

# I/O extension module - RAD-DI8-IFS



2901539

<https://www.phoenixcontact.com/nz/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
Sales Key	DNC61D
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	85176290
Country of origin	DE

# I/O extension module - RAD-DI8-IFS

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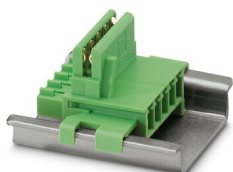
## Set consists of

### DIN rail bus connectors

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

<https://www.phoenixcontact.com/nz/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
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#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### 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
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#### 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)

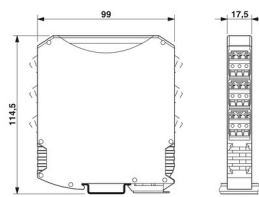
## Connection data

Connection method	Screw connection
Stripping length	7 mm
Conductor cross section solid min.	0.2 mm <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

## 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

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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
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### EAC

Identification	EAC
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### 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

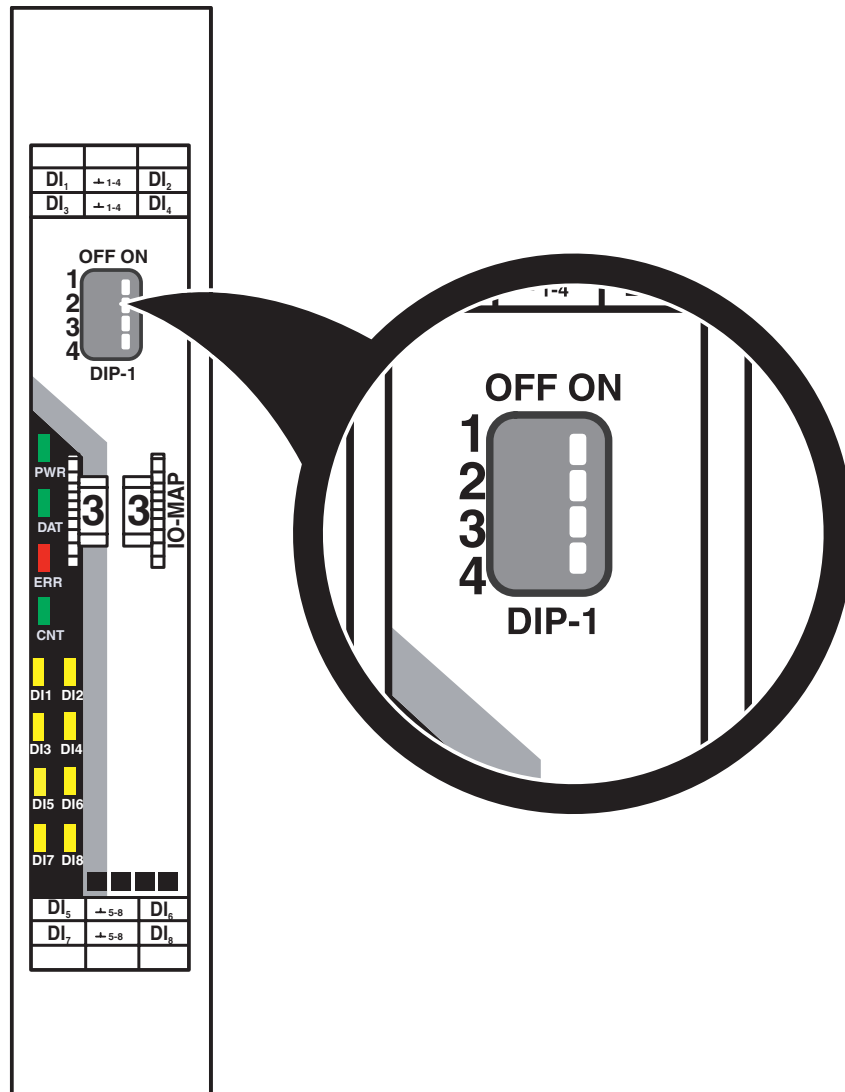
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## Drawings

### Schematic diagram



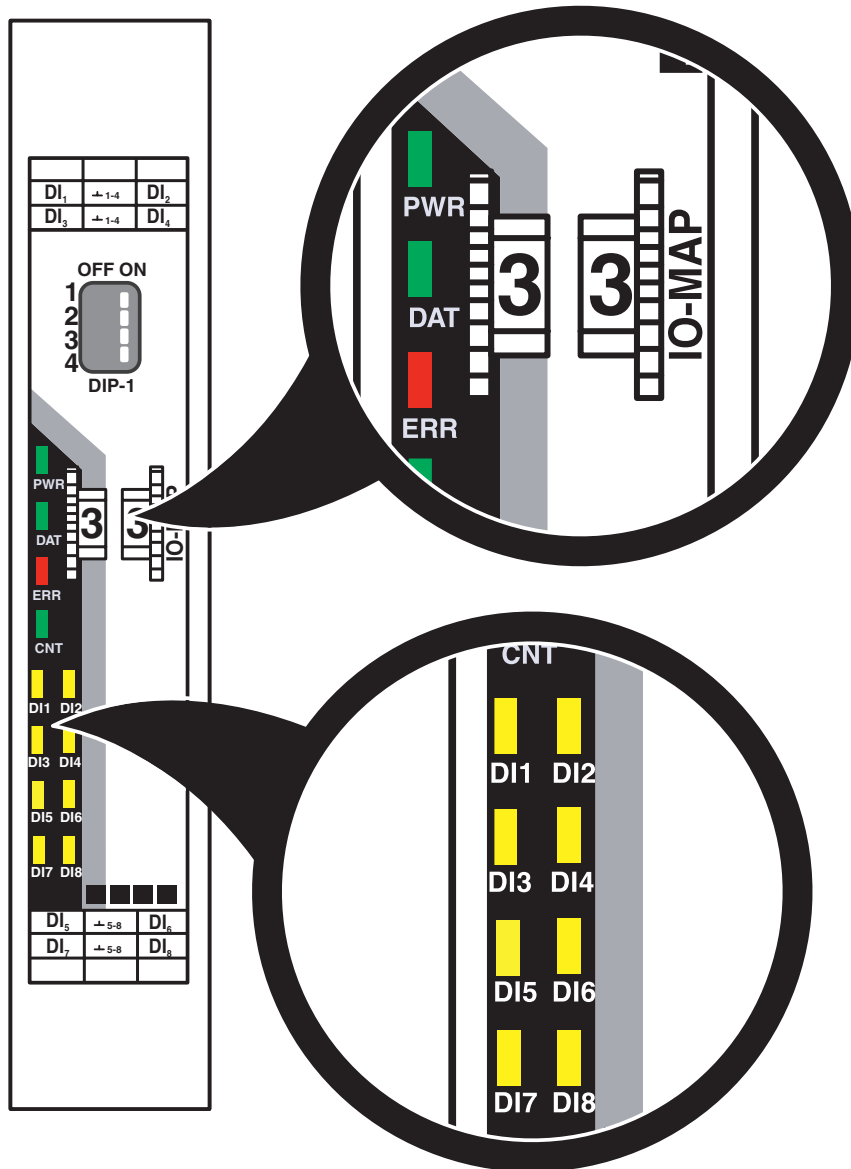
DIP switches

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Schematic diagram



LED indicators

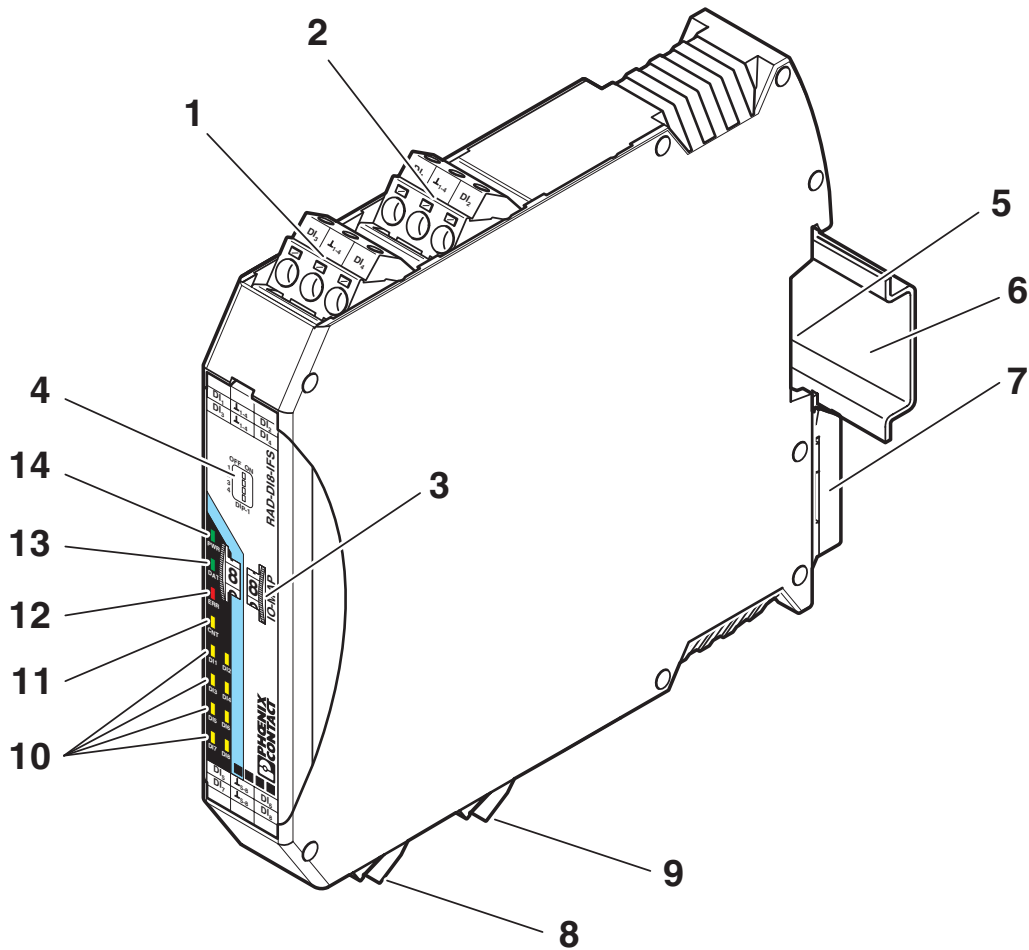


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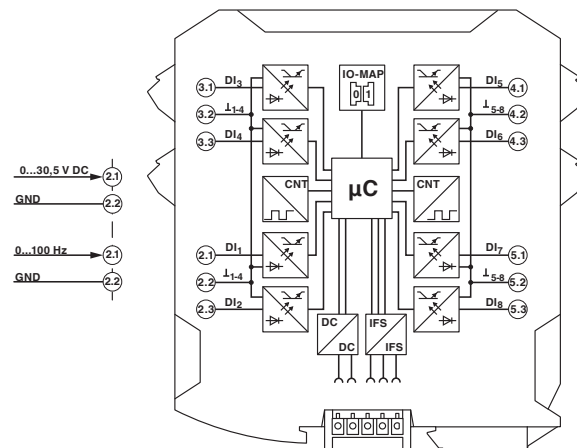
<https://www.phoenixcontact.com/nz/products/2901539>

Schematic diagram



Function elements

Circuit diagram



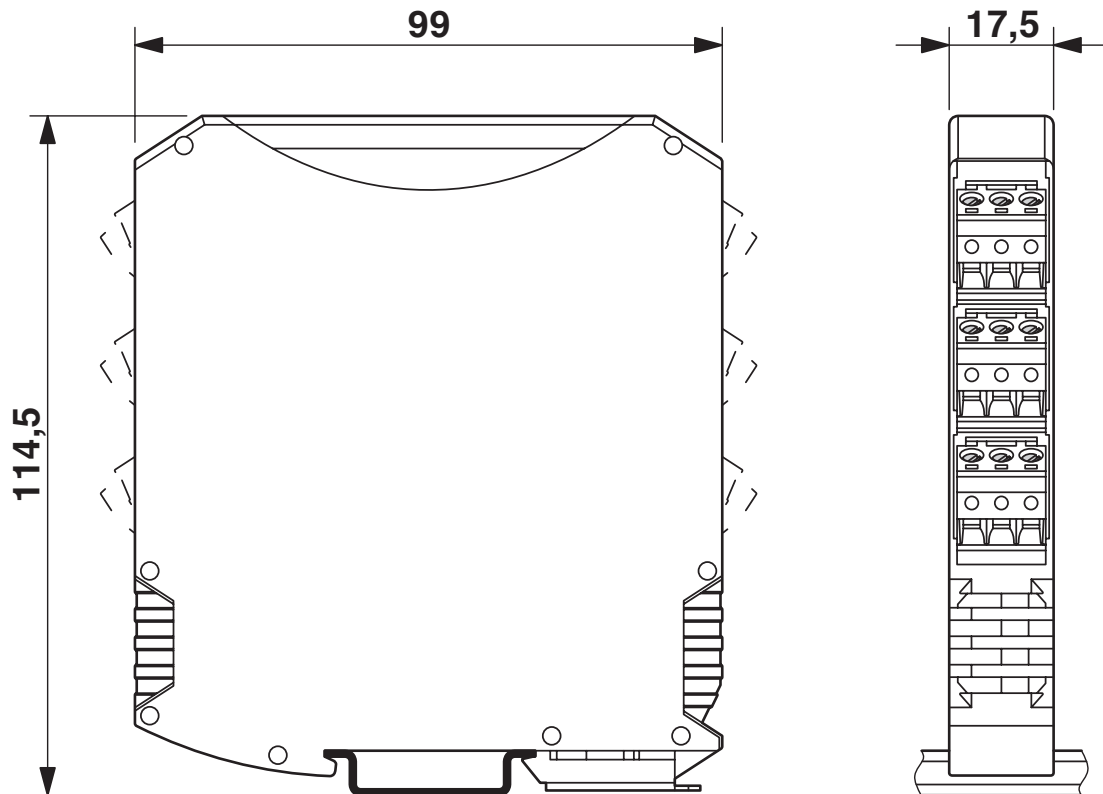
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Dimensional drawing



Slim design

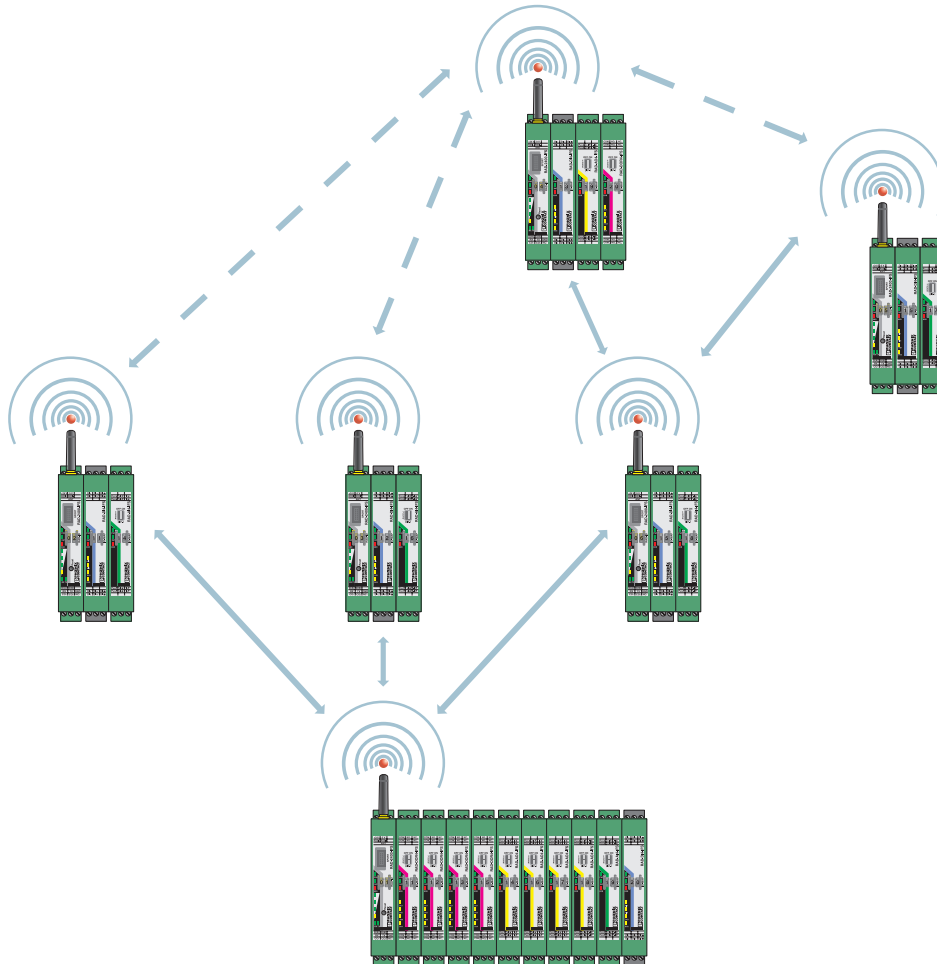
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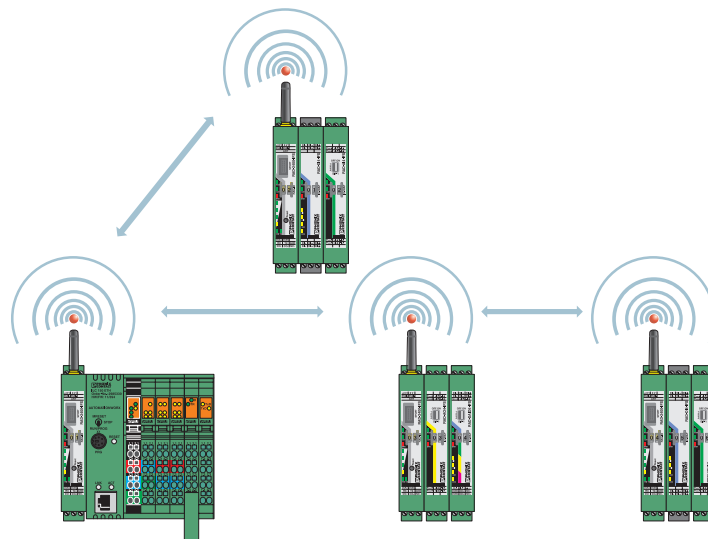


Application drawing



Wireless module in I/O data mode

Application drawing



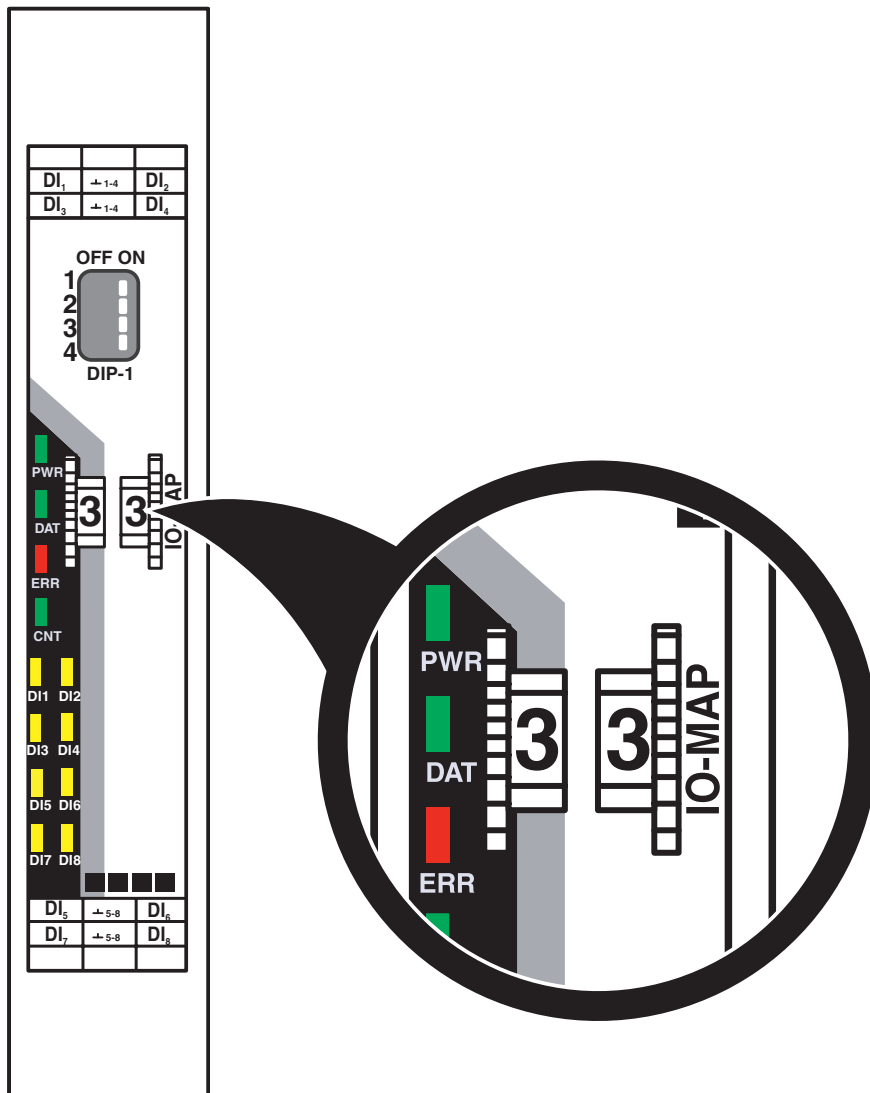
Wireless module in PLC/Modbus RTU mode

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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**

# I/O extension module - RAD-DI8-IFS



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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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# I/O extension module - RAD-DI8-IFS



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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"

# I/O extension module - RAD-DI8-IFS



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## Mandatory Accessories

### Wireless module

Wireless module - RAD-2400-IFS - 2901541

<https://www.phoenixcontact.com/nz/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

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### Wireless module

Wireless module - RAD-900-IFS - 2901540

<https://www.phoenixcontact.com/nz/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/nz/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

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## Communication module

Communication module - RAD-RS485-IFS - 2702184

<https://www.phoenixcontact.com/nz/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/nz/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

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## Wireless module

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

<https://www.phoenixcontact.com/nz/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.

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## Accessories

# I/O extension module - RAD-DI8-IFS

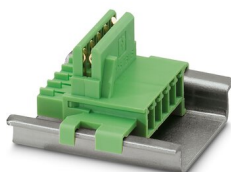
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## DIN rail bus connectors

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

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



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

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## I/O extension module

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

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



## I/O extension module

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

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



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

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PHOENIX CONTACT Ltd

Unit 15C, 906-930 Great South Road, Penrose

Auckland 1061

0508 474 636

[sales@phoenixcontact.co.nz](mailto:sales@phoenixcontact.co.nz)