Remote Controller Unit

The RCU510 is a Remote Controller Unit specifically designed for process control purposes. It contains 32 general purpose I/O channels for field connections.

Features

Computer
- 32-bit CPU running at 400 MHz
- 32 MB of 64-bit, 133 MHz, SDRAM with ECC
- 16 MB flash memory

Input/Output
- 20 AI/AO/DI/DO channels
  - AI - current, voltage, PT100 or potentiometer
  - AO - current or voltage (channels 1 to 16 only)
  - DI - potential free or Namur
  - DO - high side driver
- 4 relay output channels
- 8 AI/AO channels, ±10V
- All input/output channels, except for the four relay output channels, are loop monitored
- DSP (Digital Signal Processor) for controlling RIO sub-system and data filtering purposes
- Seven general purpose RS-232/422/485 serial line interfaces, two of which are isolated

Interface Busses
- Single Serial Process Bus (SPBus) interface to Remote I/O (RIO) units
- Dual CAN bus interface (needs adapter card)
- Dual Profibus interface (needs adapter card)

Networking
- Dual Ethernet LAN interface (10BASE-T/100BASE-T)

Power
- Low power consumption (typical 20 W)

Monitoring and Status
- Built-In Self Test (BIST)
- Built-in high-temperature and inputs for under-voltage power alarms and cooling-fan alarms
- One Run/Error LED
- Eight status LEDs

Description

The RCU510 is a Remote Controller Unit based on a real-time single board computer (SBC), remote I/O-bus driver and I/O handling controller with a wide set of I/O interfaces. It runs the application program of a process control system and interfaces to different bus and I/O systems.

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Technical Specifications

Standards Applied
The module is designed to conform to the following standards:
• IEC 61131-2
• IEC 60945
• IACS E10

CE Marking
The module conforms to the relevant EU directives.

Type Approval
The RCU510 is type approved by:
• Det norske Veritas (DnV)
• The American Bureau of Shipping (ABS)

Dimensions
Height: 355 mm
Width: 158 mm
Depth: 87 mm
Weight: 1.35 kg

Electrical
Input voltage: 24 VDC ± 20%
Power consumption: maximum 20 W + loop power
Connectors: screw terminals, 2.5 mm²

Environmental Specifications
Ambient temperatures
operational: 0° C to 70° C
storage: -25° C to 70° C
Ambient humidity
operational: up to 98% relative humidity, non-condensing
storage: up to 98% relative humidity, non-condensing
Heat dissipation: maximum 20 W
Protection standard: IP20
EMC according to: EN 61000-6-2, EN 61000-6-4 and EN 60945

Computer Details
CPU type: MPC8245 PowerPC Host Processor
CPU speed: 400 MHz
Memory: 32 MB SDRAM and 16 MB Flash

SPBus Interface
SPBus interfaces: 1
Power supply voltage: 10 to 28.8 VDC
SPBus connector: 9-pin male DSUB
SPBus isolation: 500 V (opto-coupler)
SPBus type: RS-485 (multi-drop)
SPBus frequency: maximum 2 MHz
SPBus signal code: Manchester encoded (self-paced)

Article Number
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