PHŒNIX CONTACT

I/O extension module - RAD-DOR4-IFS - 2901536

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Radioline - I/O extension module, 4 digital relay outputs (5 A, 250 V AC/DC)

Your advantages

☑ Channel-to-channel electrical isolation

☑ Extended temperature range, -40 °C ... +70 °C

☑ Easy module replacement even during operation (hot swap)

☑ Digital wide range outputs (0 ... 250 V AC/DC)

☑ Easy startup via thumbwheel

☑ Approved for use in zone 2

RoHS

Ⓔx

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 610483
GTIN	4046356610483
Weight per Piece (excluding packing)	215.200 g
Custom tariff number	85177000
Country of origin	Germany

Technical data

Note

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

Dimensions

Width	17.5 mm

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Dimensions

Height	113 mm
Depth	114.5 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (>55°C derating)
	-40 °F ... 158 °F (>131°F derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
	-40 °F ... 185 °F
Permissible humidity (operation)	20 % ... 85 %
Permissible humidity (storage/transport)	20 % ... 85 %
Altitude	2000 m
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz
Shock	16g, 11 ms

General

Set consists of	2709561 ME 17,5 TBUS 1,5/ 5-ST-3,81 GN
Overvoltage category	II
Mounting position	any
Assembly instructions	on standard DIN rail NS 35 in accordance with EN 60715
Degree of pollution	2
Housing material	PA 6.6-FR
Flammability rating according to UL 94	V0
MTTF	1087 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	523 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	204 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Supply

Supply voltage range	19.2 V DC ... 30.5 V DC (DIN rail connector)
Max. current consumption	≤ 55 mA (At 24 V DC, at 25°C)
Transient surge protection	Yes

Digital outputs

Number of outputs	4
Contact type	PDT
Contact material	$AgSnO_2$
Maximum switching voltage	250 V AC/DC
Min. switching current	≥ 10 mA
Max. switching current	5 A (per channel)

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Digital outputs

Mechanical service life	1×10^7 cycles
Electrical service life	1×10^5 cycles (At 5 A, 250 V AC, ohmic)
	2×10^5 cycles (At 2 A, 250 V AC, cosφ 0.4)
	2×10^5 cycles (At 1 A, 24 V DC, L/R = 48 ms)
Maximum switching frequency	2 Hz
Switching capacity	120 W (24 V DC)
	120 W (30 V DC)
	20 W (48 V DC)
	18 W (60 V DC)
	22 W (110 V DC)
	40 W (220 V DC)
	42 W (250 V DC)
	1250 VA
Behavior of the outputs (adjustable via DIP switch)	Hold / Reset

Electrical isolation

Digital I/O	300 V (Rated insulation voltage (in each case between the digital outputs // TBUS supply, reinforced insulation according to EN 61010))

Test voltage

Digital I/O	2.5 kV AC (50 Hz, 1 min.)

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	7 mm
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 output, DO1)

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Status indicator

	Yellow LED (digital output, DO2)
	Yellow LED (digital output, DO3)
	Yellow LED (digital output, DO4)

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	EAC
Identification	EAC
Designation	ATEX
Identification	# II 3 G Ex nA nC IIC T4 Gc
Certificate	IBExU 15 ATEX B008 X
Additional text	Please follow the special installation instructions in the documentation!
Designation	IECEx
Identification	Ex nA nC IIC T4 Gc
Certificate	IECEx IBE 13.0019X
Designation	UL, USA/Canada
Identification	508 Listed
	Class I, Div. 2, Groups A, B, C, D T4A
	Class I, Zone 2, IIC T4
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standards/specifications	EMC Directive 2014/30/EU EN 61000-6-2
	EMC Directive 2014/30/EU EN 61000-6-4
	Ex Directive (ATEX) EN 60079-0
	Ex Directive (ATEX) EN-60079-15
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Flammability rating according to UL 94	V0
Shock	16g, 11 ms
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years

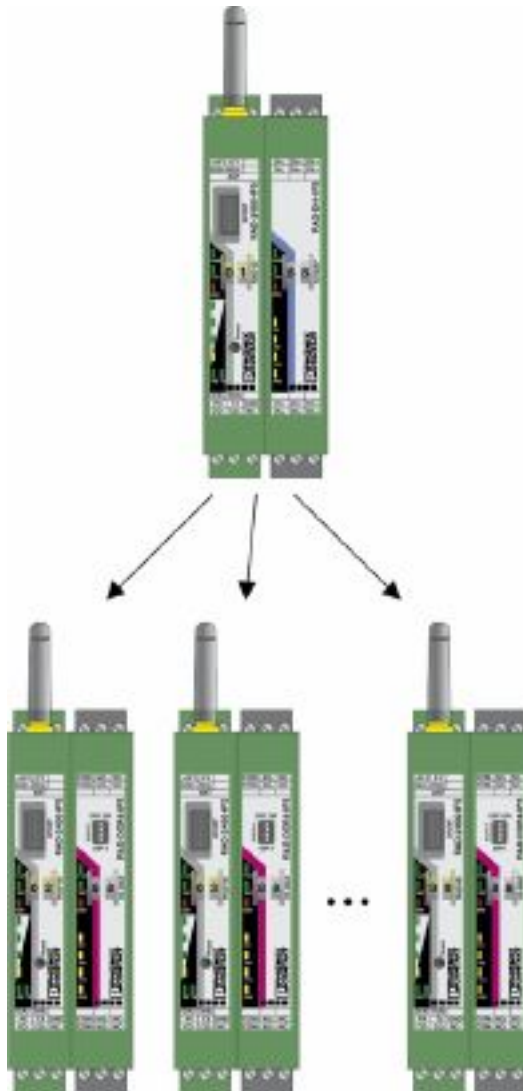# I/O extension module - RAD-DOR4-IFS - 2901536

Technical data

Environmental Product Compliance

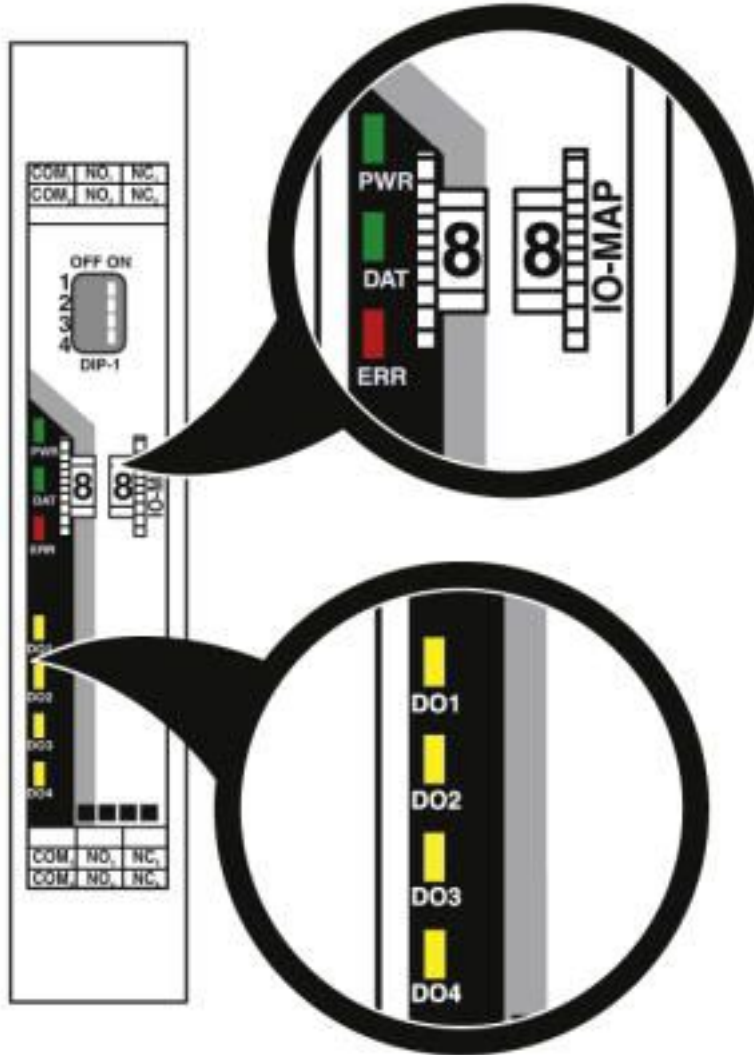|	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Functional drawing

Assignment of digital inputs and digital outputs

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Schematic diagram
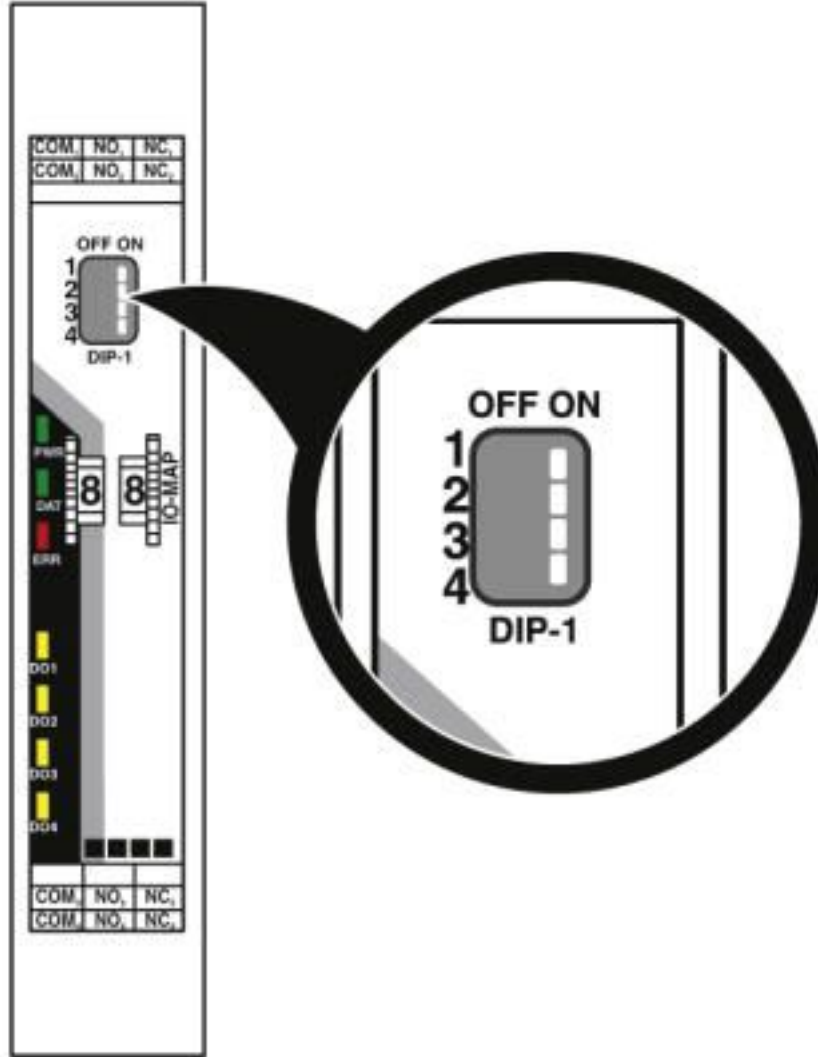
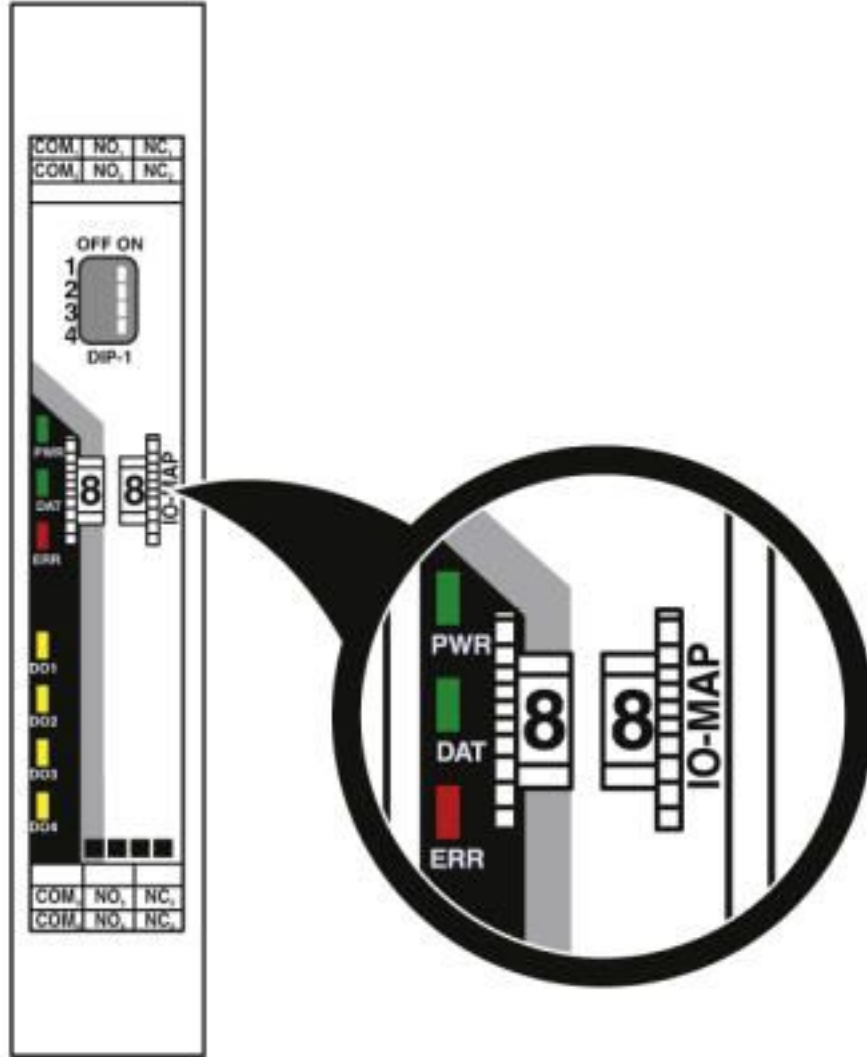LED indicators

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Schematic diagram

DIP switches

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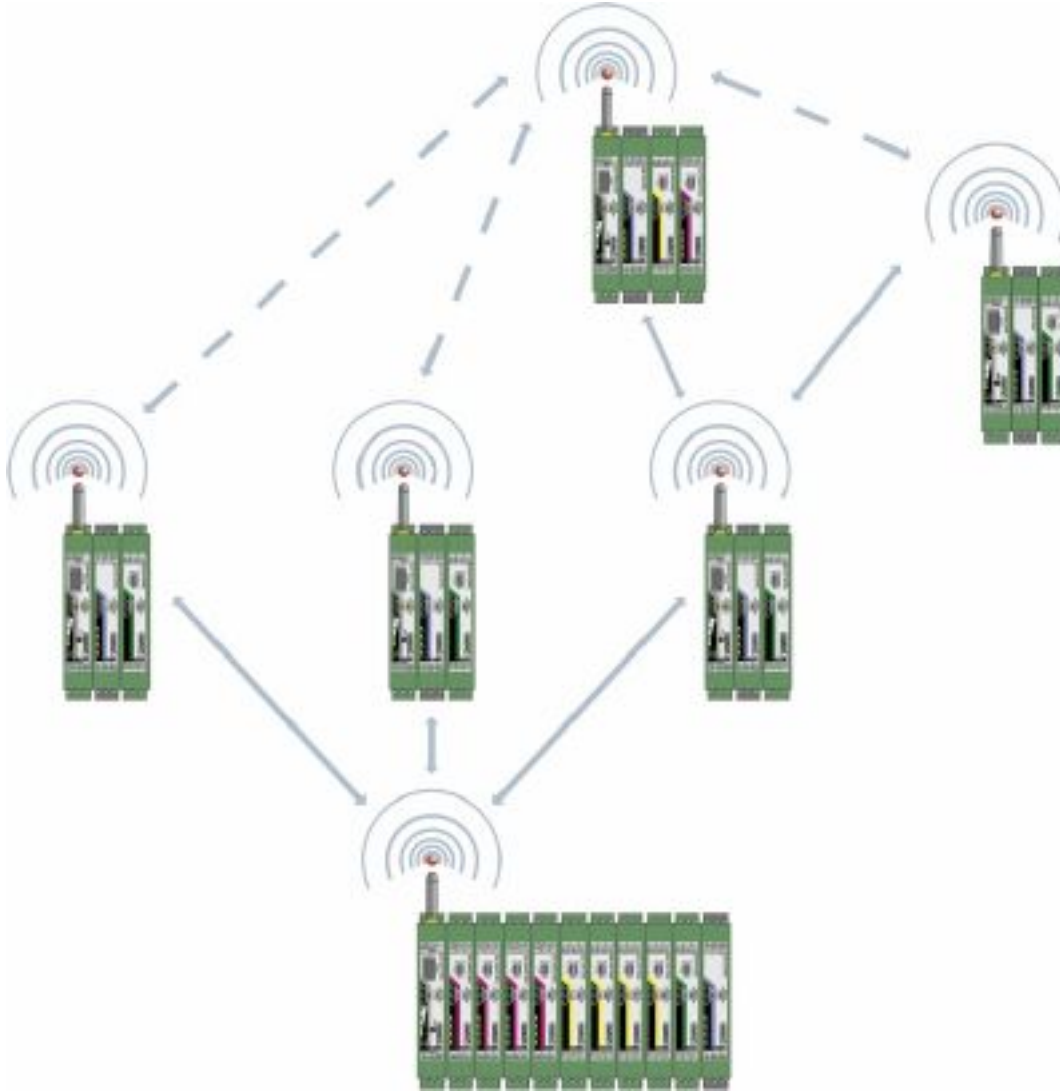
Schematic diagram

Thumb wheel
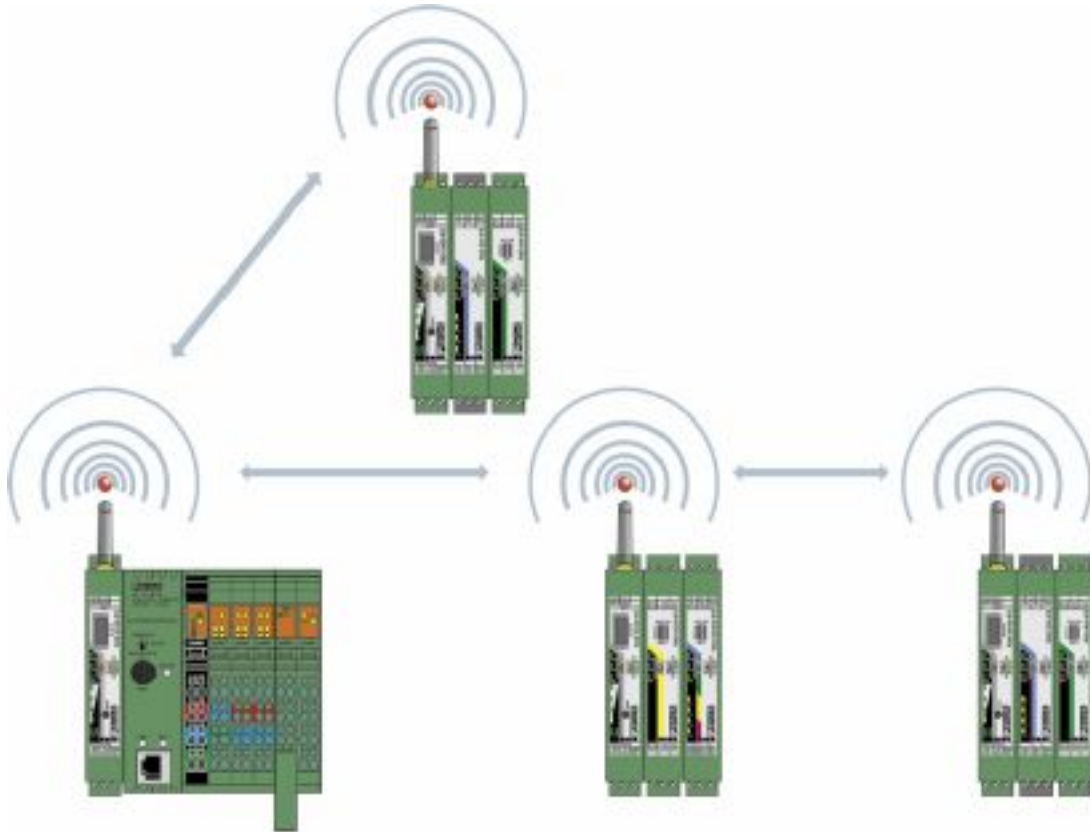
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Application drawing

Wireless module in I/O data mode

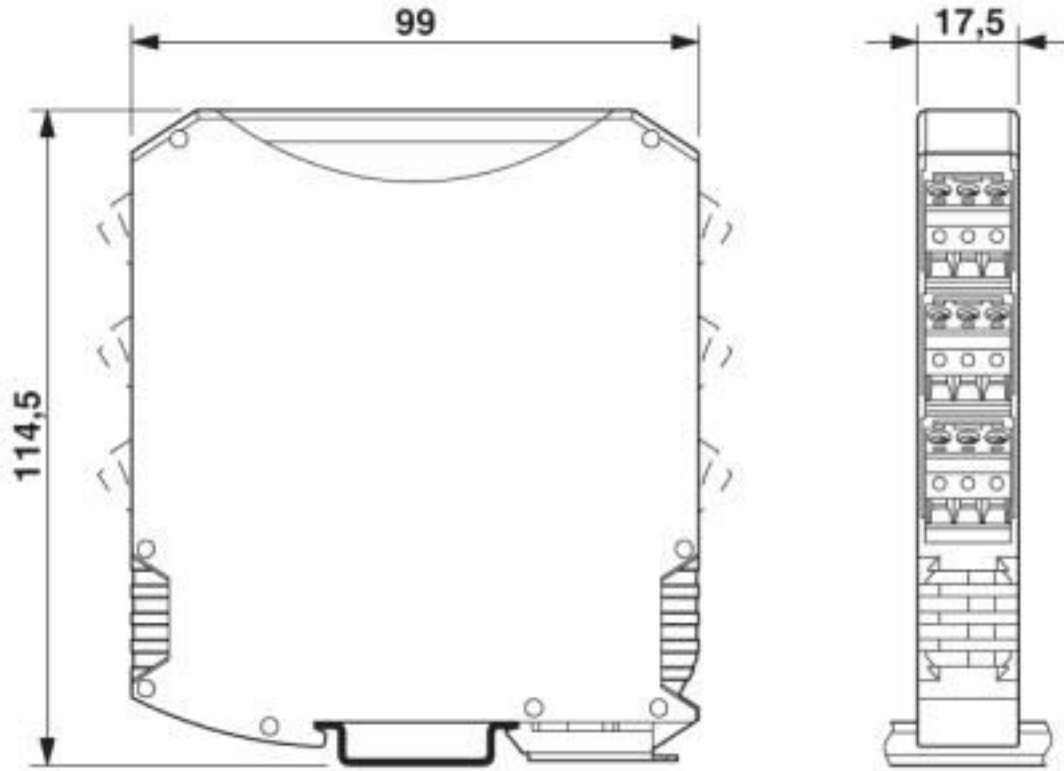# I/O extension module - RAD-DOR4-IFS - 2901536

Application drawing

Wireless module in PLC/Modbus RTU mode

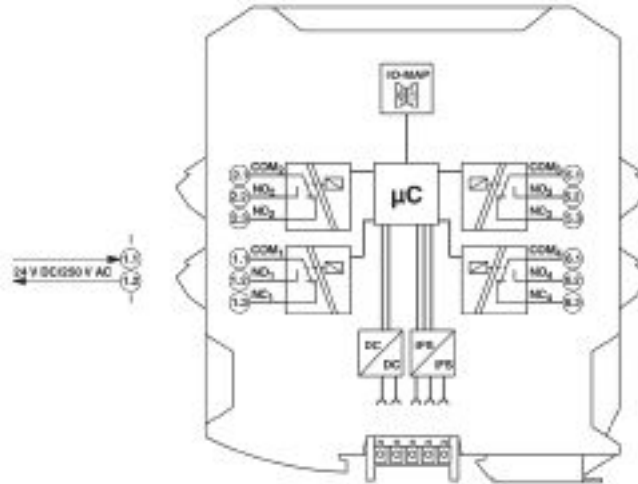# I/O extension module - RAD-DOR4-IFS - 2901536
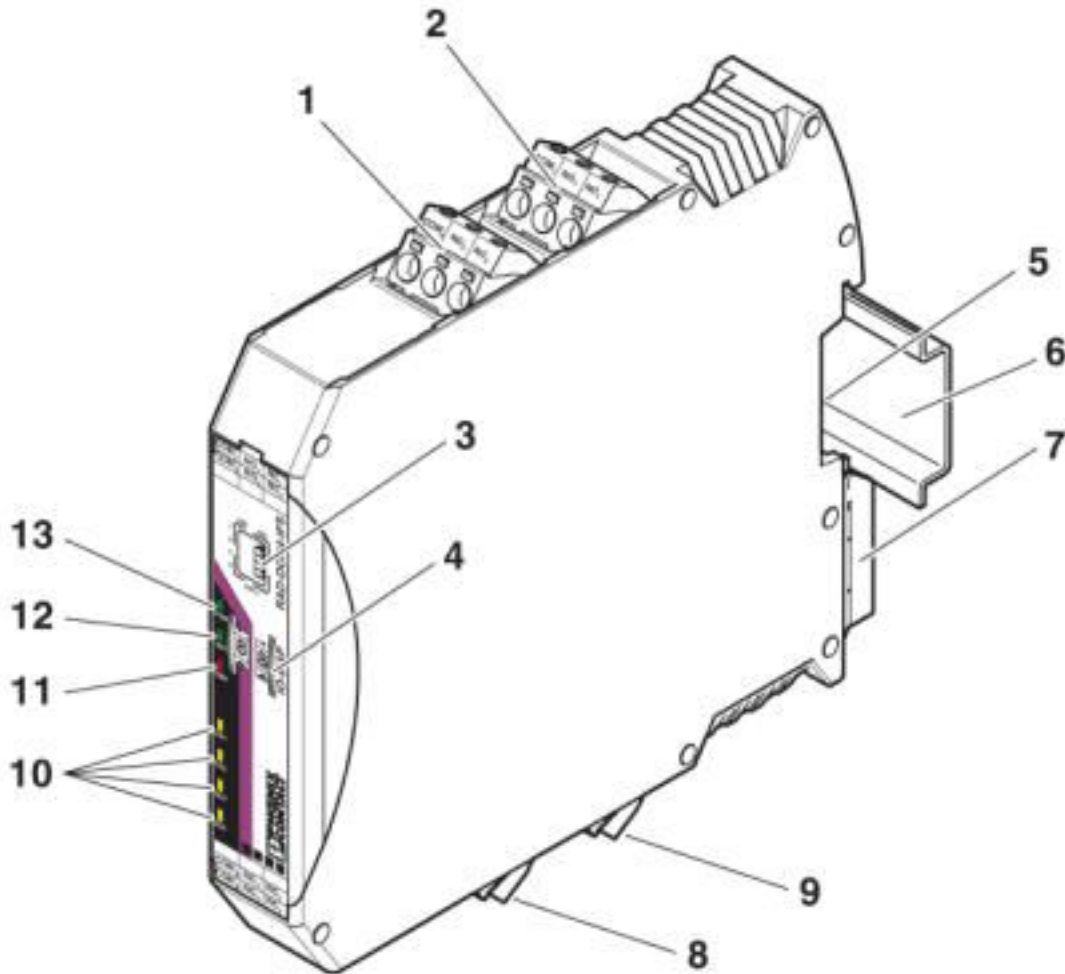
Dimensional drawing

99

17,5

114,5

Slim design

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Circuit diagram

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Schematic diagram

Function elements

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.

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Classifications

eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 4.0	27230200
eCl@ss 4.1	27230200
eCl@ss 5.0	27242200
eCl@ss 5.1	27242200
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000310
ETIM 5.0	EC001599
ETIM 6.0	EC001599
ETIM 7.0	EC001599

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	43223108
UNSPSC 11	39121008
UNSPSC 12.01	43223108
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / cULus Listed

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Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

EAC		EAC-Zulassung

cULus Listed	

Accessories

Accessories
DIN rail connector

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.

Extension module

I/O extension module - RAD-DI4-IFS - 2901535

Radioline - I/O extension module, 4 digital inputs (0 ... 250 V AC/DC)

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Accessories

Interface converter

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.

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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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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Accessories

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

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.

Additional products

I/O extension module - RAD-DI4-IFS - 2901535

Radioline - I/O extension module, 4 digital inputs (0 ... 250 V AC/DC)