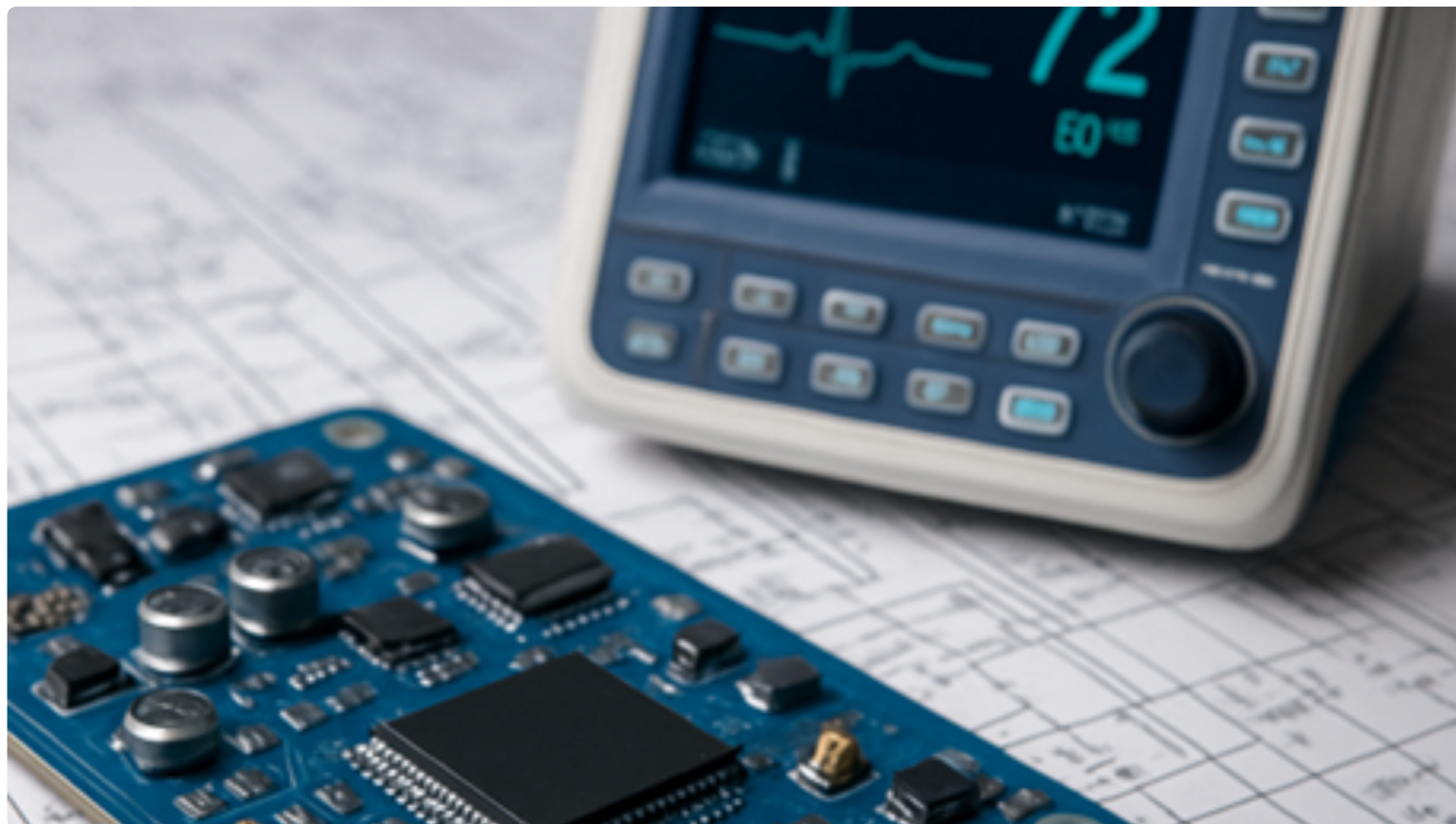


Design & Engineering > [Electrical](#)

Design & Engineering: Electrical

SCROLL TO: [Schematic and PCB Design](#) [High Speed Digital Electronics](#) [Precision Analog Circuit Design](#) [RF Design](#) [Cables and Interconnects](#) [Motion and Control Systems](#)

[Battery and Power Management](#) [EMI and Safety Compliance](#)



Electrical Engineering and PCB Design: Electronics Design at the Heart of Product Development

Our electrical engineering team designs custom electronics for medical devices and other complex systems, with expertise spanning analog, digital, and power electronics. We support the full development lifecycle—from circuit design and schematic capture to PCB layout, prototyping, integration, and test—working closely with mechanical, software, and systems engineers to deliver reliable, manufacturable hardware optimized for reliable product performance and regulatory compliance.

Schematic and PCB Design

Circuit Design

Schematic Capture

Component Selection

Wiring and Cables

PCB Layout

High Speed Digital Electronics

High-speed embedded processors

FPGA and SoC interfaces

DDR2/3/4/5 and LPDDR memory subsystems

USB2.0/3.x, PCIe Gen1-4, and Ethernet up to 10G

HDMI, MIPI, LVDS, and other video/data links

Precision Analog Circuit Design

Low Noise Instrumentation

Signal Conditioning

Analog Front-end Design

Active and Passive Filtering

Sensors and Sensor Interfaces

High-resolution ACD/DAC Integration

Medically Isolated and Safety-rated Circuits

RF Design

Wireless Communications

Medical RF Applications

RF Generation and Control

Load Sensing

Coexistence Mitigation

Isolation and Patient Safety

Thermal Management

Cables and Interconnects

High Speed Interconnects

Shielded and Twisted Pair

RF Coaxial

Flat Flex Design (FFC and FPC)

Wire Harness

High Power

Ruggedized Connectors

Motion and Control Systems

DC and Brushless DC Motors

Stepper Motors

Servos

Linear Actuators

Sensor Integration

Closed Loop Controls

Battery and Power Management

Battery Selection (Li-ion, LiPo, LiFePO4, NiMH, Alkaline)

Portable Devices

Wearables

Low Power and Sleep Modes

Wearables

Battery Management and Protection

Battery Charging

Regulatory Considerations (IEC 62133, UN 38.3, IEC 60601-1, transport safety)

EMI and Safety Compliance

IEC 60601-1

IEC 60601-1-2

FCC and CISPR 11

IEC 61010

FDA, CE, and CB Scheme

NRTL Collaboration

Compliance Test Plans

UL Standards

Learn more about our additional product engineering capabilities

DESIGN & ENGINEERING ([HTTPS://WWW.ENERCONTECHNOLOGIES.COM/ENGINEERING/](https://www.enercontechnologies.com/engineering/))

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