

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

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Digital I/O extension module with 4 digital relay outputs (5 A, 250 V AC/ 24 V DC), with screw connection, incl. DIN rail connector

Product Features

- 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 ... 2 50 V AC/DC)
- Suitable for ATEX zone 2
- Easy startup via thumbwheel



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	215.2 g
Country of origin	Germany

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	99 mm
Depth	114.5 mm

Ambient conditions

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Technical data

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

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 (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	523 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	204 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	≤ 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
	24 V DC
Min. switching current	≥ 10 mA
Max. switching current	5 A (per channel)
Mechanical service life	1 x 10 ⁷ cycles
Electrical service life	1 x 10 ⁵ cycles (At 5 A, 250 V AC, ohmic)

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Technical data

Digital outputs

	2 x 10 ⁵ cycles (At 2 A, 250 V AC, cosφ 0.4)
	2 x 10 ⁵ cycles (At 1 A, 24 V DC, L/R = 48 ms)
Maximum switching frequency	2 Hz
Switching capacity	140 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)
	1500 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))
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Test voltage

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

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
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)
	Yellow LED (digital output, DO2)
	Yellow LED (digital output, DO3)
	Yellow LED (digital output, DO4)

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Technical data

Approvals and conformance

Conformance	CE-compliant
IECEX	Ex nA nC IIC T4 Gc
UL, USA / Canada	UL 508 Listed
Standard designation	EMC Directive 2004/108/EC
Standards/regulations	EN 61000-6-2
Standard designation	EMC Directive 2004/108/EC
Standards/regulations	EN 61000-6-4
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN 60079-0
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN-60079-15

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standard designation	EMC Directive 2004/108/EC
Standards/regulations	EN 61000-6-2
Standard designation	EMC Directive 2004/108/EC
Standards/regulations	EN 61000-6-4
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN 60079-0
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN-60079-15
Shock	16g, 11 ms
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Flammability rating according to UL 94	V0
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEX	Ex nA nC IIC T4 Gc
UL, USA / Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4A
	Class I, Zone 2, IIC T4

Classifications

eCl@ss

eCl@ss 4.0	27230207
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Classifications

eCl@ss

eCl@ss 4.1	27230207
eCl@ss 5.0	27230207
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000310
ETIM 5.0	EC001599

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	43223108
UNSPSC 11	39121008
UNSPSC 12.01	43223108
UNSPSC 13.2	43223108

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

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

Approvals submitted

Approval details

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

Approvals

UL Listed 

cUL Listed 

EAC

cULus Listed 

Accessories

Accessories

Communication module

Communication module - RAD-RS485-IFS - 2702184



Multipoint multiplexer for RS-485 bus system, can be extended with I/O extension modules. Can be used as Modbus RTU bus coupler or combined with Radioline wireless system, screw connection. Up to 99 stations, including DIN rail connector

DIN rail connector

Electronic housing - 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-DOR4-IFS - 2901536

Accessories

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



Digital I/O extension module with 4 digital inputs (0...250 V AC/DC), with screw connection, incl. DIN rail connector

Trusted Wireless device

Wireless module - RAD-2400-IFS - 2901541



2400 MHz wireless transceiver with RS-232, RS-485 2-wire interface, expandable with I/O extension modules, with screw connection, antenna connection:RSMA (female), including DIN rail connector, without antenna

Wireless module - RAD-868-IFS - 2904909



868 MHz wireless transceiver with RS-232, RS-485 2-wire interface, expandable with I/O extension modules, with screw connection, antenna connection: RSMA (female), including DIN rail connector, without antenna.

Wireless module - RAD-900-IFS - 2901540



Bidirectional, Radioline 900 MHz transceiver for wireless transmission of serial and I/O data

Required add-on products

Wireless module - RAD-2400-IFS - 2901541



2400 MHz wireless transceiver with RS-232, RS-485 2-wire interface, expandable with I/O extension modules, with screw connection, antenna connection:RSMA (female), including DIN rail connector, without antenna

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

Accessories

Wireless module - RAD-900-IFS - 2901540



Bidirectional, Radioline 900 MHz transceiver for wireless transmission of serial and I/O data

Wireless module - RAD-868-IFS - 2904909



868 MHz wireless transceiver with RS-232, RS-485 2-wire interface, expandable with I/O extension modules, with screw connection, antenna connection: RSMA (female), including DIN rail connector, without antenna.

Communication module - RAD-RS485-IFS - 2702184



Multipoint multiplexer for RS-485 bus system, can be extended with I/O extension modules. Can be used as Modbus RTU bus coupler or combined with Radioline wireless system, screw connection. Up to 99 stations, including DIN rail connector

Additional products

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

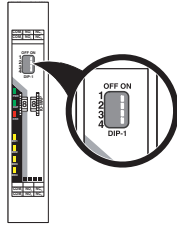


Digital I/O extension module with 4 digital inputs (0...250 V AC/DC), with screw connection, incl. DIN rail connector

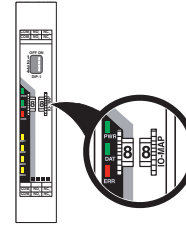
Drawings

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

Schematic diagram



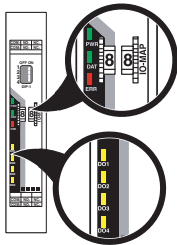
Schematic diagram



DIP switches

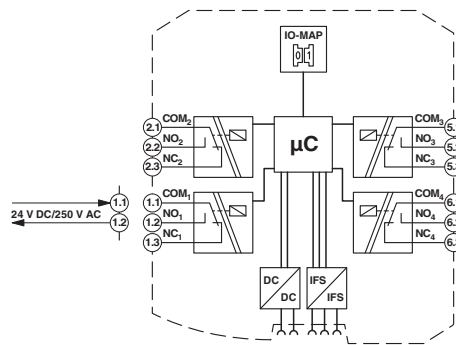
Thumb wheel

Schematic diagram



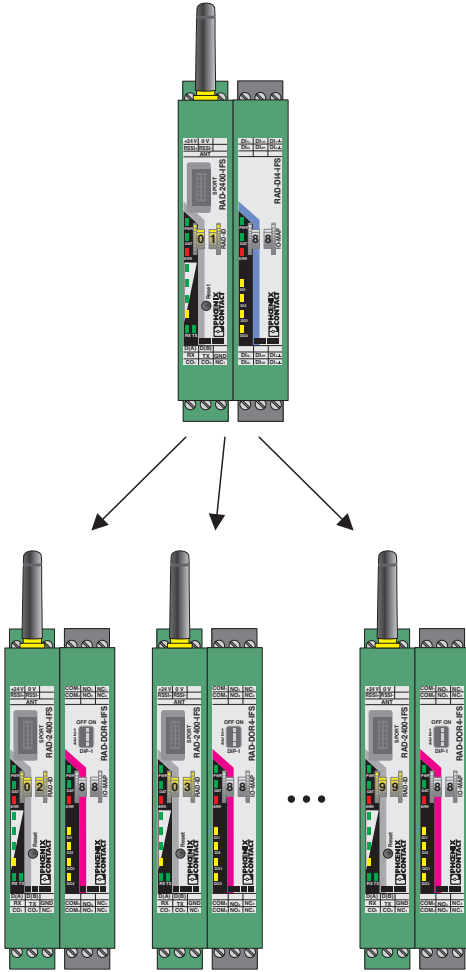
LED indicators

Block diagram

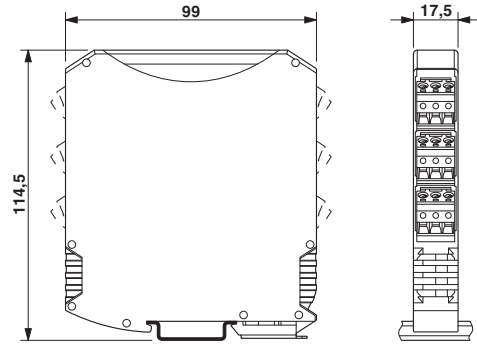


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Functional drawing



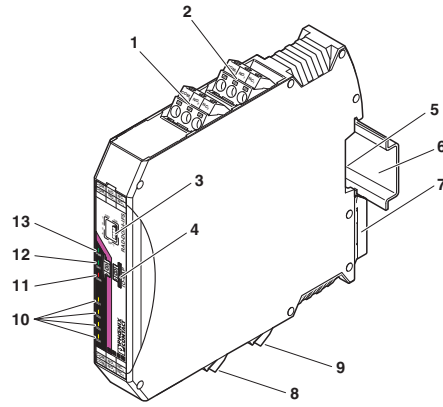
Dimensional drawing



Assignment of digital inputs and digital outputs

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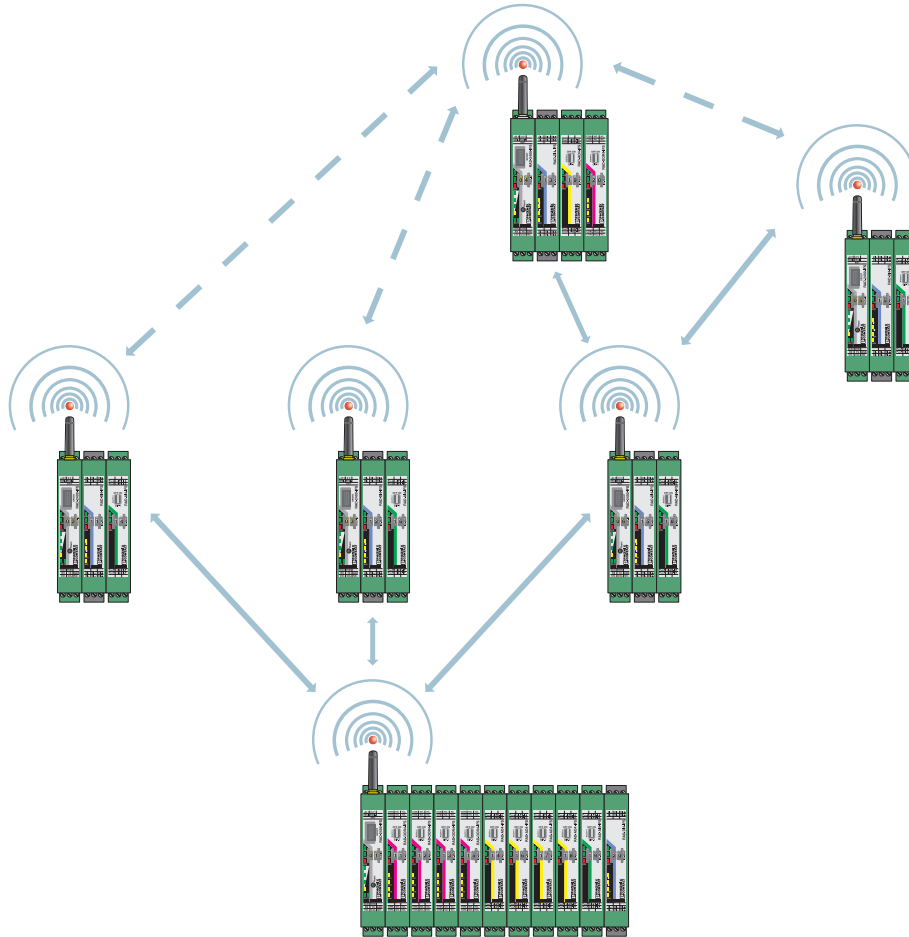
Schematic diagram



Function elements

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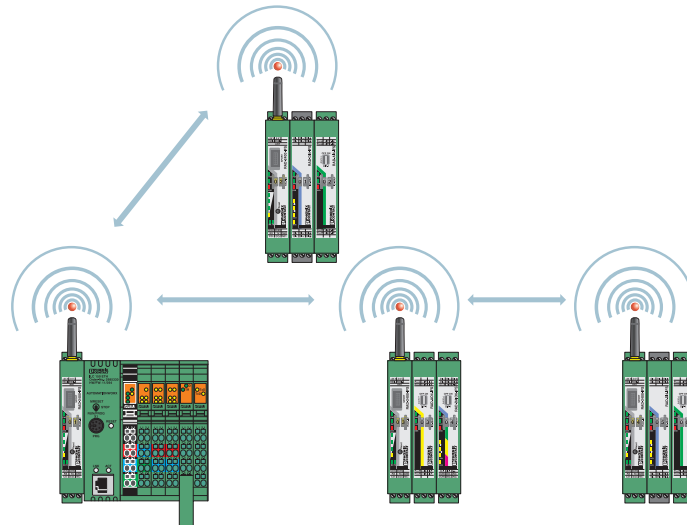
Application drawing



Wireless module in I/O data mode

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

Application drawing



Wireless module in PLC/Modbus RTU mode