



SPECTRA
CIRCUITS
— HIGH - SPEED DESIGN. PRECISELY ENGINEERED. —

ENGINEERING INTELLIGENT SOLUTIONS.

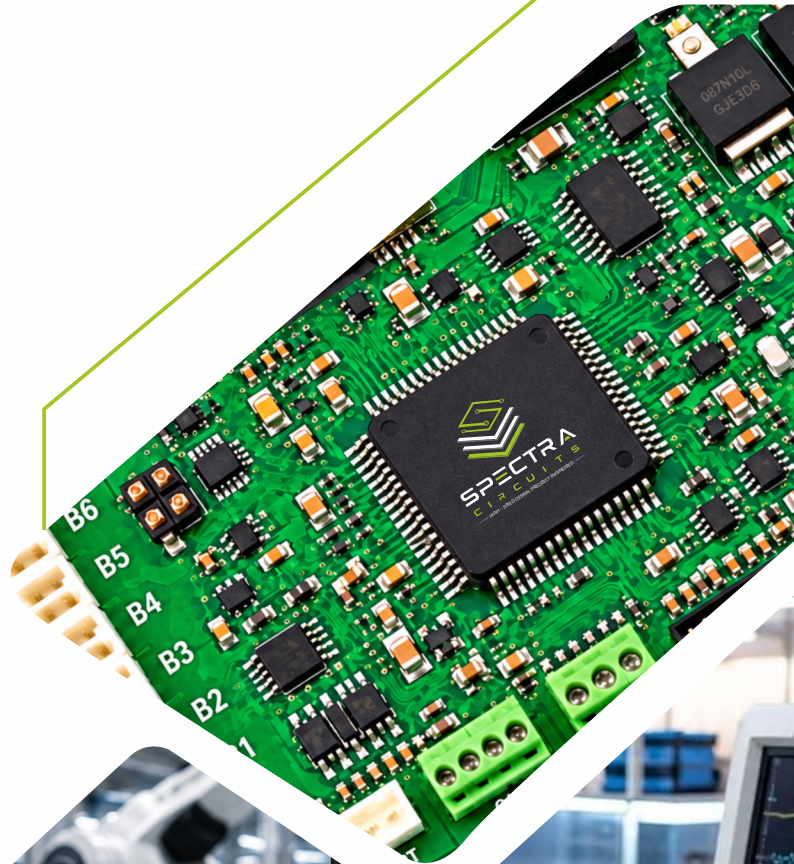
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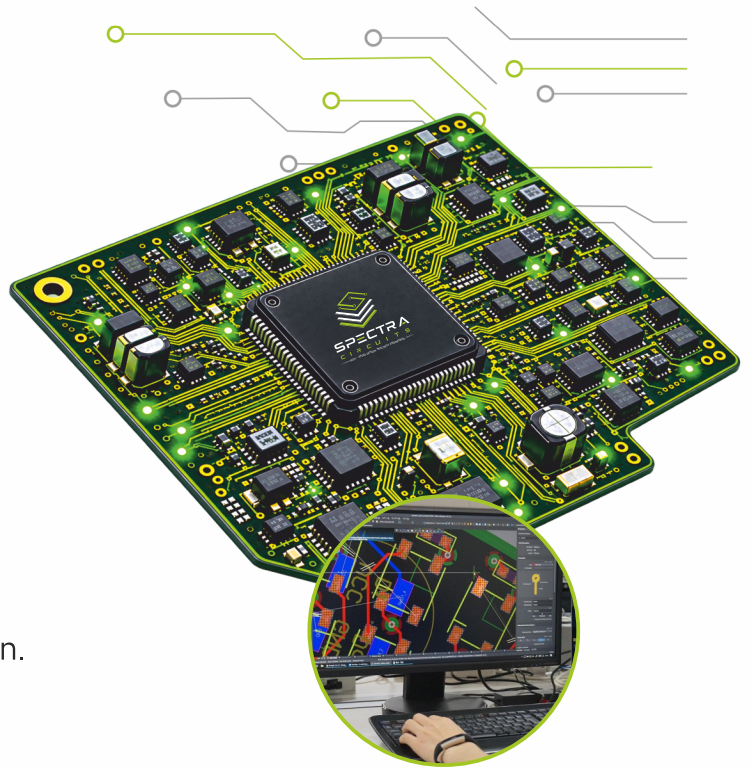
📷 @spectra_circuits



PCB DESIGN

High-Performance Design.
Production-Ready Results.

We design reliable, high-speed PCB that balance performance, signal integrity and manufacturability from concept to fabrication.



KEY FEATURES :



SCHEMATIC
DESIGN



MULTI-LAYER
PCB DESIGN



HIGH-SPEED
PCB DESIGN



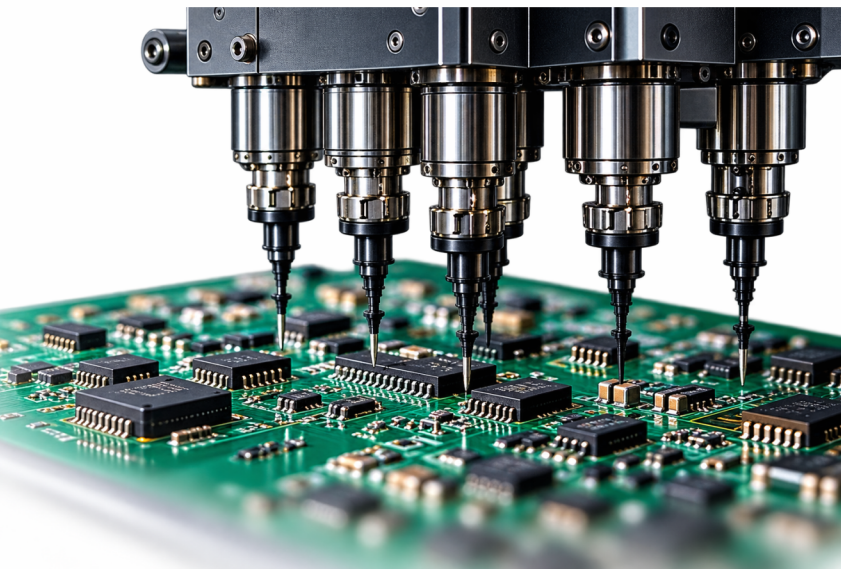
SIGNAL INTEGRITY
(SI/PI)



DFM/DFA
OPTIMIZATION



CONTROLLED
IMPEDANCE

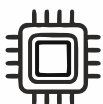


PCB ASSEMBLY

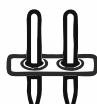
Precision Assembly.
Reliable Performance.

We provide high-quality PCB assembly services with advanced SMT technology, strict quality control and on-time delivery for prototypes to mass production.

KEY FEATURES :



SMT
ASSEMBLY



THROUGH HOLE
ASSEMBLY



MIXED TECHNOLOGY
ASSEMBLY



PROTOTYPE
ASSEMBLY



ROHS
COMPLIANT



FUNCTIONAL
TESTING

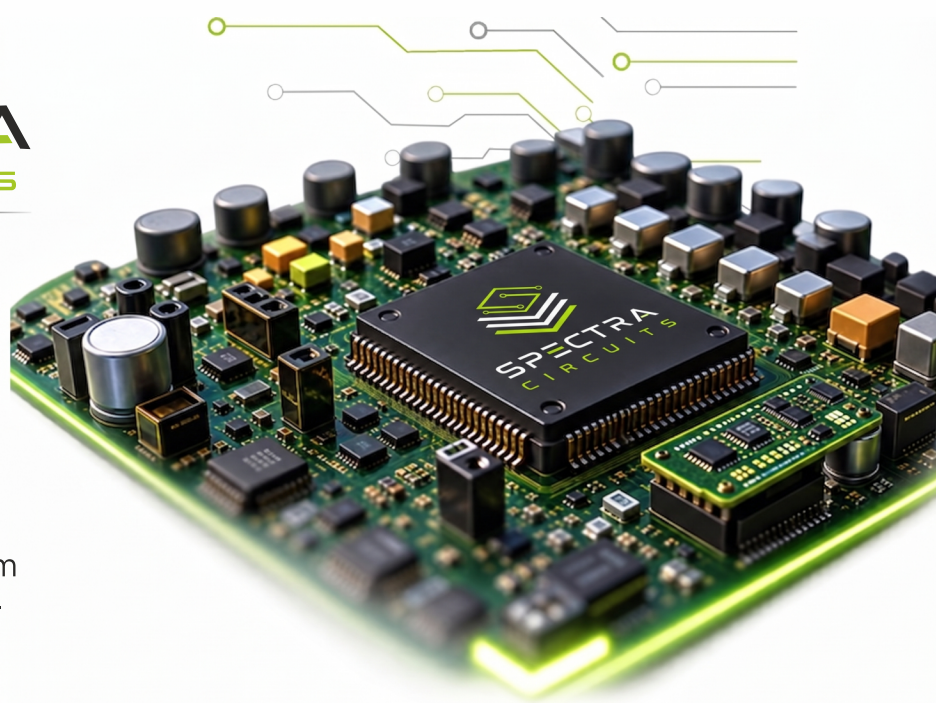


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03

EMBEDDED SYSTEM DEVELOPMENT.

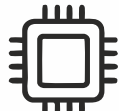
End-to-end product development from concept to production-ready system - combining robust hardware design with efficient firmware and driver development.



KEY FEATURES:



CONCEPT &
ARCHITECTURE



HARDWARE
DESIGN



FIRMWARE &
DRIVER DEV.



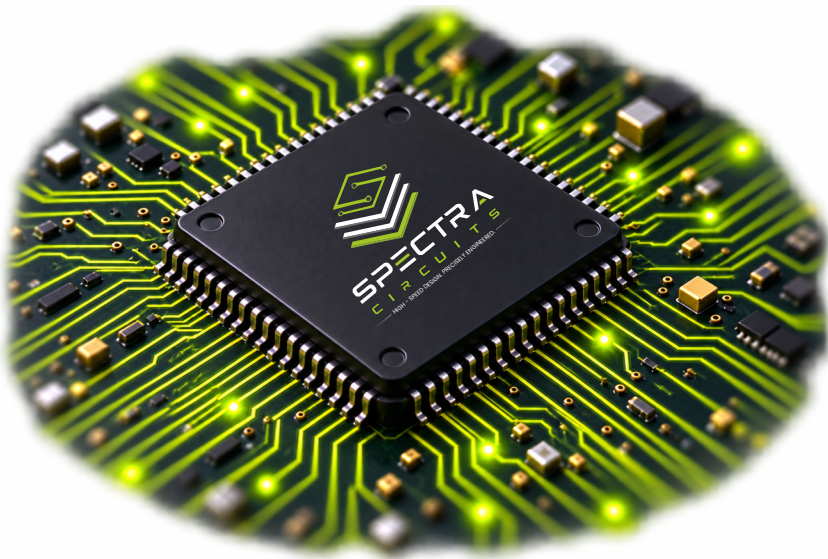
INTEGRATION &
BRING-UP



TESTING &
VALIDATION



PRODUCTION
SUPPORT



04

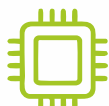
FIRMWARE DEVELOPMENT.

Application layer programming with optimized performance, reliability and security for intelligent embedded systems.

KEY FEATURES:



APPLICATION
PROGRAMMING



RTOS/
BARE-METAL



DRIVER
DEVELOPMENT



RELIABILITY &
SECURITY



OTA & REMOTE
UPDATES



PERFORMANCE
OPTIMIZATION



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05

IoT & CONNECTIVITY SOLUTIONS.

Connected devices, intelligent gateways and cloud dashboards - we turn field data into real-time insights you can act on.



KEY FETURES :



FIELD DEVICES &
DATA ACQUISITION



CONNECTIVITY &
GATEWAYS



CLOUD & DATA
MANAGEMENT



WEB PORTAL
& ALERTS



SECURITY &
RELIABILITY



DEPLOYMENT &
SUPPORT



06

INTEGRATION & COMPONENTS.

We integrate hardware, controllers, I/O modules and industrial devices into a unified system -using our own products and best-in-class components for reliable performance.

KEY FETURES :



MULTI-DEVICE
INTEGRATION



OWN & THIRD-PARTY
HARDWARE



PROTOCOL &
SYSTEM BRIDGING



PANEL & SYSTEM
INTEGRATION



CUSTOM INTERFACES
& ADAPTATION

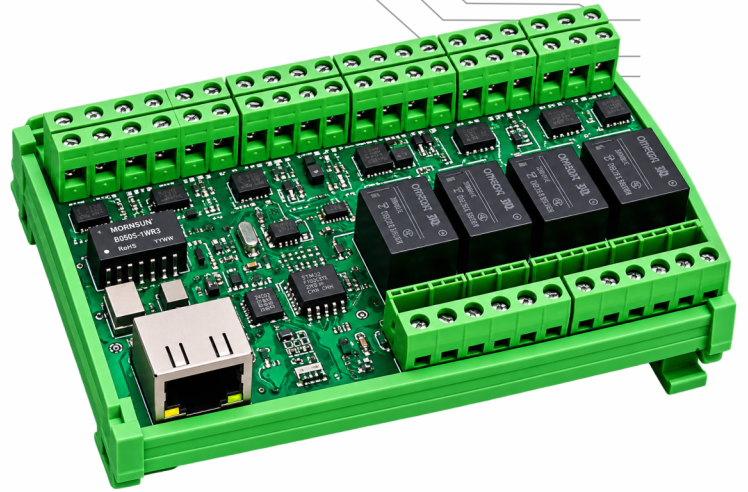


SUPPORT &
MAINTENANCE

OUR UPCOMING PRODUCT

I/O CARD.

Versatile I/O module for seamless integration with controllers and industrial systems.



KEY FEATURES:



FLEXIBLE I/O
OPTIONS



ISOLATION
PROTECTION



RS485/MODBUS
SUPPORT



DIN-RAIL
MOUNT DESIGN



WIDE POWER
INPUT RANGE



RELIABLE &
INDUSTRIAL GRADE



IOT GATEWAY.

Industrial IOT Gateway for secure connectivity, edge intelligence and remote management.

KEY FEATURES:



MULTI-PROTOCOL
CONNECTIVITY



EDGE DATA
MANAGEMENT



REMOTE ACCESS &
MANAGEMENT



SECURE & RELIABLE
CONNECTIVITY



INDUSTRIAL
INTEGRATION



WIDE POWER
INPUT RANGE

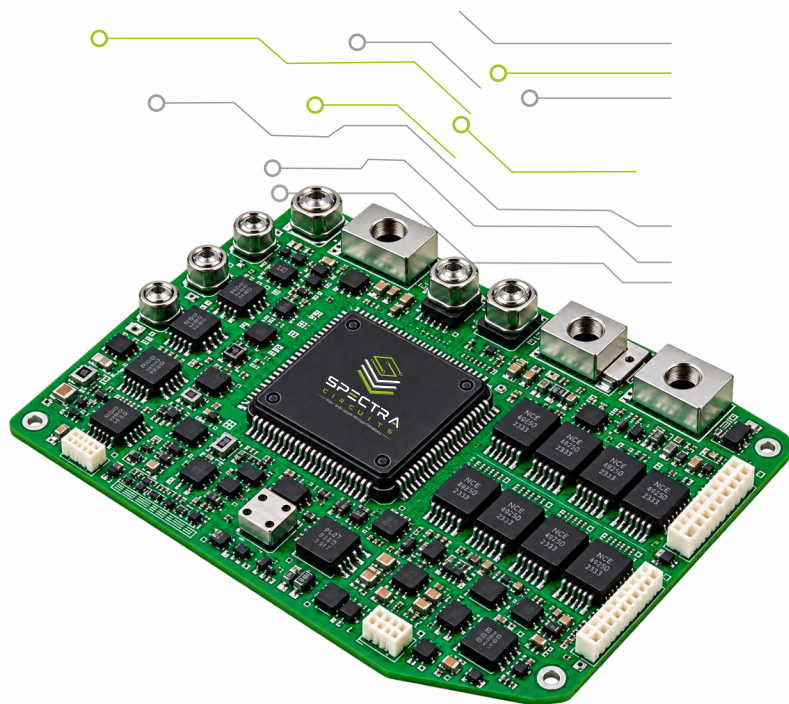


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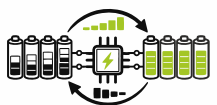
03

INDUSTRIAL BATTERY MANAGEMENT SYSTEM (BMS)

SMART SAFE RELIABLE
POWERING THE FUTURE.



KEY FEATURES:



ACTIVE / PASSIVE
CELL BALANCING



REAL-TIME SOC &
SOH ESTIMATION



CAN/RS485/UART
COMMUNICATION



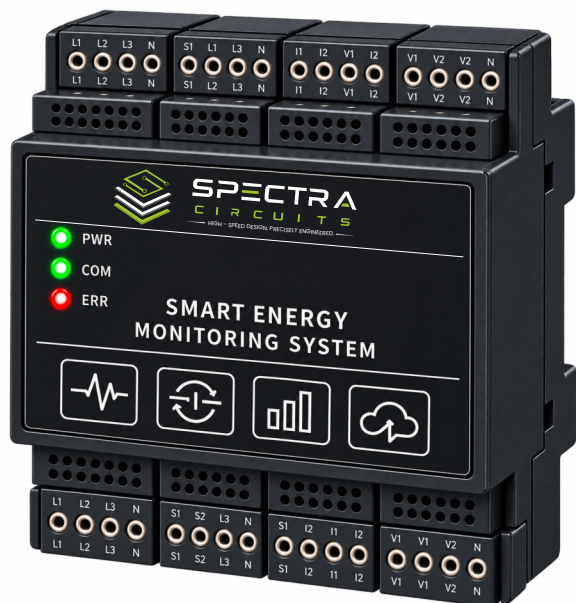
IOT CONNECTIVITY
(WIFI/4G/BLE)



TEMPERATURE
MONITORING (NTC)



SHORT CIRCUIT
PROTECTION



SMART ENERGY MONITORING SYSTEM

ACCURATE INTELLIGENT
CONNECTED.

KEY FEATURES:



REAL-TIME DATA
MONITORING



ENERGY DASHBOARD
(WEB/MOBILE)



ALARM & EVENT
NOTIFICATION



CLOUD
INTEGRATION



EXPORT DATA
(CSV/EXCEL)



EASY
CONFIGURATION



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05

INDUSTRIAL MASTER CONTROLLER

SMART RELIABLE CONNECTED.



KEY FETURES:



POWERFUL
PERFORMANCE



INDUSTRIAL
RELIABILITY



MULTIPLE
CONNECTIVITY



EASY
INTEGRATION



06

MULTI-VALVE WATER CONTROLLER

SMARTER WATER MANAGEMENT
MAXIMUM EFFICIENCY.

KEY FETURES:



MULTI-VALVE
CONTROL



TANK LEVEL
MONITORING



FLOW
MONITORING



PRESSURE
MONITORING



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THANK YOU FOR CHOOSING SPECTRA CIRCUITS.

Engineering Intelligent Solutions
for a Smarter Tomorrow.

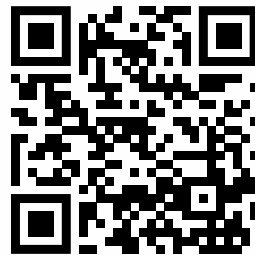
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SCAN TO VISIT
OUR WEBSITE