

I/O extension module - RAD-DI8-IFS



2901539

<https://www.phoenixcontact.com/pc/products/2901539>

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Radioline - I/O extension module, 8 digital inputs (0 ... 30.5 V DC) or 2 pulse inputs up to 100 Hz



Your advantages

- Easy startup via thumbwheel
- Channel-to-channel electrical isolation
- Extended temperature range of -40 °C ... +70 °C
- Easy module replacement even during operation (hot swap)
- 8 digital inputs (0 V DC ... 30.5 V DC)
- 2 pulse inputs (0 ... 100 Hz)
- Approved for use in zone 2

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 2901539 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product Key | DNC61D |
| Catalog Page | Page 381 (C-6-2019) |
| GTIN | 4046356609159 |
| Weight per Piece (including packing) | 199 g |
| Weight per Piece (excluding packing) | 168.7 g |
| Customs tariff number | 85177900 |
| Country of origin | DE |

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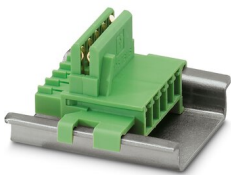
Set consists of

DIN rail bus connectors

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

<https://www.phoenixcontact.com/pc/products/2709561>

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



Technical Data

Notes

Utilization restriction

| | |
|----------|---|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---|

Utilization restriction

| | |
|------------|---|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---|

Product properties

| | |
|--------------|---|
| Product type | Extension module |
| MTTF | 1624 Years (SN 29500 standard, temperature 25°C, operating cycle 21%) |
| | 612 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%) |
| | 233 Years (SN 29500 standard, temperature 40°C, operating cycle 100%) |

Insulation characteristics

| | |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution | 2 |

Electrical properties

| | |
|---|---|
| Electrical isolation | 50 V (Rated insulation voltage (between the channel groups 1...4 and 5...8/TBUS supply, reinforced insulation according to EN 61010)) |
| | 300 V (Rated insulation voltage (to adjacent devices, basic insulation in accordance with EN 61010)) |
| Test voltage for digital I/Os | 1.5 kV AC (50 Hz, 1 min.) |
| Maximum power dissipation for nominal condition | 0.432 W |
| Transient surge protection | Yes |
| Supply voltage range | 19.2 V DC ... 30.5 V DC (DIN rail connector) |
| Max. current consumption | ≤ 18 mA (At 24 V DC, at 25°C) |

Input data

| | |
|--------------------------|--------|
| Max. current consumption | < 1 mA |
|--------------------------|--------|

Digital

| | |
|----------------------------|-----------------------|
| Description of the input | Digital input |
| Number of inputs | 8 |
| Voltage input signal | 0 V DC ... 30.5 V DC |
| Switching level "0" signal | 0 V DC ... 4 V DC |
| Switching level "1" signal | 10 V DC ... 30.5 V DC |
| Input frequency | ≤ 10 Hz (Static mode) |
| Number of channels | 2 |

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| | |
|----------------------------|--------------------------------|
| Switching level "1" signal | 10 V DC ... 30.5 V DC |
| Switching level "0" signal | 0 V DC ... 4 V DC |
| Input frequency | < 100 Hz (Pulse counter mode) |
| Pulse length | ≥ 5 ms (Pulse/pause ratio 1:1) |
| Process data channel | 32 Bit (per channel) |

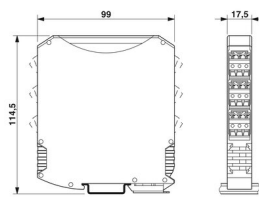
Connection data

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Stripping length | 7 mm |
| 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 |

LED signaling

| | |
|----------------|------------------------------------|
| Status display | Green LED (supply voltage, PWR) |
| | Green LED (bus communication, DAT) |
| | Red LED (periphery error, ERR) |
| | Green LED (counter mode, CNT) |
| | Yellow LED (digital input, DI1) |
| | Yellow LED (digital input, DI2) |
| | Yellow LED (digital input, DI3) |
| | Yellow LED (digital input, DI4) |
| | Yellow LED (digital input, DI5) |
| | Yellow LED (digital input, DI6) |
| | Yellow LED (digital input, DI7) |
| | Yellow LED (digital input, DI8) |

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 17.5 mm |
| Height | 113 mm |
| Depth | 114.5 mm |

Material specifications

I/O extension module - RAD-DI8-IFS



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| | |
|--|-----------|
| Color | green |
| Flammability rating according to UL 94 | V0 |
| Housing material | PA 6.6-FR |

Environmental and real-life conditions

Ambient conditions

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

Approval data

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

EAC

| | |
|----------------|-----|
| Identification | EAC |
|----------------|-----|

ATEX

| | |
|----------------|---|
| Identification | <input type="checkbox"/> II 3 G Ex nA IIC T4 Gc |
| Certificate | IBExU 15 ATEX B008 X |
| Note | Please follow the special installation instructions in the documentation! |

IECEX

| | |
|----------------|--------------------|
| Identification | Ex nA IIC T4 Gc |
| Certificate | IECEX IBE 13.0019X |

EAC Ex

| | |
|----------------|-------------------------|
| Identification | 2Ex nA nC IIC T4 Gc X |
| Certificate | RU C-DE.HB49.B.00033/20 |

UL, USA / Canada

| | |
|----------------|--|
| Identification | 508 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4A |
| | Class I, Zone 2, IIC T4 |

Corrosive gas test

| | |
|----------------|----------------------------------|
| Identification | ISA-S71.04-1985 G3 Harsh Group A |
|----------------|----------------------------------|

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EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 61000-6-4 |
| Noise immunity | EN 61000-6-2 |

Standards and regulations

| | |
|--------------------------|--------------|
| Standards/specifications | EN 61000-6-2 |
| Standards/specifications | EN 61000-6-4 |
| Standards/specifications | EN 60079-0 |
| Standards/specifications | EN-60079-15 |

Mounting

| | |
|-----------------------|--|
| Mounting type | DIN rail mounting |
| Assembly instructions | on standard DIN rail NS 35 in accordance with EN 60715 |
| Mounting position | any |

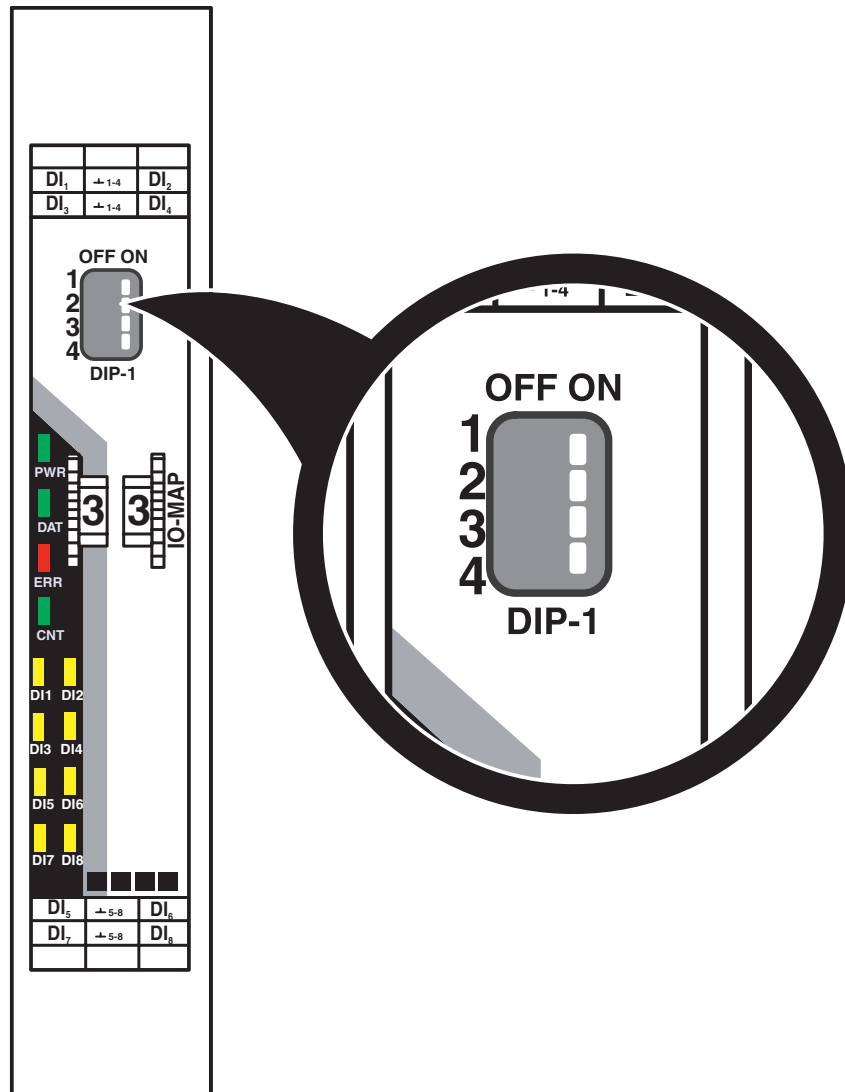
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Drawings

Schematic diagram



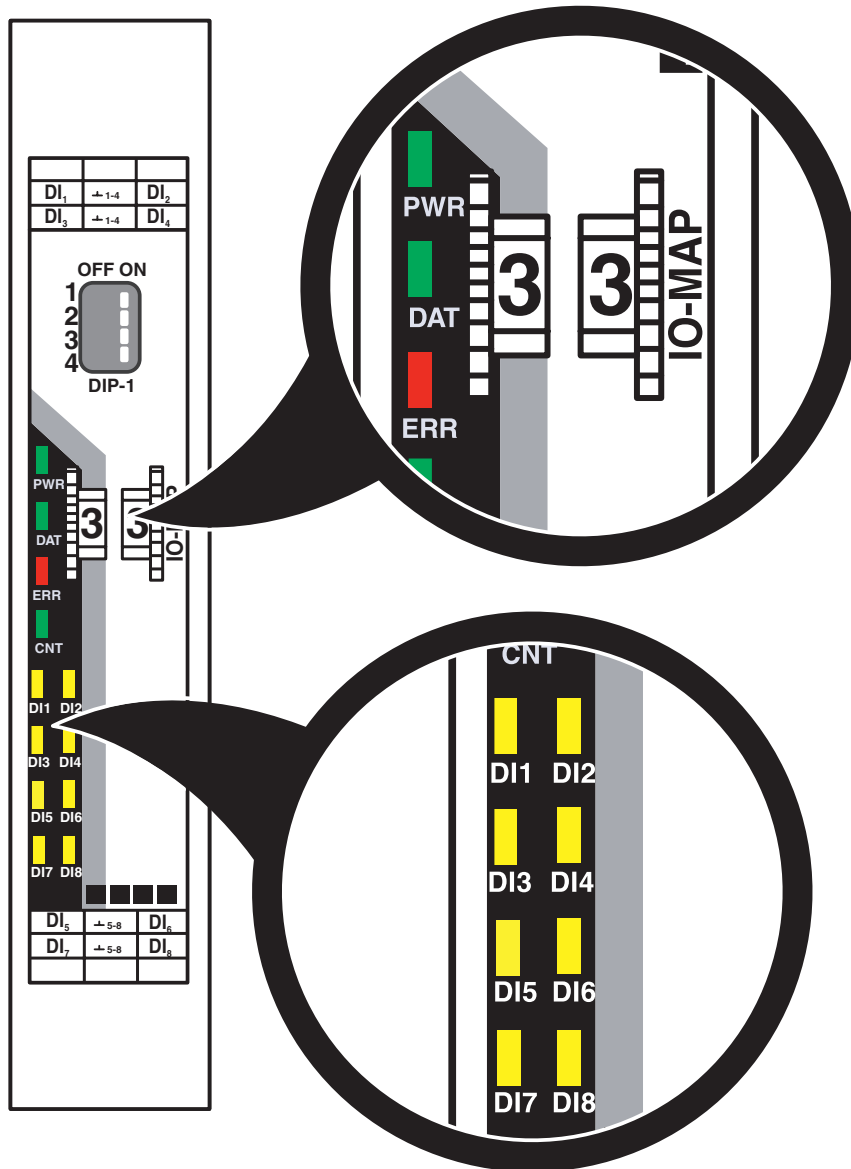
DIP switches

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Schematic diagram



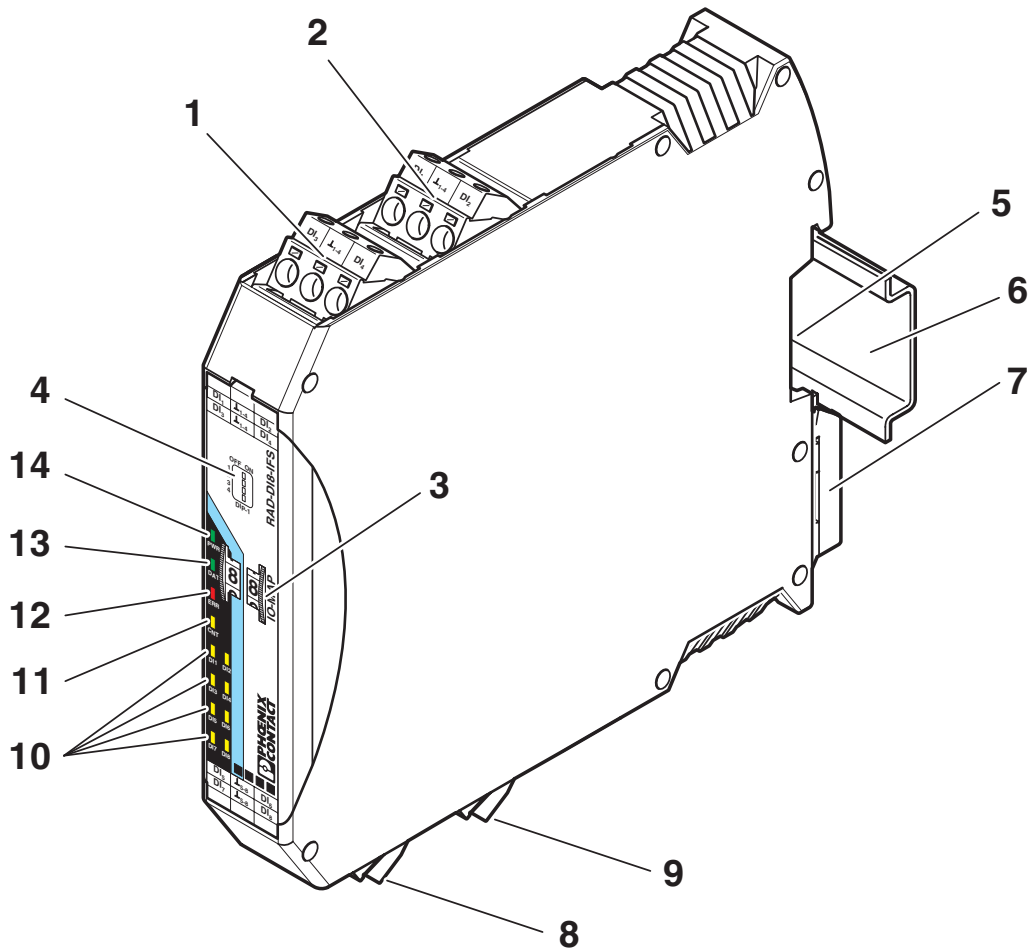
LED indicators

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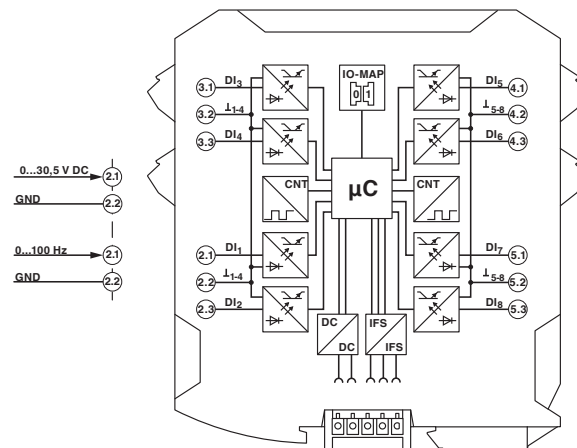
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Schematic diagram



Function elements

Circuit diagram



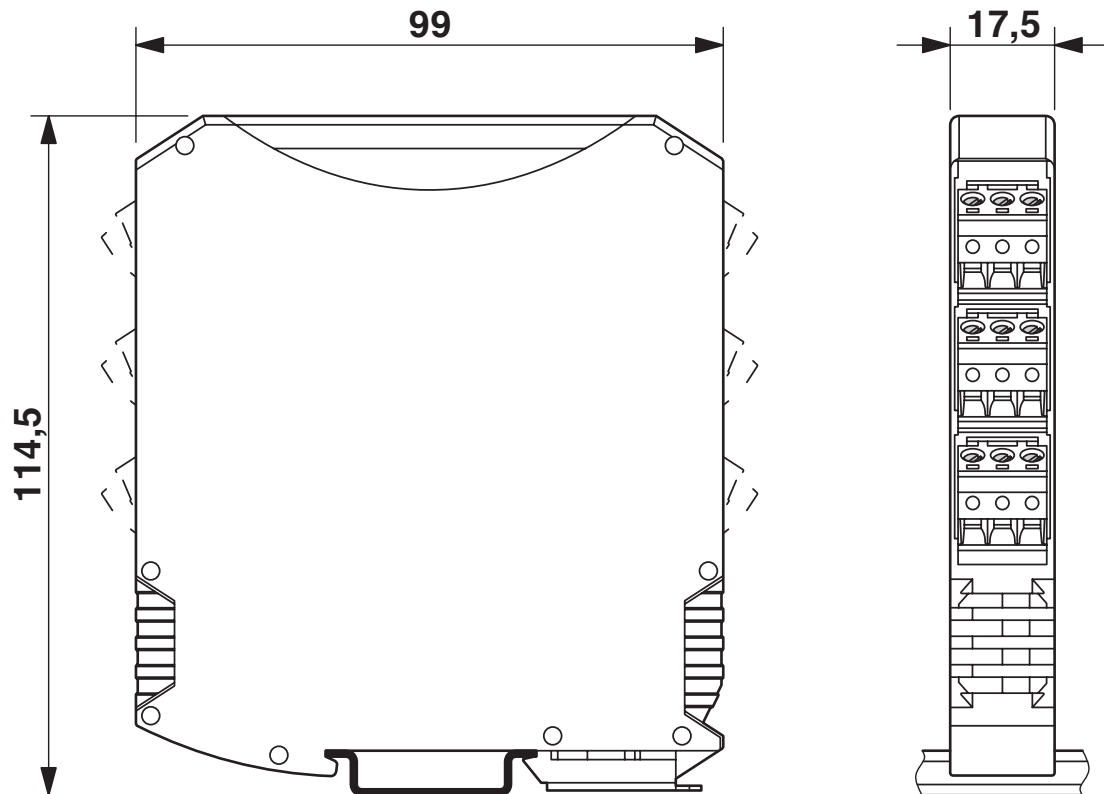
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Dimensional drawing



Slim design

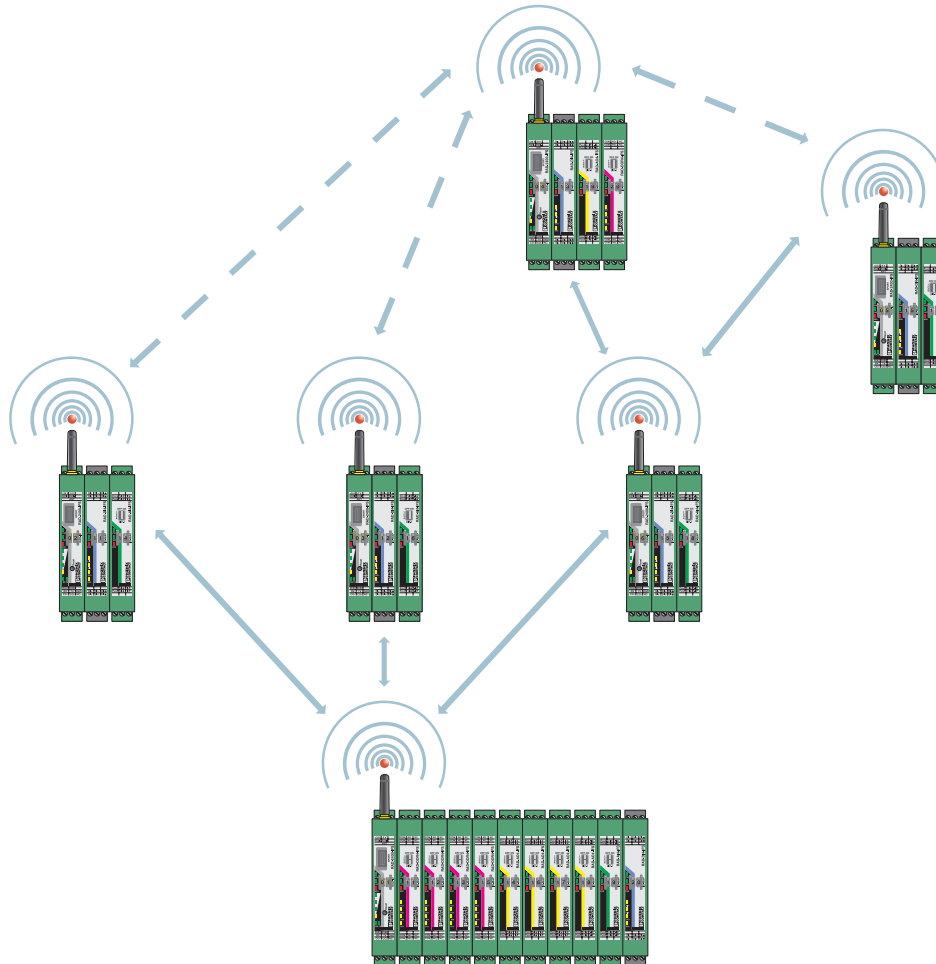
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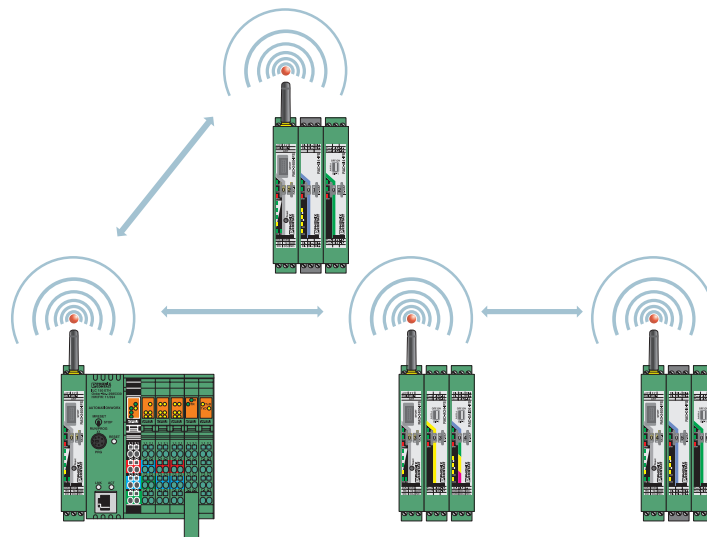


Application drawing



Wireless module in I/O data mode

Application drawing



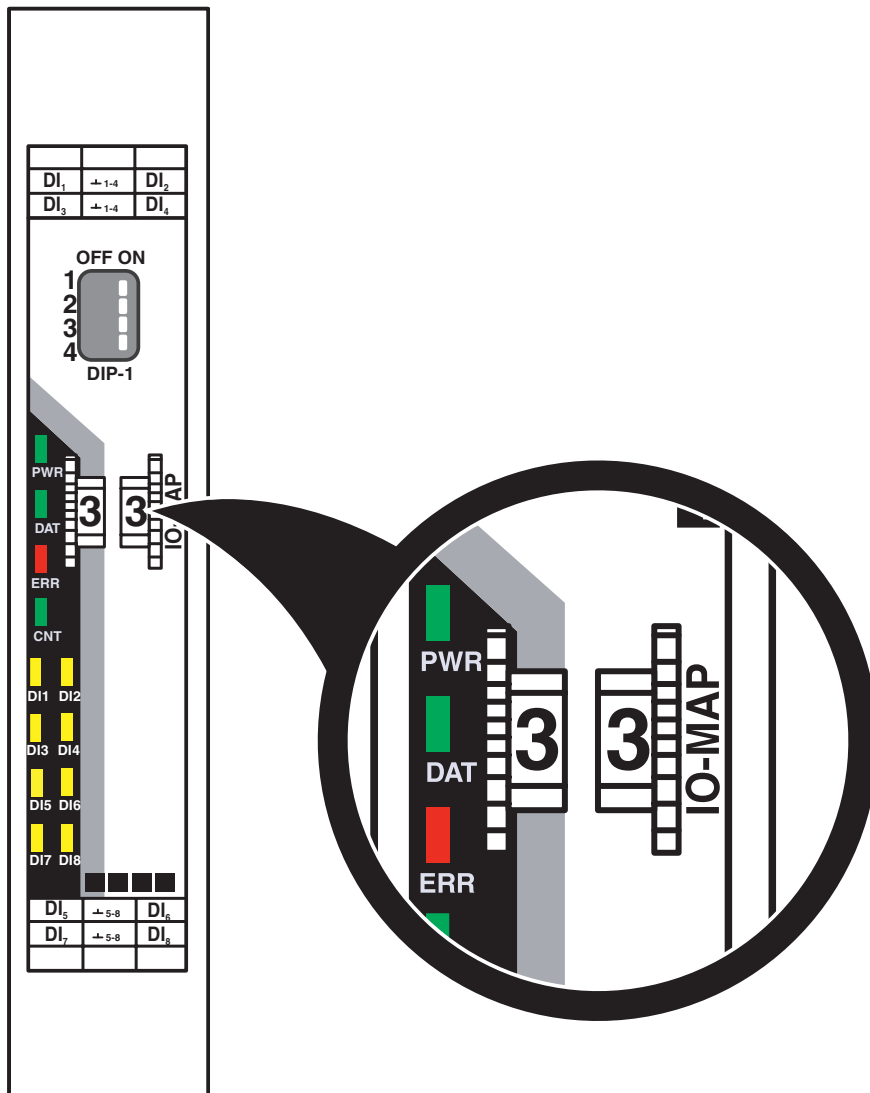
Wireless module in PLC/Modbus RTU mode

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Schematic diagram



Thumbwheel

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Approvals



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705



EAC Ex

Approval ID: RU*HB49.B00033/20



IECEX

Approval ID: IECEX IBE 13.0019X



cUL Listed

Approval ID: FILE E 196811



UL Listed

Approval ID: FILE E 196811



ATEX

Approval ID: IBExU 15 ATEX B008 X

cULus Listed

cULus Listed

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Classifications

ECLASS

| | |
|---------------|----------|
| ECLASS-9.0 | 27242604 |
| ECLASS-10.0.1 | 27242604 |
| ECLASS-11.0 | 27242604 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001599 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

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Environmental Product Compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Mandatory Accessories

Wireless module

Wireless module - RAD-2400-IFS - 2901541

<https://www.phoenixcontact.com/pc/products/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

Wireless module

Wireless module - RAD-900-IFS - 2901540

<https://www.phoenixcontact.com/pc/products/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

Wireless module - RAD-868-IFS - 2904909

<https://www.phoenixcontact.com/pc/products/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

Communication module

Communication module - RAD-RS485-IFS - 2702184

<https://www.phoenixcontact.com/pc/products/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

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

<https://www.phoenixcontact.com/pc/products/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

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

<https://www.phoenixcontact.com/pc/products/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.

Accessories

I/O extension module - RAD-DI8-IFS

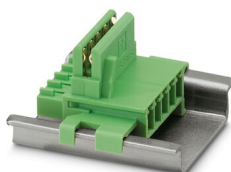
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DIN rail bus connectors

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

<https://www.phoenixcontact.com/pc/products/2709561>



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

I/O extension module

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

<https://www.phoenixcontact.com/pc/products/2902811>



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

I/O extension module - RAD-DI8-IFS

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I/O extension module

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

<https://www.phoenixcontact.com/pc/products/2902811>



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

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