

Distributed Processing Units

Remote Input/Output (RIO-C2xe)



KONGSBERG



Description

This Distributed Processing Unit combines digital input and output within the same module.

It is equipped with eight digital input channels that have galvanic isolation between the sensor signals. The digital input sensor can be either a potential free contact (switch) or an external 24VDC or 24VAC signal. Each channel has an electronic fuse to protect the electronics against damage. When a faulty sensor has returned to normal, the electronic fuse is automatically reset.

The module can control eight digital output channels such as 1-pole relays (NO/NC).

The module requires 24VDC input power and provides over redundant CAN Open 4.0 high speed field bus, sensor data processed and time stamped.

Functions

The following process control functionality can be loaded into the module:

- Remote I/O for other Distributed Processing Units or Process Segment Controllers.
- Distributed alarm system functionality.
- Diesel engine shutdown system, connected to purely digital sensors without loop fail detection.
- Diesel engine start and stop system, including slow turning start logic.
- Logic for control of standby pumps.
- Remote control of pump starters.
- Remote control of valve positions.
- Built-in PLC algorithm for easy project adaptation.
- Logic for serving a Local Operator Station (LOS), for inspecting I/O and application values.
- Self checking.
- CAN net status, error handling

Features

- All parameters are stored in the module
- Remote configuration
- No trimmers or jumpers
- No serviceable parts inside module
- All connections are pluggable
- Suitable for direct installation on the main engine
- Module includes status LED's for: Watchdog, running, general information, initialized module and power polarity

Technical Specifications

Supply voltage

- 18 to 32 VDC

Power consumption

- 5W
- 0.5 W pr. digital output
- 0.2 W pr. digital input

Operating temperature

- -15°C to +70°C

Storage temperature

- -25°C to +70°C

Max rel. humidity

- 96% non-condensing

IP Code

- IP20

ENV properties

- IACS E10
- IEC 60945

Vibration

- 4 G

Weight of unit

- 1.8 kg

Mounting

- Screws (4 pcs M5)

Connections, pluggable screw terminals

- I/O 3/4 terminals 2.5 mm²
- Power 4 terminals 2.5 mm²
- CAN bus 4 terminals 2.5 mm²

Signal types

8 Digital output:

- All outputs max. 3 Amps 230VAC/32VDC
- Max inductive load $\text{Cos}(\varphi) = 0.5$

8 Digital input:

- Dry contact, high side or low side switch.
- External 24V

Sensor excitation voltage and current:

- 6 mA @ 24 VDC nominal.

Communication interfaces

- 2 CAN ports for communication with host.

Isolation

- Power: Isolated/floating from module chassis.
- Input external excitation: Individually isolated (opto coupler)
- Input internal excitation: Supplied from 24VDC module supply.
- Output: Isolation between channels (relays)
- CAN: Individually isolated.

BIST (Built In Self Test)

- Module temperature and Power.

Type approval

- DNV, LRS, BV, GL, RINA, NK, ABS, KR, PRS, RMR, CCS (allows direct mounting on engines, compressors, etc. in suitable cabinets)

Part number

- 333346

