Remote Controller Unit

The RCU 500 is a single unit computer specifically designed for process control purposes.
Typical applications are:
• Dynamic Positioning Systems
• Vessel Control Systems
• Process Control Systems
• Safety Systems

Features

- Power PC processor 8245, 400 MHz capable of running AIM and DP applications, 32 MB SDRAM memory and 16 MB Flash memory
- Built-in Self Test (BIST) facilities and error reporting system (via Operator Stations)
- Watchdog with a system status output
- Four general purpose digital input channels
- Four general purpose digital output channels
- Twelve general purpose RS-232/RS-422/RS-485 serial line interfaces
- Four isolated general purpose RS-232/RS-422/RS-485 serial lines
- Dual CAN bus interfaces (1 Mbps)
- Dual Profibus (12 Mbps)
- Serial Process Bus (SPBus) interface to RIO 400 remote I/O units
- Dual 100 Mb Ethernet LAN connectors
- Prepared for redundant RCU operation
- Allows “hot-replacement” of an RCU 500 in a redundant system
- Built-in high-temperature and cooling-fan alarms
- Easy installation and replacement:
  - DIN standard rail-mounting
  - Plug-in connections
  - Status LED on the front

Description

The RCU 500 is a Remote Controller Unit base on a real-time single board computer (SBC) specially designed for process control purposes. It is software compatible with both the RCU 400H controller unit and the SBC 500 single board computer.
**Technical Specifications**

**Standards Applied**
The equipment is designed to conform to the following standards:
- IEC 61131-2
- IEC 60945
- IACS E10
- IEC 61508

**CE Marking**
The module conforms to the relevant EU directives.

**Type Approval**
The RCU500 is designed for type approval by:
- Det norske Veritas (DnV)*
- The American Bureau of Shipping (ABS)*
- TÜV Rheinland for IEC 61508*
* Approval is expected in the second quarter of 2004.

**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
- Connectors: screw terminals, 1.5 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
  - storage: up to 98% relative humidity
- 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: Power PC 8245
- CPU speed: 400 MHz.
- Memory: 32 MB SDRAM
- Memory: 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 (optocoupler)
- SPBus type: RS-485 (multidrop)
- SPBus frequency: maximum 2 MHz
- SPBus signal code: Manchester encoded (self-clocked)

**Signal interface diagram**

**Article Number**
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