

## I/O extension module - RAD-NAM4-IFS - 2316275

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Radioline - I/O extension module, 4 NAMUR digital input module used in Radioline and PROFIBUS PA MUX I/O systems. Fulfills the NAMUR proximity sensor standard EN 60947-5-6, and communication to the head stations for Radioline systems and the FB-MUX/HS...PA via the T-BUS connector installed on the DIN rail. This module has channel-to-channel isolation.

### Your advantages

- Extended temperature range, -40 °C ... +70 °C
- Easy module replacement even during operation (hot swap)
- Easy startup via thumbwheel
- Approved for use in zone 2

### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 321615
GTIN	4055626321615

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	17.5 mm
Height	113 mm
Depth	114.5 mm

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	20 % ... 95 % (non-condensing)
Altitude	2000 m

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## Technical data

### General

Set consists of	2709561 ME 17,5 TBUS 1,5/ 5-ST-3,81 GN
Overvoltage category	II
Degree of pollution	2
Housing material	PA 6.6-FR
Flammability rating according to UL 94	V0
MTTF	1065 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	449 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	85 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

### Supply

Supply voltage range	19.2 V DC ... 30.5 V DC (DIN rail connector)
Max. current consumption	≤ 64 mA (At 24 V DC, at 25°C)

### Digital inputs

Description of the input	Digital input
Number of inputs	4
Available input sources	NAMUR proximity sensors (EN 60947-5-6)
	Floating switch contacts
	Switch contacts with resistance circuit
Switching level "1" signal	10 V DC ... 30.5 V DC
Switching level "0" signal	0 V DC ... 4 V DC
Min. voltage input signal	0 V DC
Max. voltage input signal	30.5 V DC
Current input signal	≤ 1.2 mA (blocking)
	≥ 2.1 mA (conductive)
Non-load voltage	~ 8 V DC
Switching hysteresis	≤ 0.2 mA
Short-circuit current	≤ 8 mA
Line fault detection	Break 0.05 mA < IIN < 0.35 mA
	Short circuit 100 Ω < RSensor < 360 Ω

### Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	7 mm

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## Technical data

### Connection data

Tightening torque	0.6 Nm
Screw thread	M3

### Status indicator

Status display	Green LED (supply voltage, PWR)
	Green LED (bus communication, DAT)
	Red LED (periphery error, ERR)
	Yellow LED (digital input, DI1)
	Yellow LED (digital input, DI2)
	Yellow LED (digital input, DI3)
	Yellow LED (digital input, DI4)
	Red LED (Short circuit/Line break, E1)
	Red LED (Short circuit/Line break, E2)
	Red LED (Short circuit/Line break, E3)
	Red LED (Short circuit/Line break, E4)

### Standards and Regulations

Standards/specifications	Ex Directive (ATEX) EN 60079-0
Flammability rating according to UL 94	V0
Conformance	CE-compliant
ATEX	IBExU 17ATEXB011X; II 3 G; Ex ec IIC T4 Gc
IECEX	IECEX IBE 17.0029X; Ex ec IIC T4 Gc
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, AEx ec IIC T4, Ex ec IIC T4 Gc X

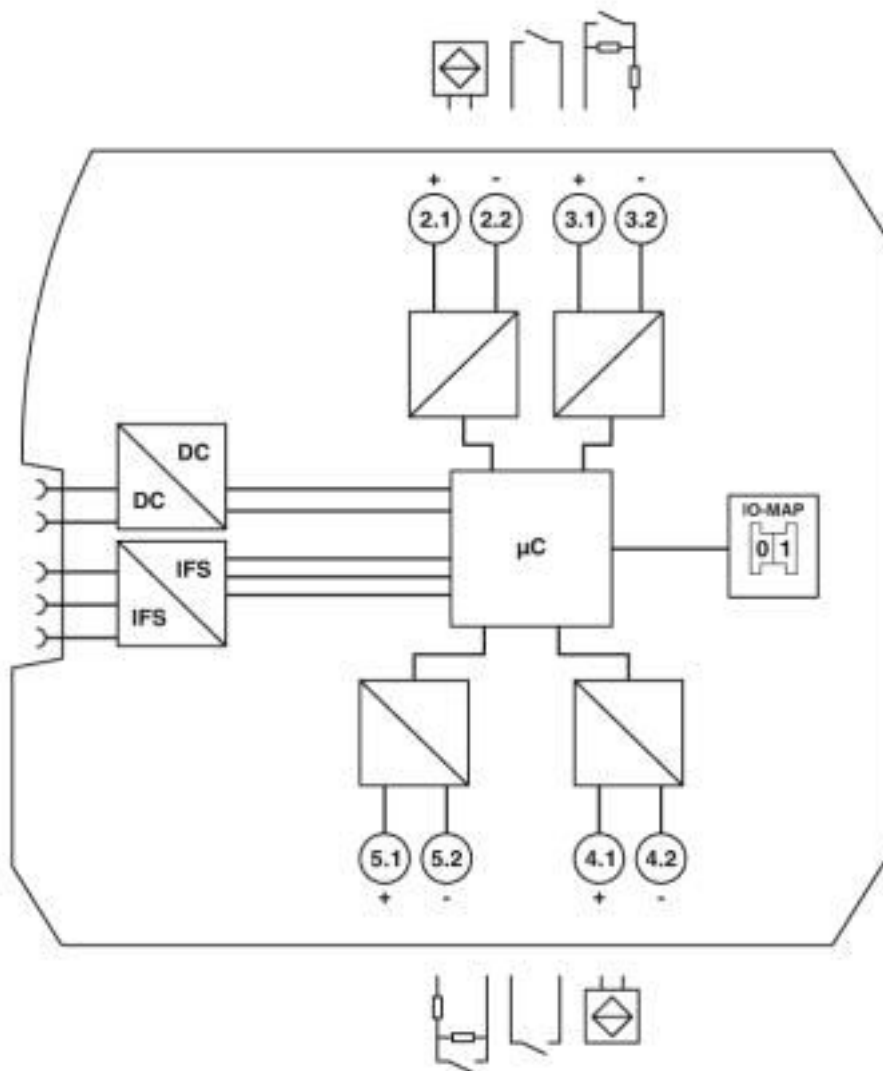
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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## Drawings

# I/O extension module - RAD-NAM4-IFS - 2316275

Block diagram



## Articles in set

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

## Classifications

eCI@ss

eCI@ss 10.0.1

27242604

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## Classifications

### eCl@ss

eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

### ETIM

ETIM 5.0	EC001599
ETIM 6.0	EC001599
ETIM 7.0	EC001599

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / cULus Listed

#### Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / cULus Listed

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cULus Listed			
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## Accessories

### Accessories

DIN rail connector

## I/O extension module - RAD-NAM4-IFS - 2316275

### Accessories

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

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### Extension module

I/O extension module - RAD-DO8-IFS - 2902811



Radioline - I/O extension module, 8 digital transistor outputs (30.5 V DC/200 mA)

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### Necessary add-on products

Wireless module - RAD-2400-IFS - 2901541



Radioline - 2.4 GHz wireless transceiver with RS-232/RS-485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 250 stations, range of up to 5 km (with a clear line of sight), for worldwide use

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Wireless module - RAD-900-IFS - 2901540



Radioline - 900 MHz wireless transceiver with RS-232/485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 250 stations, range of up to 32 km (line of sight), use in North America

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Wireless module - RAD-868-IFS - 2904909



Radioline - 868 MHz wireless transceiver with RS-232/RS-485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 99 stations, range of up to 20 km (with a clear line of sight), for use in Europe

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## I/O extension module - RAD-NAM4-IFS - 2316275

### Accessories

#### Communication module - RAD-RS485-IFS - 2702184



Radioline - RS-485 multipoint multiplexer, can be extended with I/O modules, can be used as Modbus/RTU bus coupler or can be combined with Radioline wireless system, up to 99 stations, range of up to 1.2 km on in-house copper cables

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#### Wireless module - RAD-2400-IFS-JP - 2702863



Radioline - 2.4 GHz wireless transceiver with RS-232/RS-485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 250 stations, range of up to 5 km (with a clear line of sight), for use in Japan

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#### Wireless module - RAD-900-IFS-AU - 2702878



Radioline - 900 MHz wireless transceiver with RS-232/485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 250 stations, range of up to 32 km (line of sight), for use in Australia.

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#### Multiplexer - FB-MUX/HS/DIO-NAM/PA - 2316270



The FB-MUX/HS/DIO-NAM/PA head station can be used with up to three 4-channel NAMUR digital input modules (FB-DI4/NAMUR-IFS) and two 4-channel digital output modules (RAD-DOR4-IFS). This configuration can be used as a valve coupler solution to open and close, as well as monitor, the position of a valve.

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#### Multiplexer - FB-MUX/HS/DI24/PA - 1005332



The FB-MUX/HS/DI24/PA head station can be used with up to six 4-channel digital input modules (RAD-DI4-IFS), six 4-channel NAMUR digital input modules (FB-DI4/NAMUR-IFS), three 8-channel digital input modules (RAD-DI8-IFS), or any combination of modules for maximum of 24 total channels. This configuration can be used as a high-density digital input solution.

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### Additional products

## I/O extension module - RAD-NAM4-IFS - 2316275

### Accessories

I/O extension module - RAD-DO8-IFS - 2902811



Radioline - I/O extension module, 8 digital transistor outputs (30.5 V DC/200 mA)

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