

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



2901539

<https://www.phoenixcontact.com/au/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)	162.14 g
Weight per piece (excluding packing)	111.27 g
Customs tariff number	85177900
Country of origin	DE

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## Set consists of

ME 17,5 TBUS 1,5/ 5-ST-3,81 KMGY - DIN rail bus connector

2713645

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DIN rail bus connector, color: light gray, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, product range: TBUS5-17,5..., pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting method: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

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## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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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

Rated insulation voltage	60 V (In accordance with EN/IEC 60079-7)
Electrical isolation	50 V (Rated insulation voltage (in each case between channel groups 1...4 and 5...8 / TBUS supply, reinforced insulation in accordance with EN 61010))
	300 V (Rated insulation voltage (to adjacent devices, basic insulation in accordance with EN/IEC 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

Supply voltage range	19.2 V DC ... 30.5 V DC (DIN rail bus connector)
Max. current consumption	≤ 18 mA (At 24 V DC, at 25°C)

### Input data

#### Digital

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)

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## Pulse

Number of channels	2
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

Tightening torque	0.5 Nm ... 0.6 Nm
	5 lb <sub>f</sub> -in. ... 7 lb <sub>f</sub> -in.
Connection method	Screw connection
Stripping length	7 mm
Conductor cross section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross section, rigid 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

## Signaling

Status display	LED supply voltage, PWR (green)
	Green LED (bus communication, DAT)
	LED periphery error, ERR (red)
	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

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Height	113 mm
Depth	114.5 mm

## Material specifications

Color (Housing)	gray (RAL 7042)
Material (Housing)	PA 6.6-FR
Flammability rating according to UL 94	V0

## 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

## Approvals

### CE

Certificate	CE-compliant
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### ATEX

Identification	⊕ II 3 G Ex ec IIC T4 Gc
Certificate	IBExU 15 ATEX B008 X
Note	Please follow the special installation instructions in the documentation!

### IECEX

Identification	Ex ec 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
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### CCC / China-Ex

Identification	Ex ec IIC T4 Gc
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Certificate	2022122310115625
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## 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 immunity	EN 61000-6-2

## Noise emission

Standards/regulations	EN 61000-6-4
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## Standards and regulations

Standard designation	EMC Directive 2014/30/EU
Standards/specifications	EN 61000-6-2
Standard designation	EMC Directive 2014/30/EU
Standards/specifications	EN 61000-6-4
Standard designation	Ex Directive (ATEX)
Standards/specifications	EN 60079-0
Standard designation	Ex Directive (ATEX)
Standards/specifications	EN 60079-15

## Mounting

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

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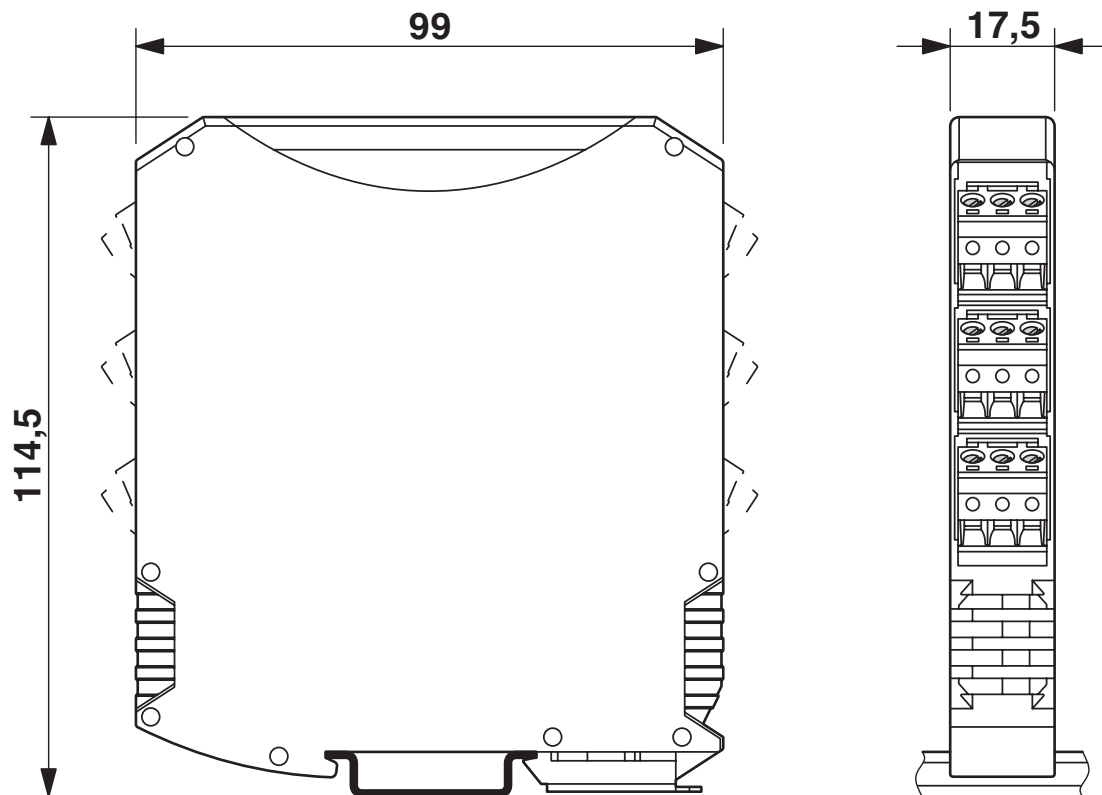
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## Drawings

Dimensional drawing



Slim design

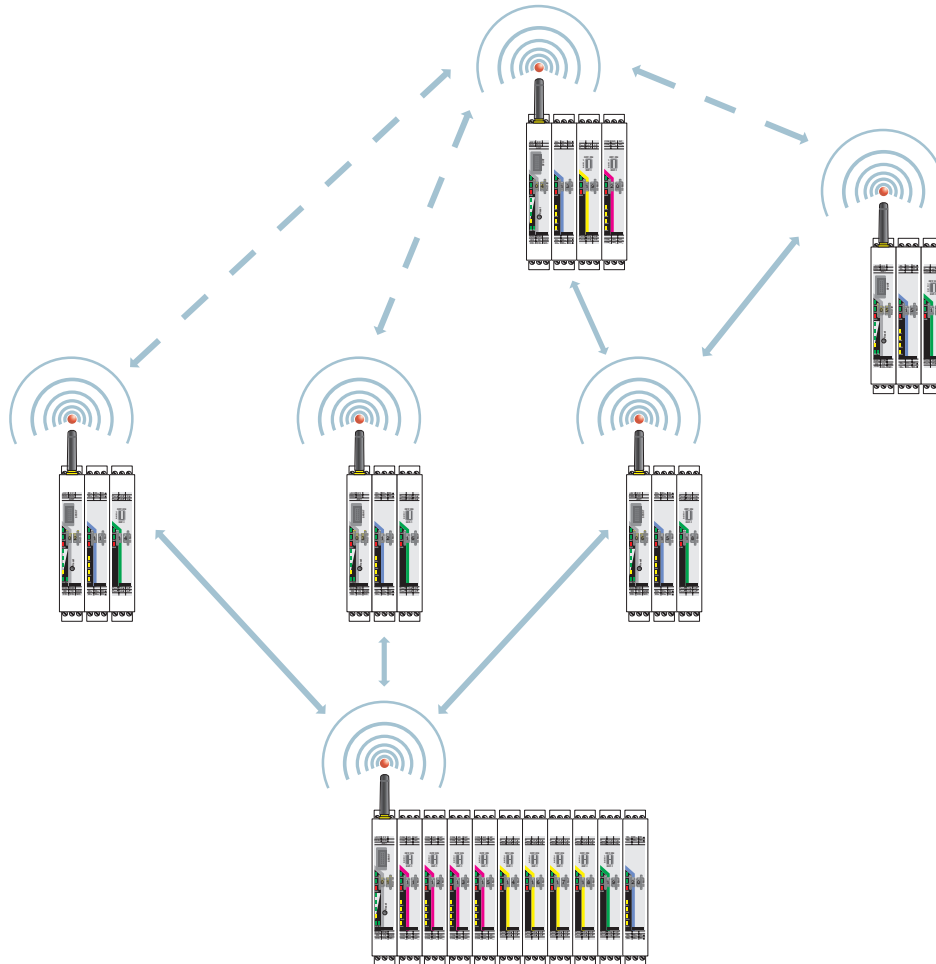
# RAD-DI8-IFS - I/O extension module



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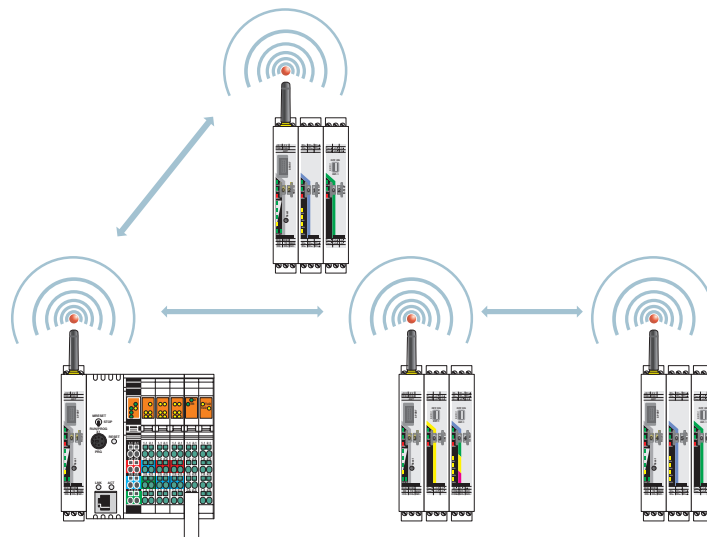
<https://www.phoenixcontact.com/au/products/2901539>

Application drawing



Wireless module in I/O data mode

Application drawing



Wireless module in PLC/Modbus RTU mode



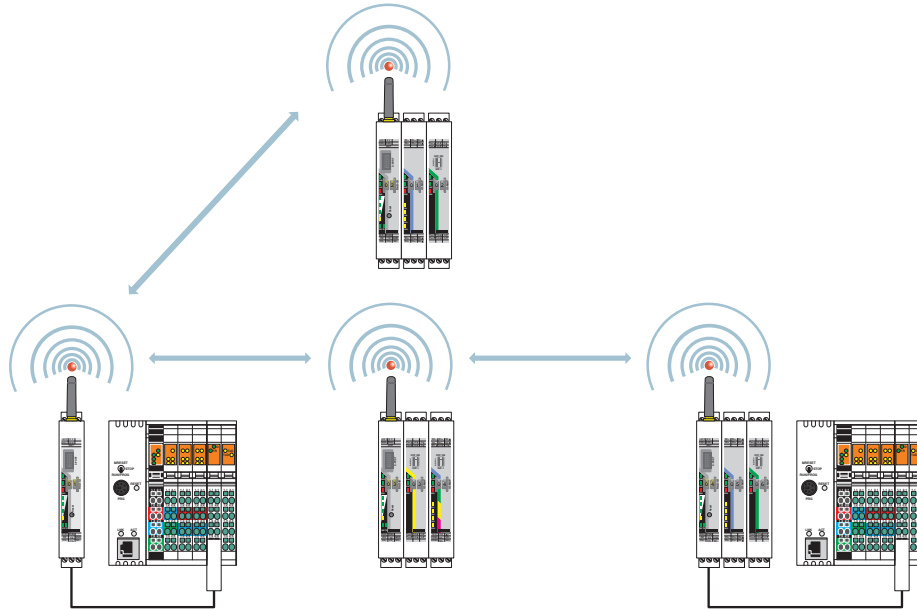
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Application drawing



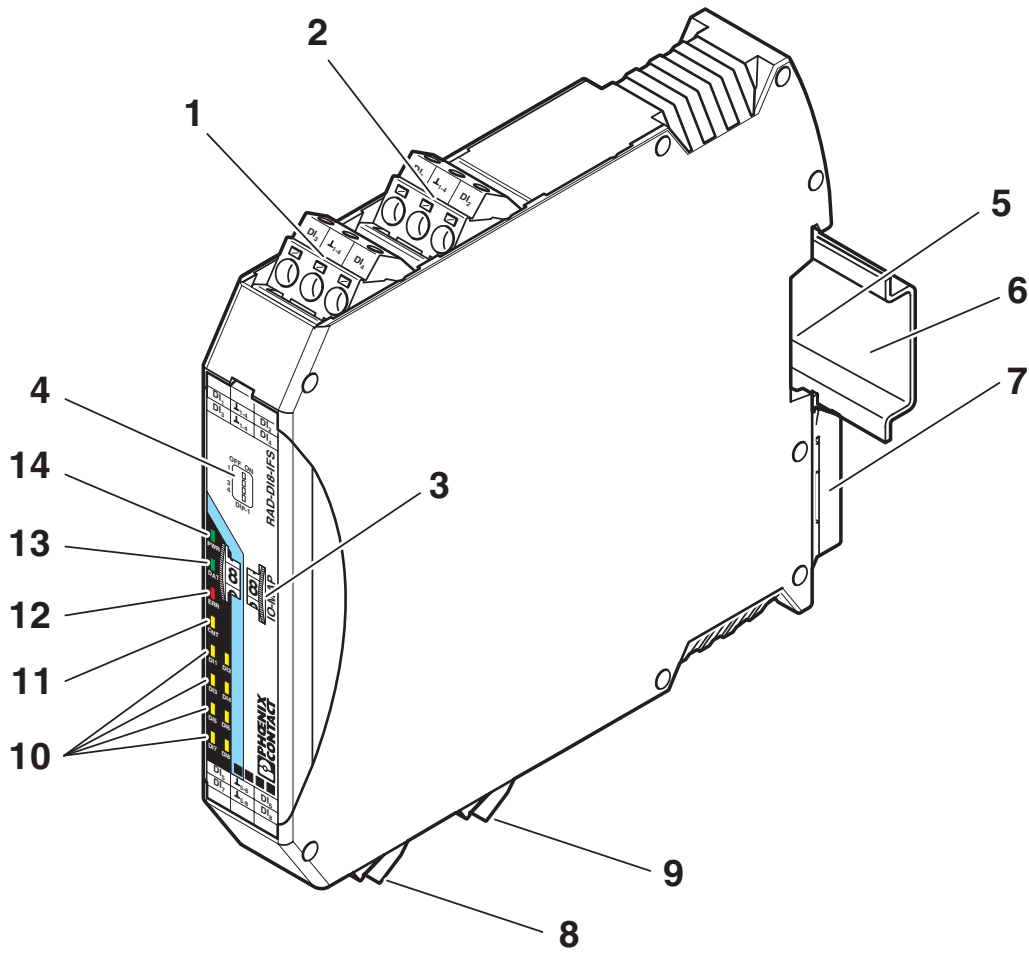
Wireless module in PLC/Modbus RTU dual mode

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Schematic diagram



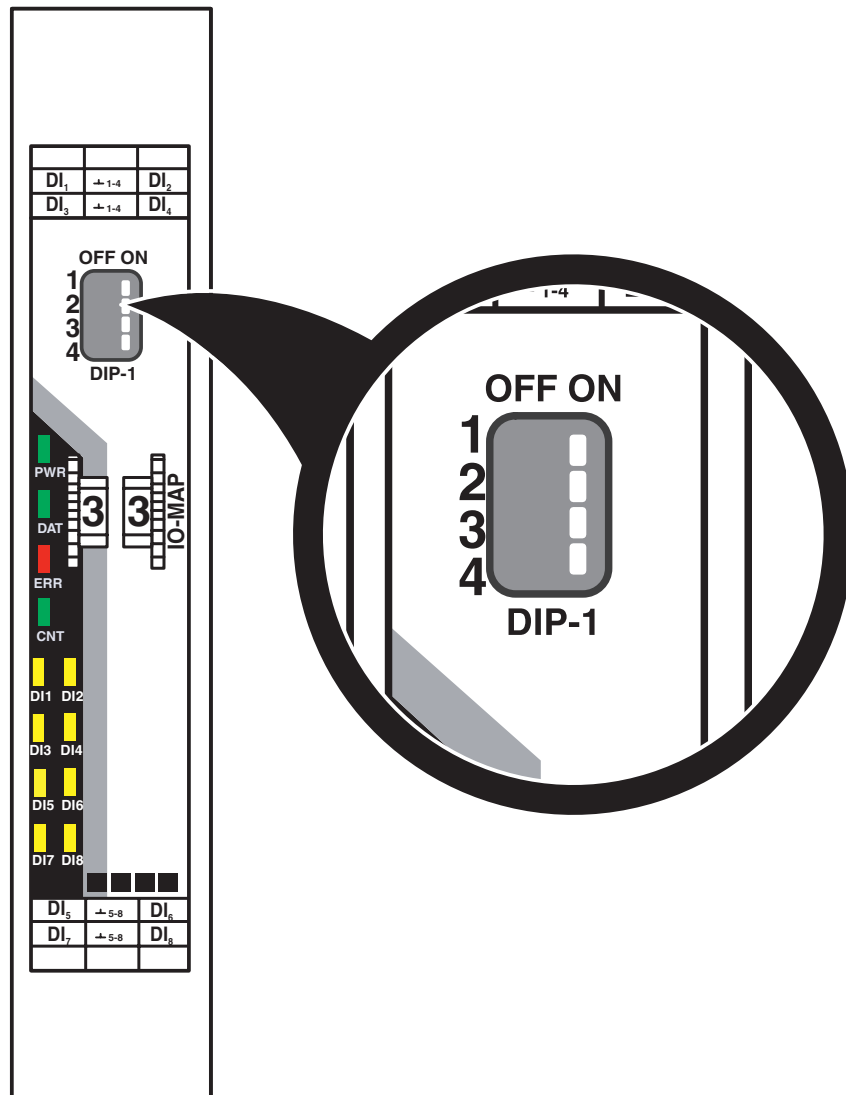
Function elements

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Schematic diagram



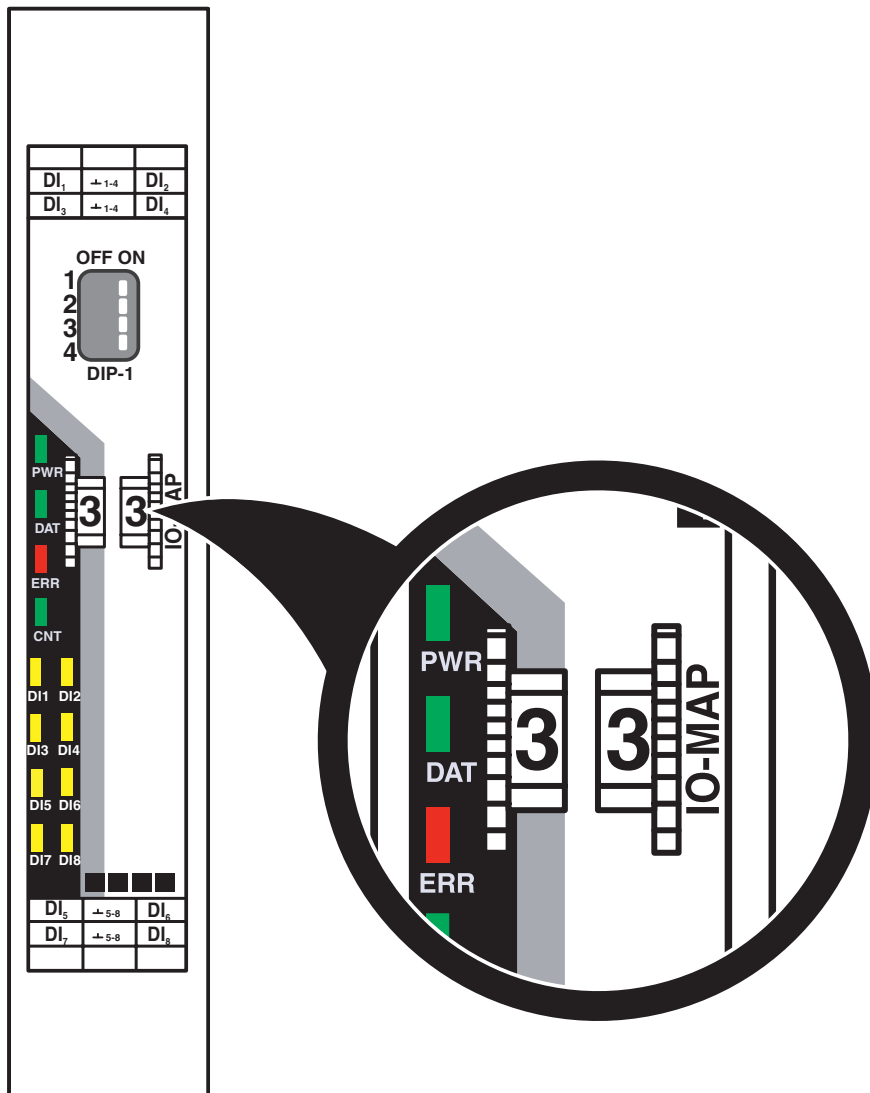
DIP switches

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Schematic diagram



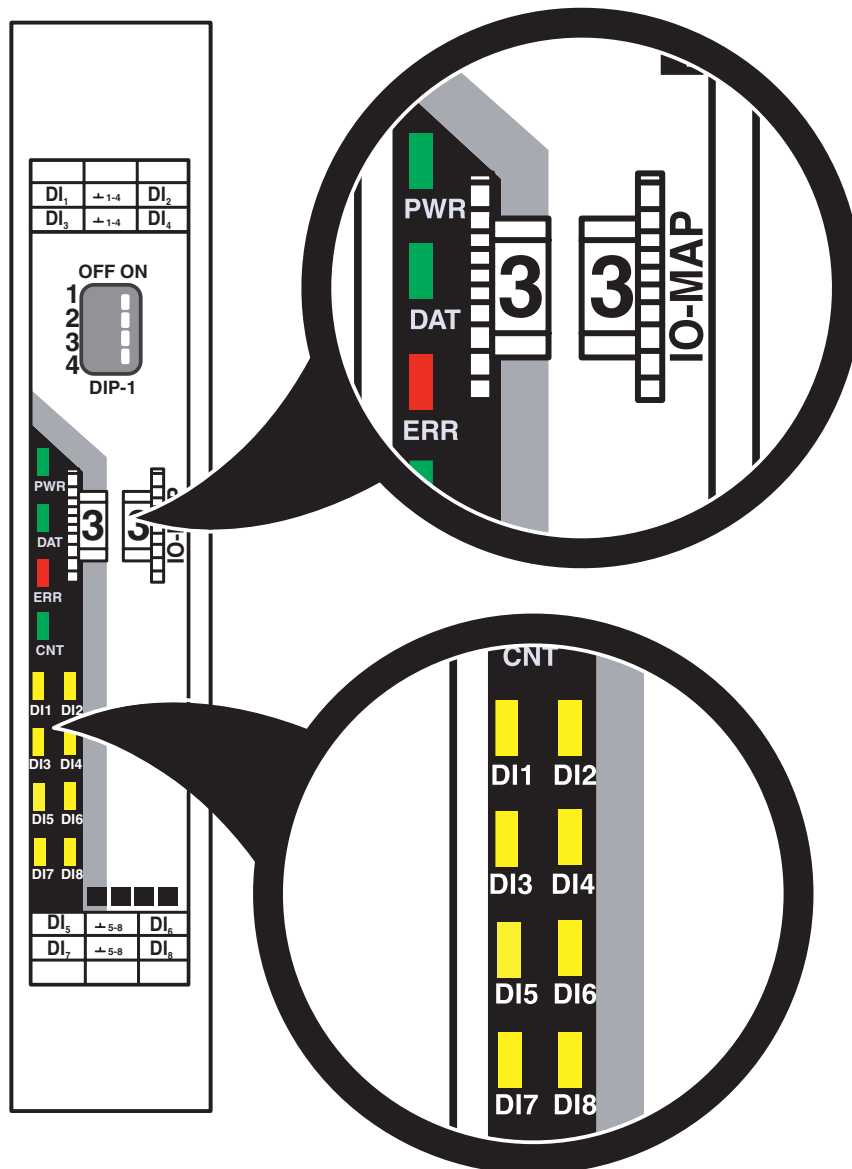
Thumbwheel

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Schematic diagram



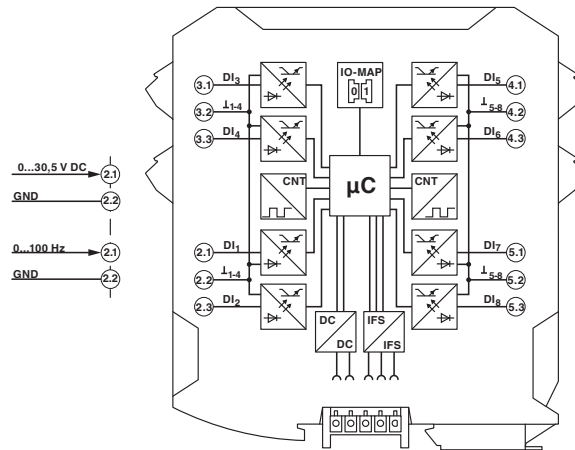
LED indicators

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Circuit diagram



Basic circuit diagram

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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/au/products/2901539>


 **UL Listed**  
Approval ID: E238705


 **cUL Listed**  
Approval ID: E238705


 **EAC Ex**  
Approval ID: RU\*HB49.B00033/20


 **cUL Listed**  
Approval ID: E196811

 **UL Listed**  
Approval ID: E196811

 **ATEX**  
Approval ID: IBExU 15 ATEX B008 X

 **IECEx**  
Approval ID: IECEx IBE 13.0019X

 **CCC**  
Approval ID: 2022122310115625

 **ATEX**  
Approval ID: IBExU15ATEXB008 X

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## Classifications

### ECLASS

ECLASS-13.0

27242604

### ETIM

ETIM 9.0

EC001599

### UNSPSC

UNSPSC 21.0

32151602



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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	ed84283b-e2b8-44c5-81bf-617f53a9ac31

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