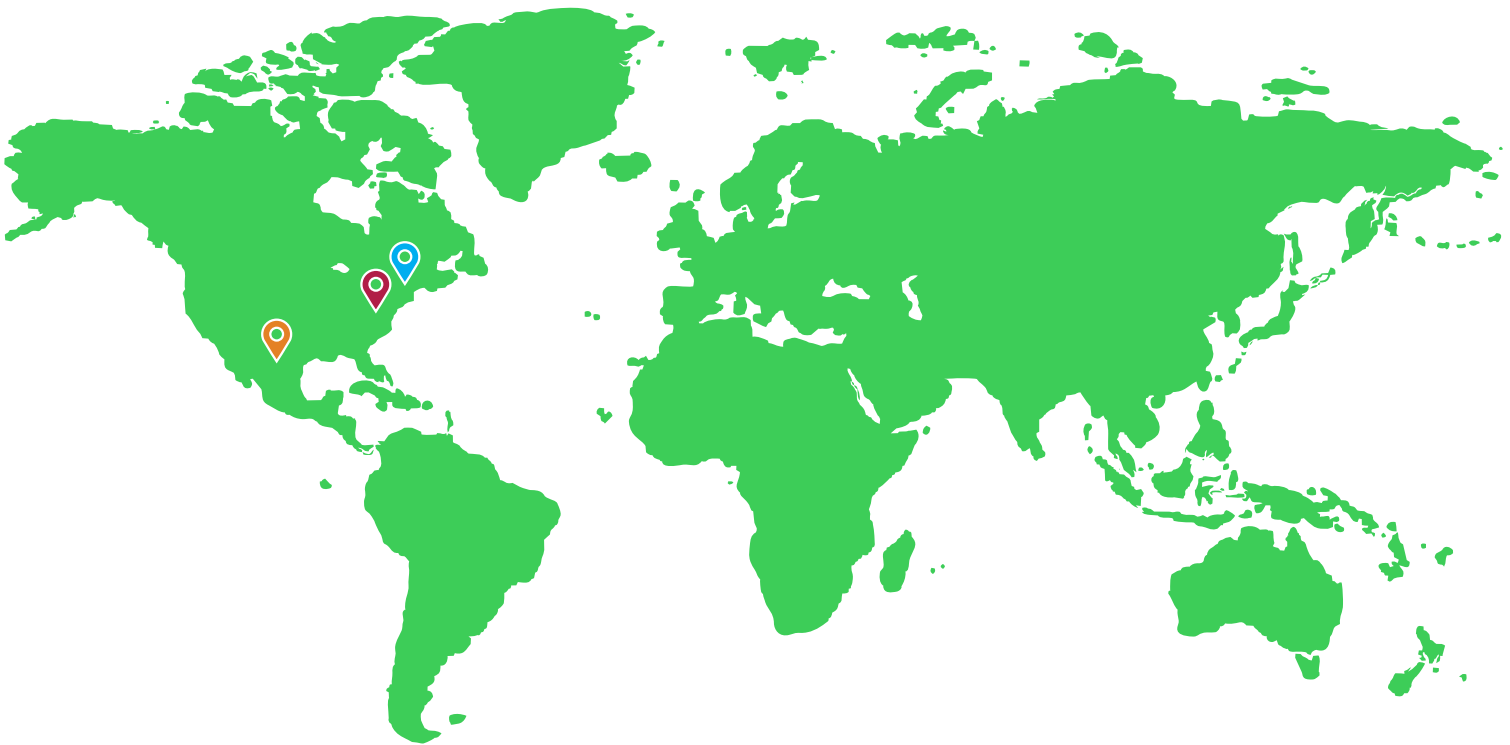
Product Page
**Load and Engine
Monitoring Products**

"A century of manufacturing and mission-critical know-how made ASCO the go-to source for emergency power applications. Our newest innovations and investments will streamline Made-In-America compliance for the designers, distributors, contractors, and end-users who will drive facilities to succeed."

~ Michael Quinn, SVP, Power Products US & ASCO

Life Is On

Schneider
Electric

**Florham Park, New Jersey**

253,000 Sq. Ft. Facility housing

- Global R & D
- New Product Introduction
- ASCO Power Services Headquarters
- Communications & Monitoring Engineering (CAM)

**Welcome, North Carolina**

300,000 Sq. Ft. Facility housing

- Complete fabrication with Punch, Bend, Weld, Paint, and other processes
- Assembly of High Amperage and Complex Transfer Switches, Bypass-Isolation Switches, Power Control Systems, and Medium Voltage Switches

**Reynosa, Mexico/McAllen, Texas**

120,000 Sq. Ft. Facility housing

- Standard and Low Amp Transfer Switches



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