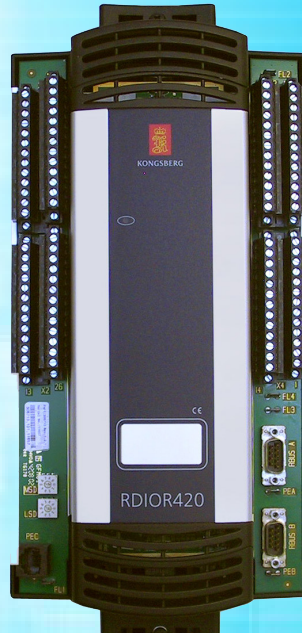


# RDIOR420



KONGSBERG

## RDIOR420-Remote Digital Input/Output and relay

### BENEFITS

- Over-voltage protection
- Extensive module diagnostics
- I/O channels online configurable
- Soft and hard fail-safe
- Line fault detection (Solidstate I/O only)
- Fail-safe activation of outputs upon loss of communication with host computer
- Self-testing features
- Easy installation and replacement
- Simple and safe FW upgrade
- Status LED

RDIOR420 is a combined I/O module containing 16 solid-state DI/DO and 16 relay channels for use in KM automation systems.

The 32 I/O channels are interfaced towards the host control computer (RCU) by a redundant I/O process bus.

### Functions

- 16 individually configurable solid-state digital input or output Channels
- 16 relay channels, NC / NO.
- Dual Remote I/O Process Bus interface (RBUS A and RBUS B) for redundant communication with the host computer(s).
- Communication ports galvanically insulated from other module circuitry.
- Short-circuit protected I/O loop on solid-state output channels.
- Loop monitoring on 16 solid state channels.
- Communication ports galvanically insulated from other module circuitry.

## TECHNICAL DATA

<b>KM article number</b>	RDIOR420: 306713
<b>Electrical</b>	
Input supply voltage:	24 VDC (18-31.2 V)
Power consumption:	<ul style="list-style-type: none"><li>• Power: 8W Typical</li><li>• Loop power: Configuration dependable</li></ul>
Power connectors:	<ul style="list-style-type: none"><li>• Screw terminals</li><li>• Cable cross-section: 2.5 mm<sup>2</sup></li><li>• Max. torque 0.4-0.5 Nm</li></ul>
<b>RBUS interface</b>	
Connector:	2 x 9 pin male D-Sub RS485, galvanic isolated
<b>Input/output</b>	
No. of I/O channels:	32
I/O configuration:	<ul style="list-style-type: none"><li>• 16 individually configured solid state channels defined as input or output</li><li>• 16 relay channels NC/NO</li></ul>
<b>Relay channel</b>	
DC load:	15 to 300 VDC, min. 100 mA, max 5 A at Cos $\phi$ = 1
AC load:	15 to 250 VAC, max 2 A recommended at Cos $\phi$ = 0.4
Breaking capability:	<ul style="list-style-type: none"><li>• 0.1 A: 300 V</li><li>• 0.3 A: 60 V</li><li>• 5 A: 24 V</li></ul>
<b>Digital Input (DI)</b>	
Loop voltage:	Input supply voltage
Input loop current:	Max. 4 mA @ 24 VDC loop voltage
Channel "Off" current:	< 0.5 mA
Channel "On" current:	> 3 mA
Max. input voltage:	Input supply voltage
Max. input signal freq.:	10 ms pulses
<b>Digital Output (DO)</b>	
Loop voltage:	Input supply voltage
Loop output:	1 A, short circuit protected "High Side Driver"
Loop driver trip current:	> 1.4 A (reset by command)
Loop monitor current:	Max. 2 mA @ 24 VDC input supply voltage
Loop driver Off leakage:	Max. 0.1 mA @ 24 VDC input supply voltage

<b>Fail safe</b>	
HW fail safe:	Max. 65 ms
Internal test error:	Instantly set
Soft fail safe (down counter):	100 ms to 65 sec. (6 sec. default)
<b>Compliance</b>	<ul style="list-style-type: none"><li>• IACS E10</li><li>• IEC 61131-2</li><li>• IEC 60945</li></ul>
<b>Environmental specifications</b>	
Ambient temp. and humidity	
Temp. operation:	-15°C to +70°C
Temp. storage:	-25°C to +70°C
Humidity operation:	Up to 98% RH
Humidity storage:	Up to 98% RH
Protection standards:	IP20
<b>Mechanical</b>	
HxWxD:	355x158x87 mm
Weight:	1.35 kg
DIN rail vertical mounted:	T35 7.5/15
<b>Life cycle prediction</b>	
Prediction failure rate @ GB 25 C:	28.15 years (60% confident, based on chip supplier's data and MIL-HDBK-217F)
Predicted failure rate at NS 35°C:	7.6 years (Environmental de-rating based on Rome Laboratory toolkit)

