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

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

Why buy this product

- Channel-to-channel electrical isolation
- Extended temperature range, -40°C ... +70°C
- Easy module replacement even during operation (hot swap)
- Digital wide-range inputs (0 ... 250 V AC/DC)
- Suitable for ATEX zone 2
- Easy startup via thumbwheel



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 610490

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

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C

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Ambient conditions

	-40 °F ... 158 °F
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	1766 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	653 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	250 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	≤ 11 mA (At 24 V DC, at 25°C)
Transient surge protection	Yes

Digital inputs

Description of the input	Digital input
Number of inputs	4
Switching level "1" signal	10 V AC/DC ... 50 V AC/DC (Low-voltage input)
	50 V AC/DC ... 250 V AC/DC (High-voltage input)
Switching level "0" signal	0 V AC/DC ... 4 V AC/DC (Low-voltage input)
	0 V AC/DC ... 20 V AC/DC (High-voltage input)
Input frequency	≤ 2 Hz
Min. voltage input signal	0 V AC/DC
Max. voltage input signal	250 V AC/DC

Electrical isolation

Digital I/O	300 V (Rated insulation voltage (in each case between the digital inputs // 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 input, DI1)
	Yellow LED (digital input, DI2)
	Yellow LED (digital input, DI3)
	Yellow LED (digital input, DI4)

Approvals and conformance

Conformance	CE-compliant
IECEX	Ex nA 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 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
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)

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Standards and Regulations

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 IIC T4 Gc X
IECEX	Ex nA 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
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

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Approvals

Approvals

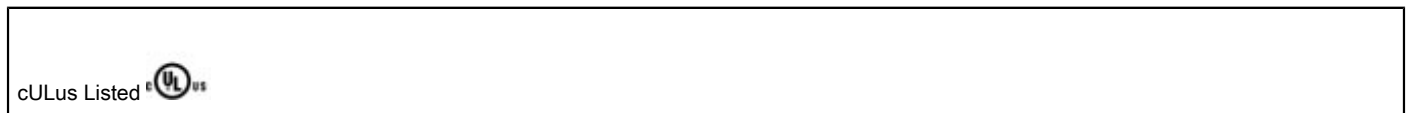
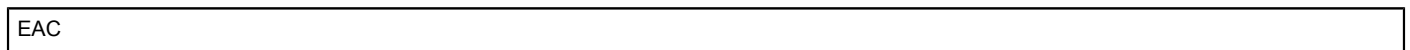
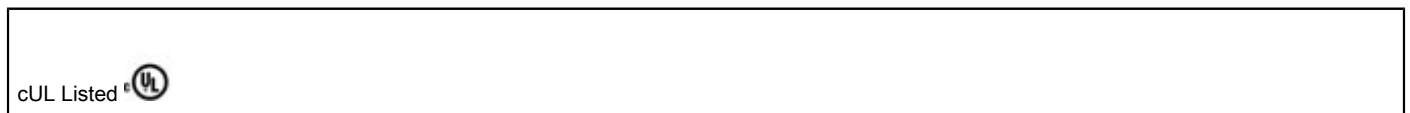
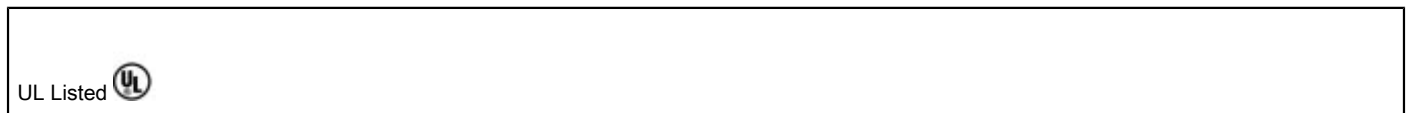
UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

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

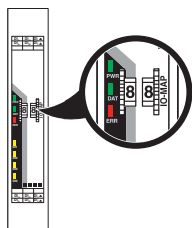
Approvals submitted

Approval details

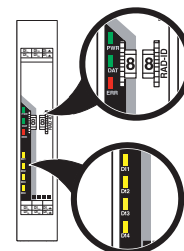


Drawings

Schematic diagram



Schematic diagram

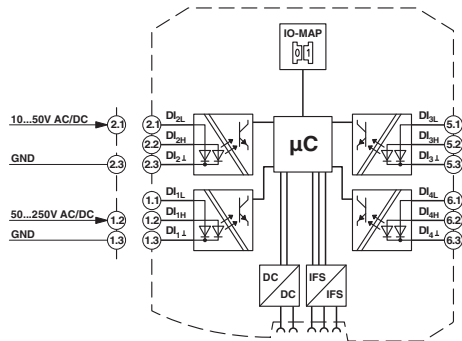


Thumb wheel

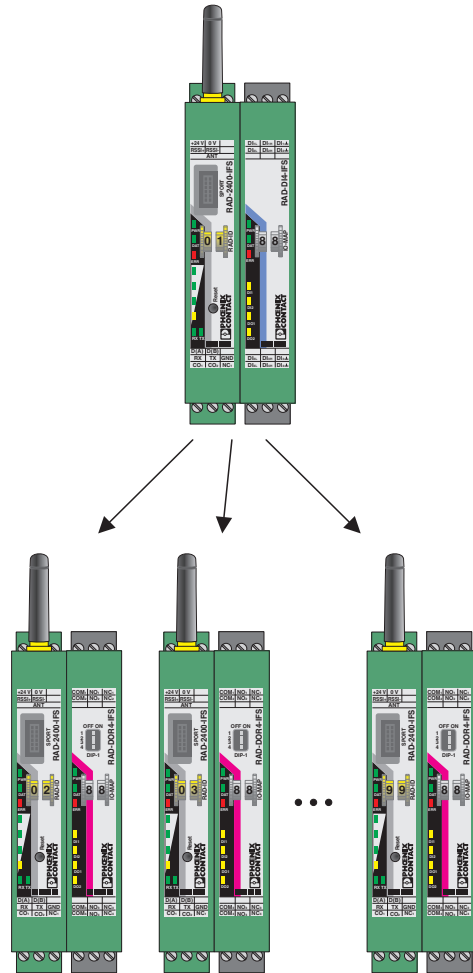
LED indicators

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Block diagram



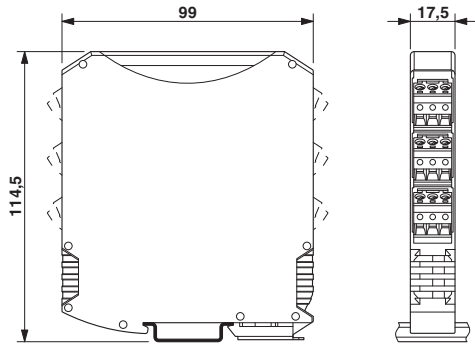
Functional drawing



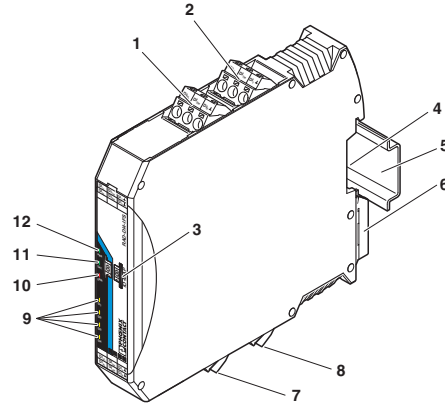
Assignment of digital inputs and digital outputs

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Dimensional drawing

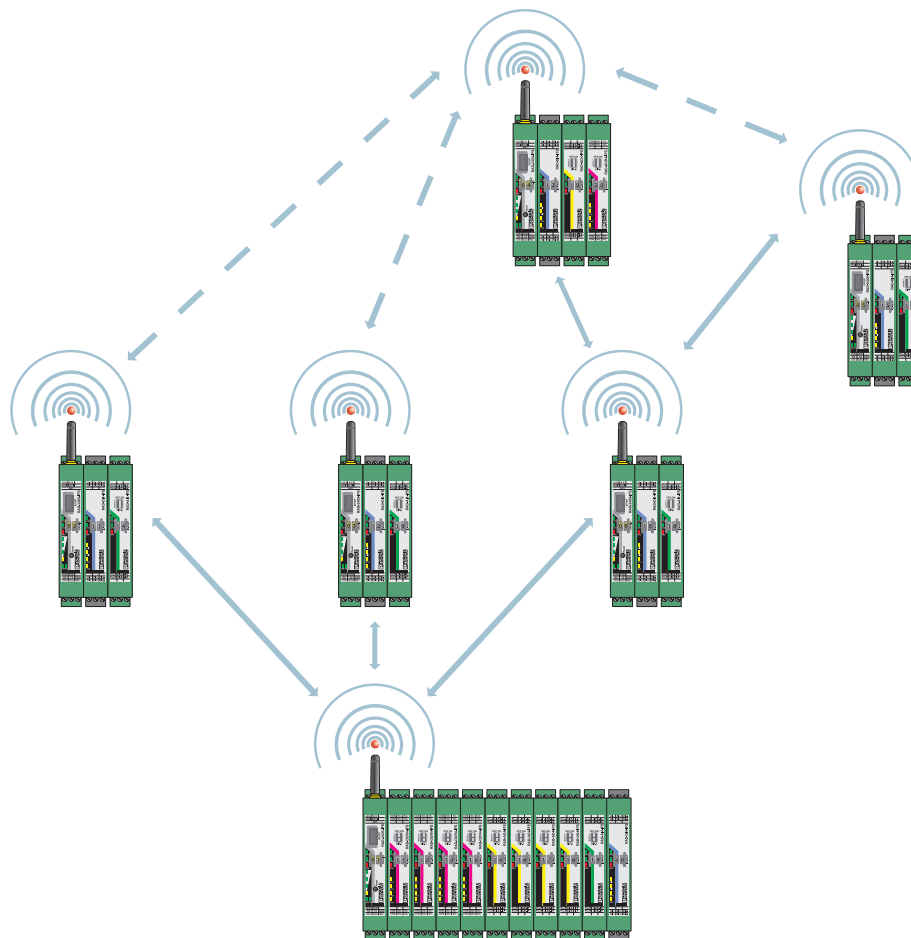


Schematic diagram



Function elements

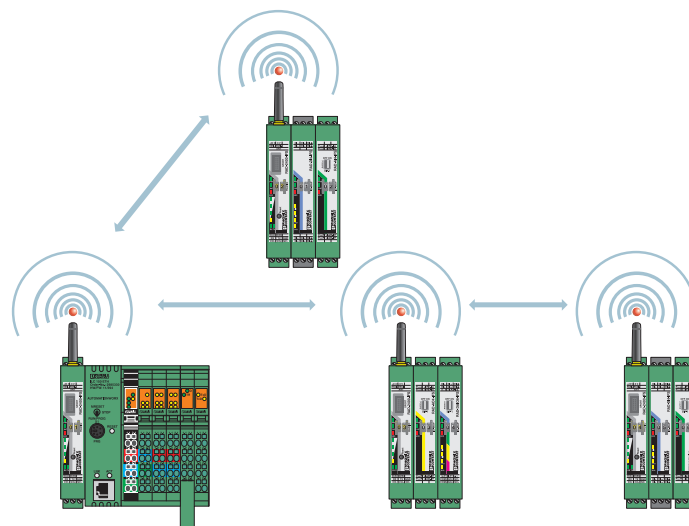
Application drawing



Wireless module in I/O data mode

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Application drawing



Wireless module in PLC/Modbus RTU mode

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Product	Code	Reference	Product link
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