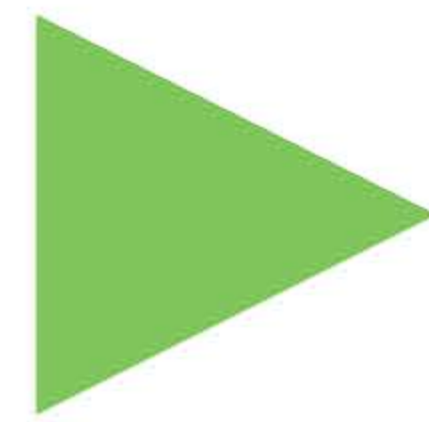


INS_SBC1600

Single Board Computer

Arm® 32-bit Cortex®-M4

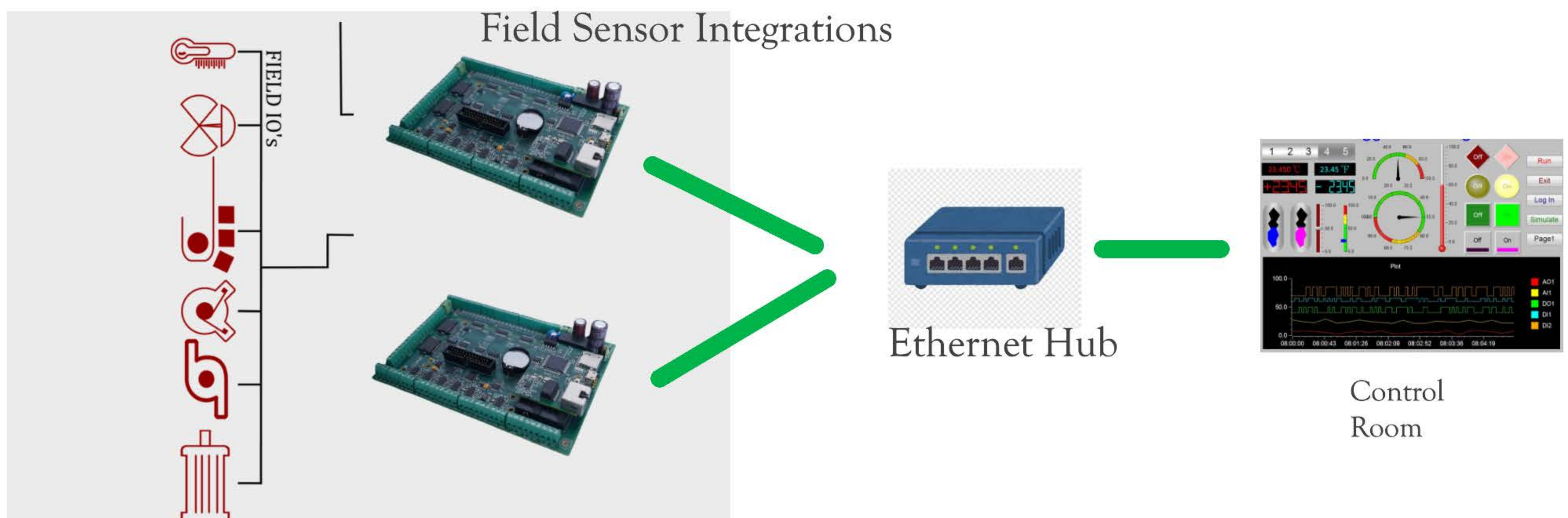


Instrutel pioneers the design and manufacturing of high-performance embedded controllers tailored for demanding industrial environments. Our Rapid Field Deploy Industrial Systems (RFDIS) category is specifically engineered to empower system builders with immediate field readiness. By leveraging our pre-engineered modular products, OEMs can configure, build, and deploy systems with unmatched speed and minimal turnaround time.

The INS_SBC1600 series is a high-performance industrial controller designed for precision automation and data acquisition. Powered by an Arm® 32-bit Cortex®-M4 MicroController, it combines robust processing with extensive field-isolated I/O to ensure reliable performance in demanding environments.

Applications

- > Automation and Packaging OEMs : Using its 24 digital inputs and 16 digital outputs for controlling machinery and monitoring sensors.
- > Precision Data Acquisition: Leveraging the 16-channel, 24-bit ADC (Analog-to-Digital Converter) for high-accuracy measurement of voltage signals (0-10V).
- > Motion Control: Utilizing the 8-channel encoder provision and PWM outputs to manage motor speeds and positions.
- > Remote Monitoring (IoT): Using the 10/100 Ethernet MAC and real-time clock for logging data and communicating with centralized servers.
- > Environmental Control Systems: Managing HVAC or greenhouse systems via its 8 analog outputs and isolated serial communication ports.



INS_SBC1600

Single Board Computer

Feature	Specification
MICROPROCESSOR	Arm® 32-bit Cortex®-M4
ETHERNET PORT	10/100 Ethernet MAC
FLASH MEMORY	Up to 1 Mbyte
PROGRAM EXECUTION SRAM	Up to 192+4 Kbytes of SRAM including 64-Kbyte of CCM (core coupled memory) data RAM
BACKUP BATTERY	20×32-bit backup registers
DIGITAL INPUTS	24 Digital Inputs Field Isolated 1KV with onboard Indication. 8 Channel Provision for Encoders or Configured for Interrupt Mode
DIGITAL OUTPUTS	16 Digital Outputs Field Isolated 200mA each channel sourcing @24V Field Isolated. Isolation Voltage 1KV. 8 Channels provision for PWM outputs
ANALOG INPUTS	16 Analog Inputs 0V to 10V. 24 Bit ADC 19200 SPS 16-bit accuracy. Field Isolated 1KV
ANALOG OUTPUTS	8 Analog Outputs 0-10V 14 Bit. Field Isolated 1KV
SERIAL PORTS	1 RS485 Ports Isolated, 2 RS232 Port Isolated
CONNECTORS	• RJ-45 connectors: 1 Ethernet• 3.81mm Pitch screw terminals
REAL-TIME CLOCK	Yes
POWER	12-24VDC, 12W max.
WATCHDOG	Yes
OPERATING TEMPERATURE	0° C to +70° C
HUMIDITY	0 to 95%, non-condensing
BOARD SIZE	160mm X 110mm
PRODUCT WARRANTY	1 year