



KONGSBERG

# RCU510

## 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,  $\pm 10V$
- 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)

#### Network

- 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.

## 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 $\pm$ 20%                     |
| Power consumption: | maximum 20 W + loop power            |
| Connectors:        | screw terminals, 2.5 mm <sup>2</sup> |

## 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

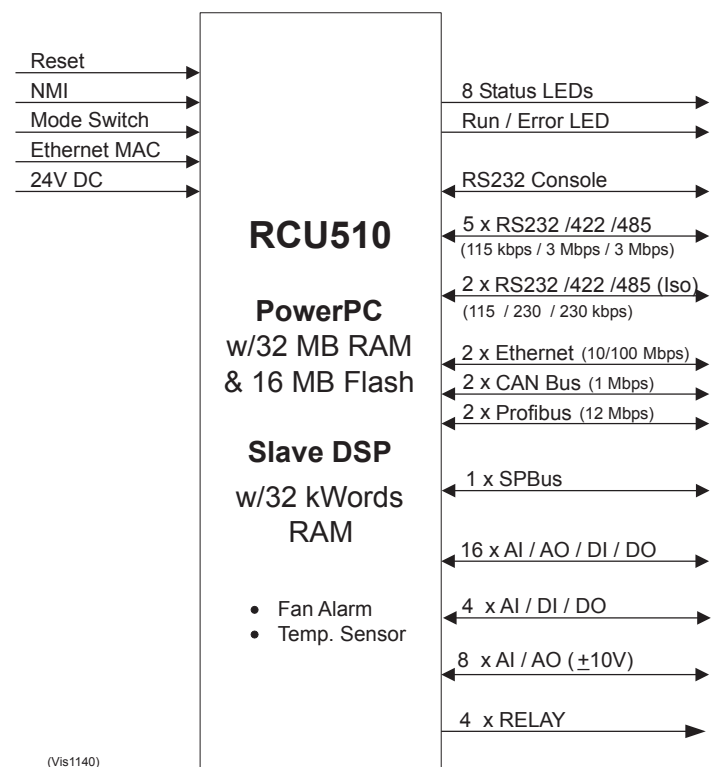
EMC according to: EN 61000-6-2, EN 61000-6-4 and EN 60945

## 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-clocked) |



Signal interface diagram

## Article Number

RCU510: 601418

KONGSBERG MARITIME AS

P.O. Box 483, N-3601 Kongsberg, Norway

Telephone +47 32 28 50 00 Telefax +47 32 28 50 13

e-mail: km.sales@kongsberg.com, [www.kongsberg.com](http://www.kongsberg.com)



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