

# NEARFI P 2A R - Inductive coupler



1234229

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NearFi remote, contactless power coupler, 50 W (US), range  $\leq 10$  mm, M12 screw connection, IP65, can be combined with NEARFI P 2A B. Incompatible with NEARFI 200 (new)

## Product description

With the robust NEARFI-P... NearFi couplers, you can transmit power (24 V DC / 2 A) without contact across a distance in the centimeter range. You can therefore replace wear-sensitive and maintenance-intensive connections and reduce downtimes in your systems.

## Your advantages

- Contactless - and therefore no wear and no maintenance
- High power in a compact housing
- All-round visible diagnostics with light ring on the housing
- High degree of mounting freedom with flexible proximity options
- Plug and Play - as easy as a plug
- Degree of protection IP65

## Commercial data

Item number	1234229
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN26
Product key	DNC692
GTIN	4063151337681
Weight per piece (including packing)	565.9 g
Weight per piece (excluding packing)	515 g
Customs tariff number	85176200
Country of origin	DE

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## Technical data

### Product properties

Product type	Inductive coupler
Product family	NearFi
Application	Power
MTTF	331 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	196 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	98 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### Electrical properties

Maximum power dissipation for nominal condition	0 W
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### Supply

Protective circuit	Short-circuit/overload protection
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### Output data

Output voltage	24 V DC $\pm 5\%$
Output current	$\leq 2$ A (typical)
	4 A (Peak, for 20 ms, with 5 mm spacing)

### Connection data

#### Supply

Connection method	M12 female, A-coded
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### Interfaces

#### Inductive: Power transmission

Switch-on time	< 50 ms
Range	min. 0 mm
	$\leq 10$ mm (at 60 °C)
	$\leq 12$ mm (at 25 °C)
Center offset	$\pm 10$ mm
Wireless modules that can be connected	1 (Base coupler)
Frequency range	100 kHz ... 148.5 kHz (Power transmission)

### Dimensions

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Dimensional drawing	
Width	80 mm
Height	86 mm
Depth	39 mm

## Material specifications

Color (Housing)	black (RAL 9005)
Material (Enclosure)	PBT
	Die-cast zinc
Flammability rating according to UL 94	V0

## Cable/line

Other resistance	Resistant to welding splashes
	Resistant to salt spray in accordance with IEC 60068-2-11 (96 h in 5% salt spray)

## Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Vibration (operation): 5 g per spatial direction, 10 Hz ... 150 Hz, amplitude $\pm 0.34$ mm
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Shock (operation): 30 g, 11 ms duration, half-sine shock pulse, three shocks per spatial direction
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	Continuous shock (operation): 10 g, 16 ms duration, half-sine shock pulse, 1,000 shocks per spatial direction

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65 (Manufacturer's declaration)
Impact strength	IK06
Ambient temperature (operation)	-20 °C ... 60 °C (observe derating)
	-20 °C ... 40 °C (in accordance with UL, observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	2000 m
Permissible humidity (operation)	10 % ... 95 %
Permissible humidity (storage/transport)	10 % ... 95 %
Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above sea level)

## Approvals

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## CE

Certificate	CE-compliant
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## Wireless approval, Europe

Note	RED 2014/53/EU
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## UL, USA

Identification	UL 61010 Listed
	UL 61010-2-201, 2nd Edition
	UL 61010-1, 3rd Edition
Certificate	E238705

## UL, Canada

Identification	cUL 61010 Listed
	CSA C22.2 NO. 61010-2-201:18, 2nd Edition
	CSA C22.2 NO. 61010-1, 3rd Edition
Certificate	E238705

## Wireless approval USA, FCC

Certificate	YG3P2AR
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## KC approval for South Korea

Certificate	R-R-PCK-1234232
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## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electrostatic discharge

Contact discharge	± 4 kV (Test Level 2)
Discharge in air	± 8 kV (Test Level 3)
Comments	Criterion B

## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz (Test Level 3)
Field intensity	10 V/m
Comments	Criterion A

## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## Fast transients (burst)

Input	± 2 kV (Test Level 3 - asymmetrical)
Output	± 2 kV (Test Level 3 - asymmetrical)

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Signal	± 2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

Input	± 0.5 kV (Test Level 1 - symmetrical)
	± 1 kV (Test Level 2 - asymmetrical)
Output	± 1 kV (Test Level 2 - asymmetrical)
Signal	± 1 kV (Test Level 2 - asymmetrical)
Comments	Criterion B

## Conducted interference

Standards/regulations	EN 61000-4-6
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## Conducted interference

Frequency range	0.15 MHz ... 80 MHz (Test Level 3 - asymmetrical)
Comments	Criterion A
Voltage	10 V (80% amplitude modulation with 1 kHz)

## Emitted interference

Standards/regulations	EN 55016-2-3
Comments	Class A, industrial applications

## Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

## Standards and regulations

Free from substances that could impair the application of coating	VDMA 24364:2018-05
Other resistance	Resistant to welding splashes
	Resistant to salt spray in accordance with IEC 60068-2-11 (96 h in 5% salt spray)
Standards/regulations	EN 60204-1 (PELV)
Standard designation	Protective extra-low voltage

## Mounting

Mounting type	Panel mounting
Assembly note	Observe derating
Mounting position	any

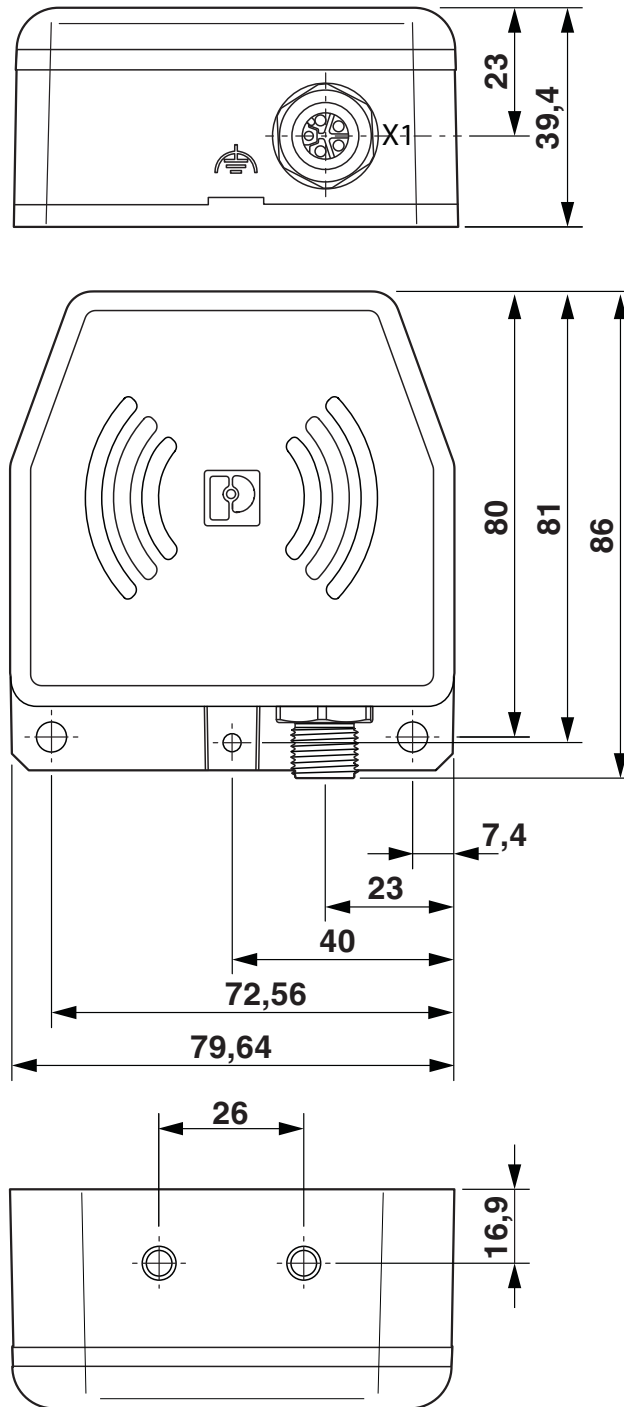
# NEARFI P 2A R - Inductive coupler

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## Drawings

Dimensional drawing



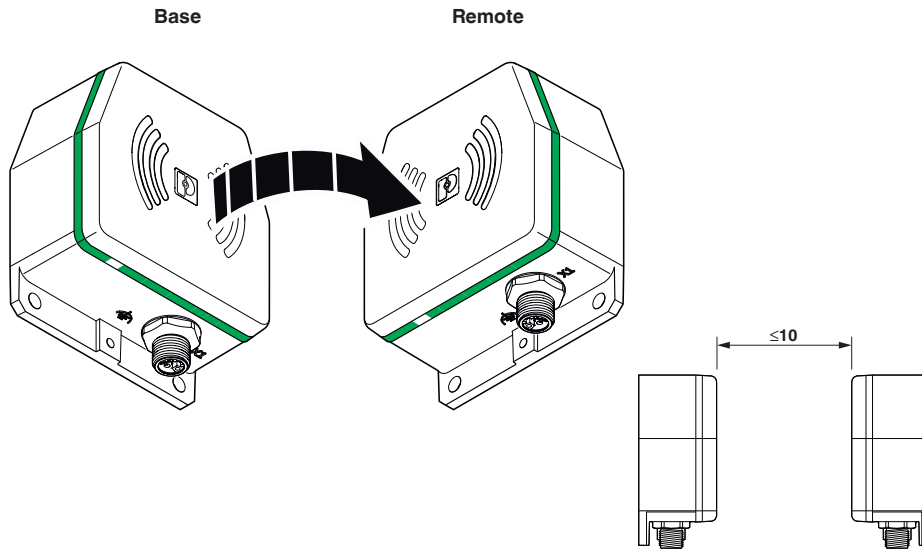
Dimensional drawing

# NEARFI P 2A R - Inductive coupler

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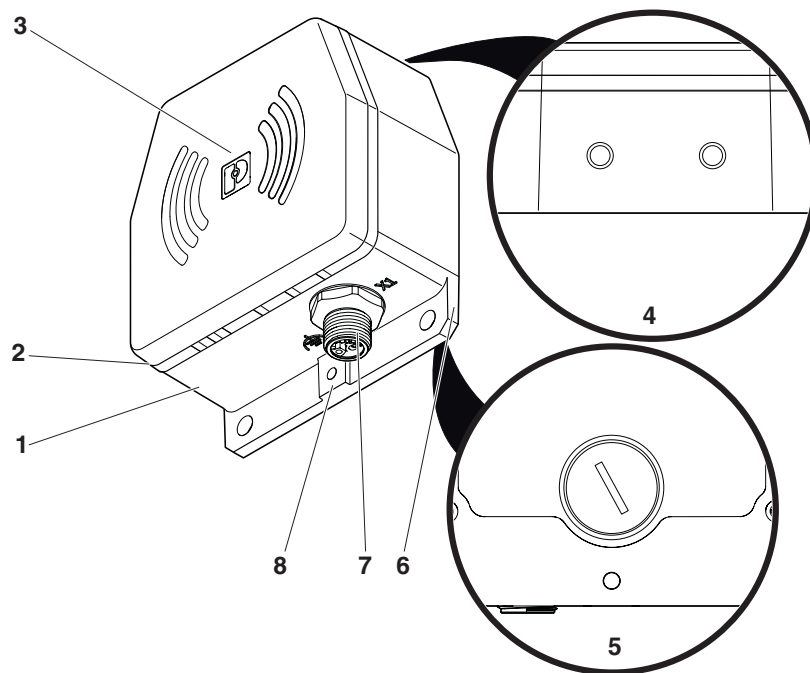
<https://www.phoenixcontact.com/us/products/1234229>

## Schematic diagram



## Method of operation

## Schematic diagram



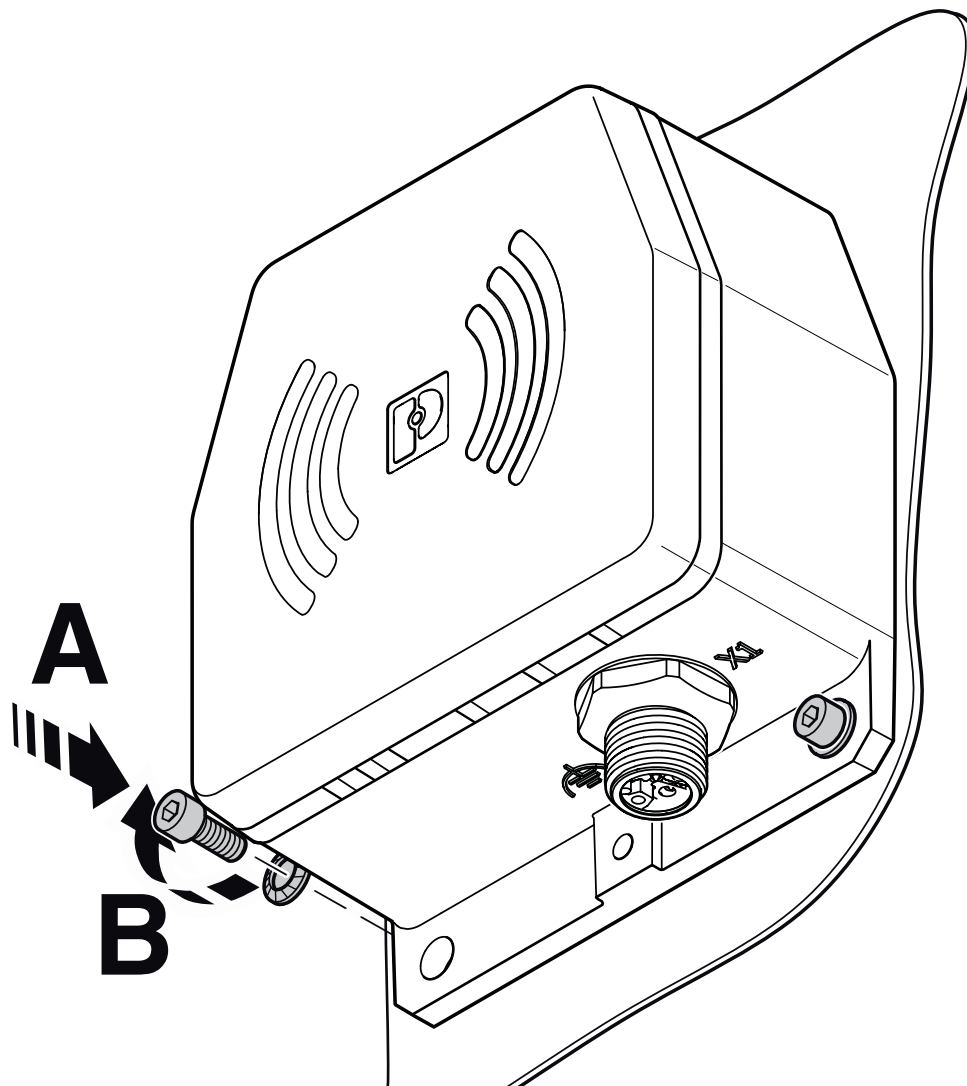
## Function elements

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Schematic diagram



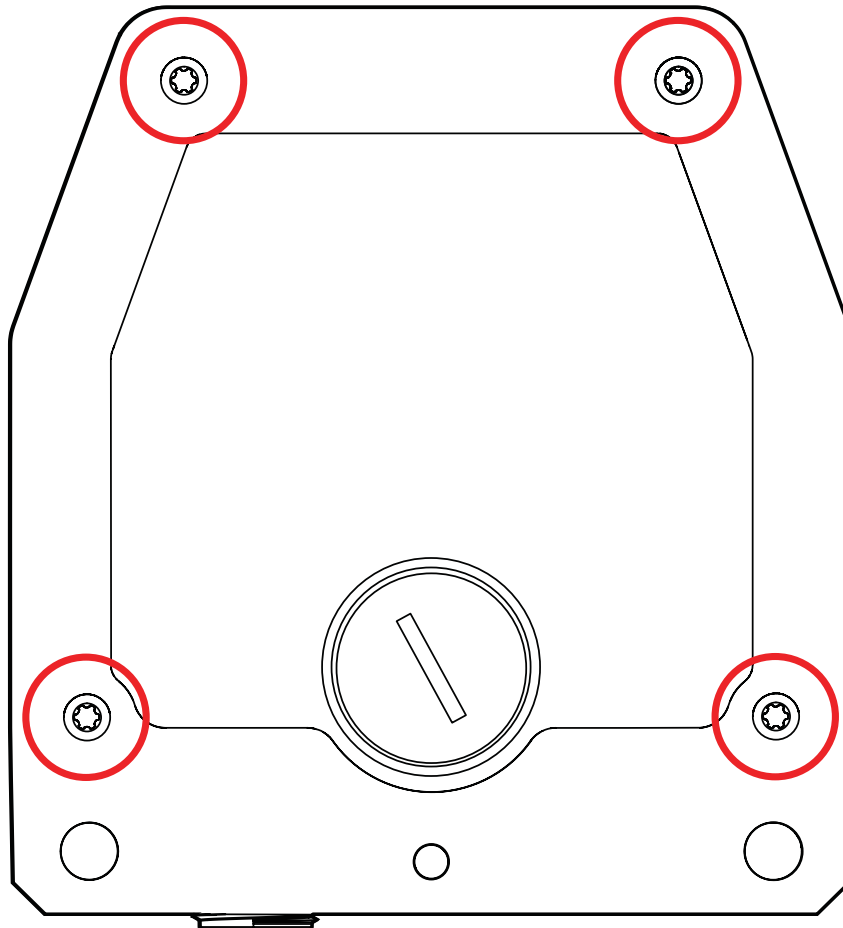
Mounting with two screws

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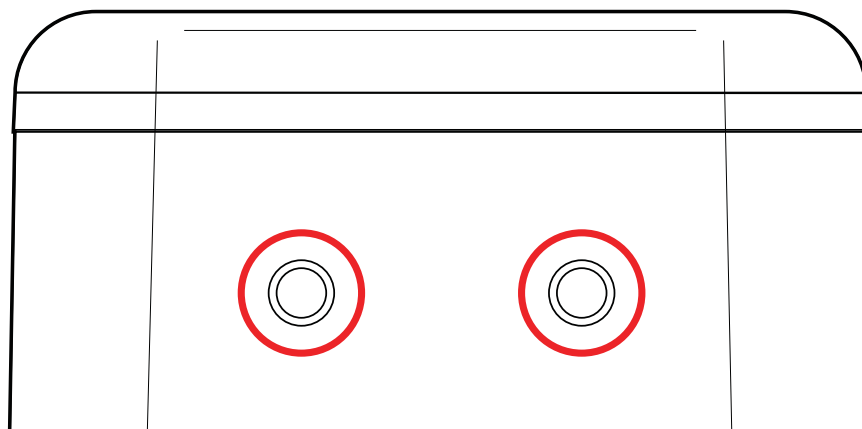
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Schematic diagram



Mounting with four screws

Schematic diagram



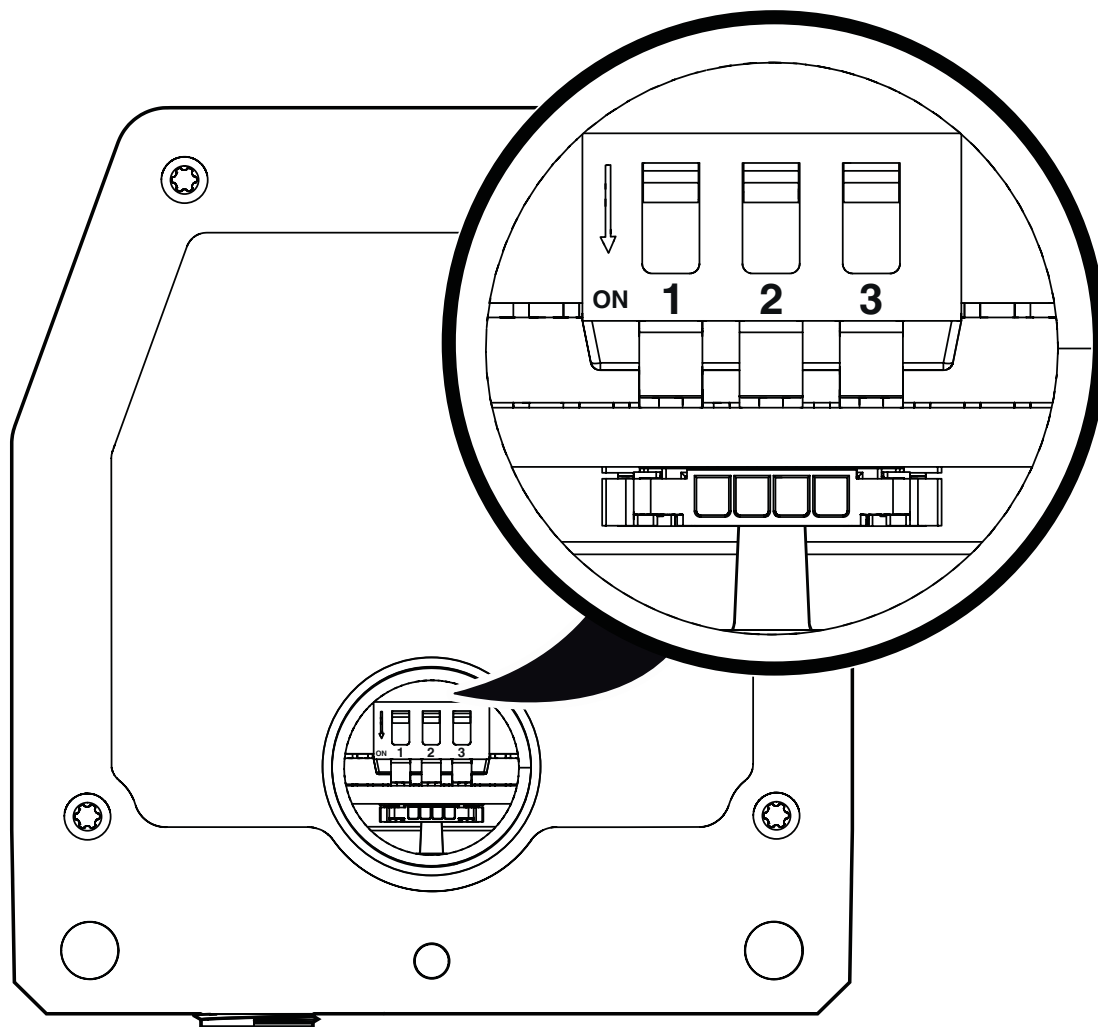
Mounting option

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Schematic diagram



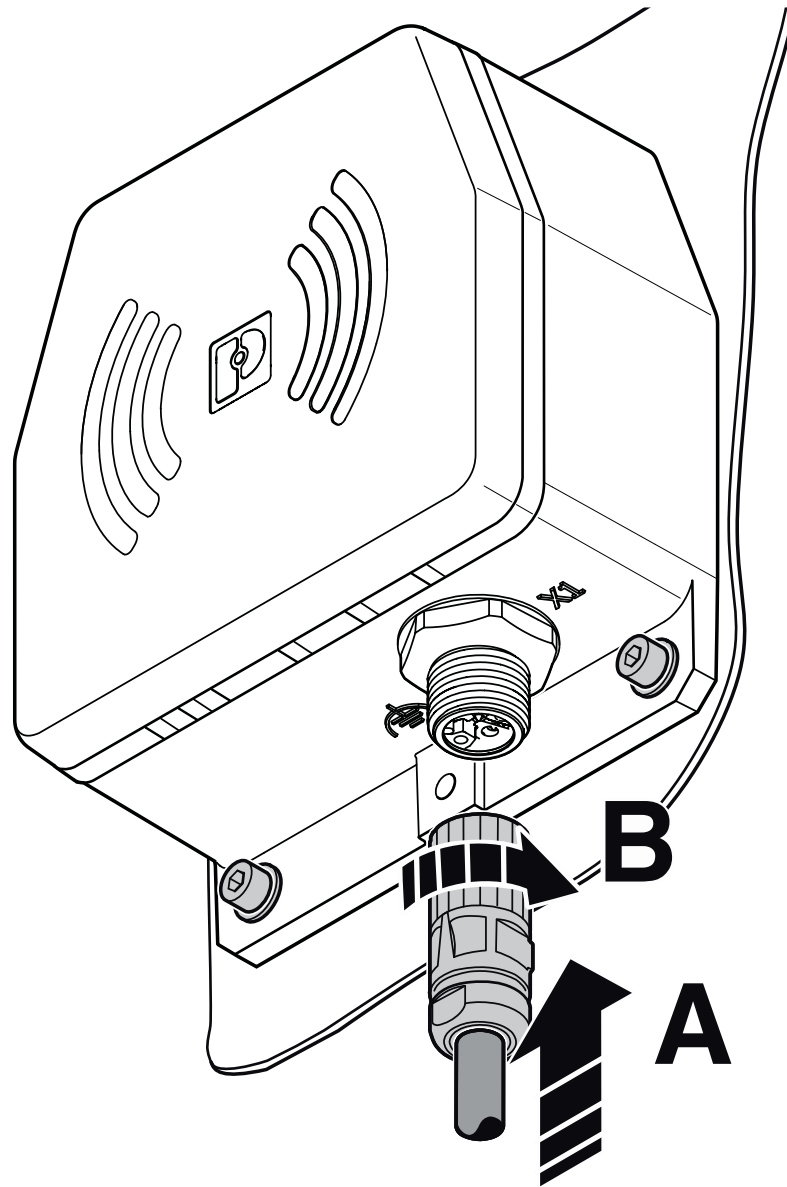
DIP switches

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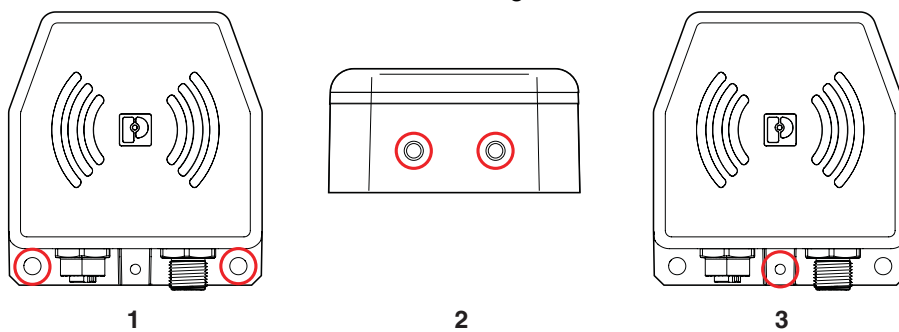
<https://www.phoenixcontact.com/us/products/1234229>

Schematic diagram



## Connecting the cables

Schematic diagram



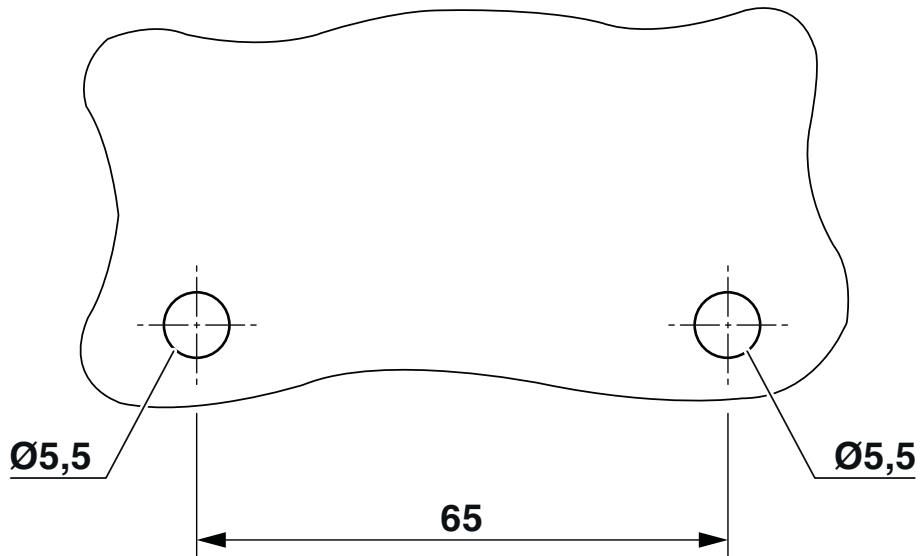
## Options for functional grounding

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Drilling plan/solder pad geometry



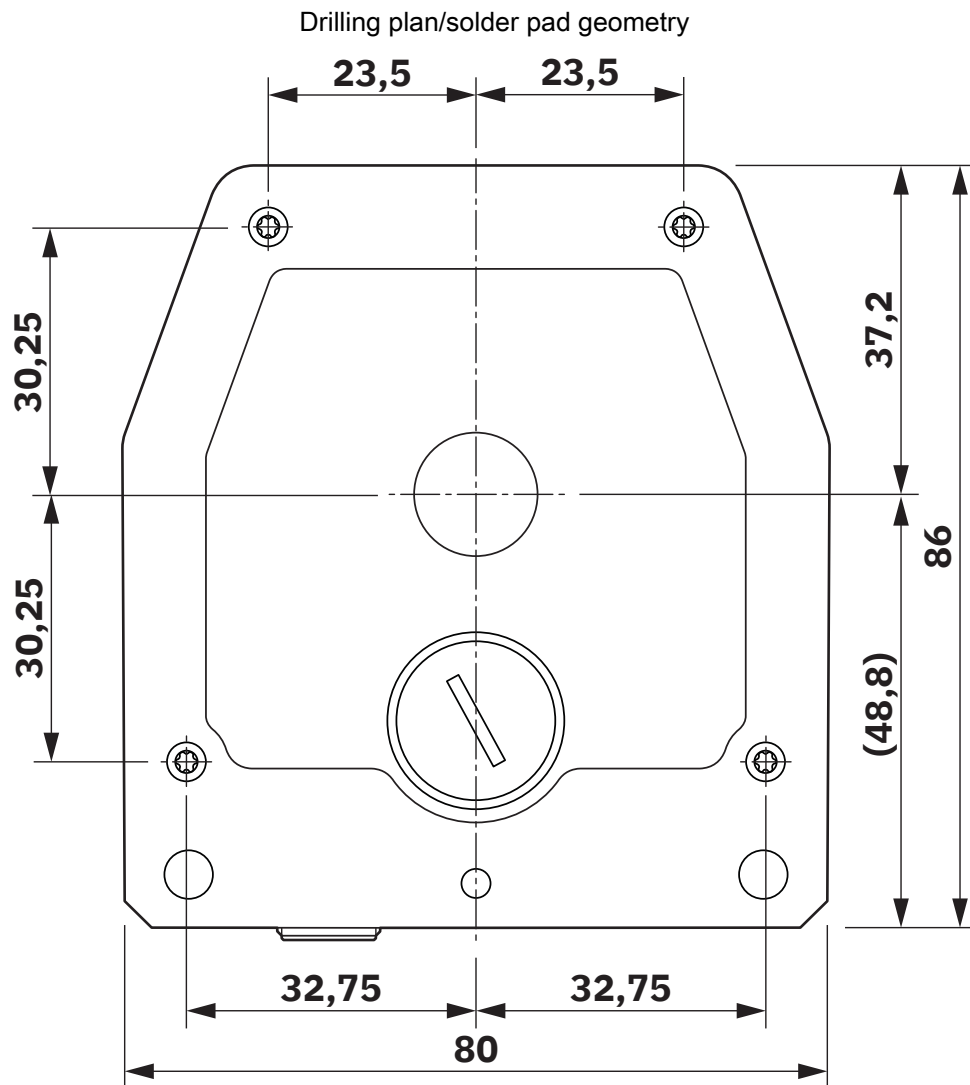
Drilling diagram

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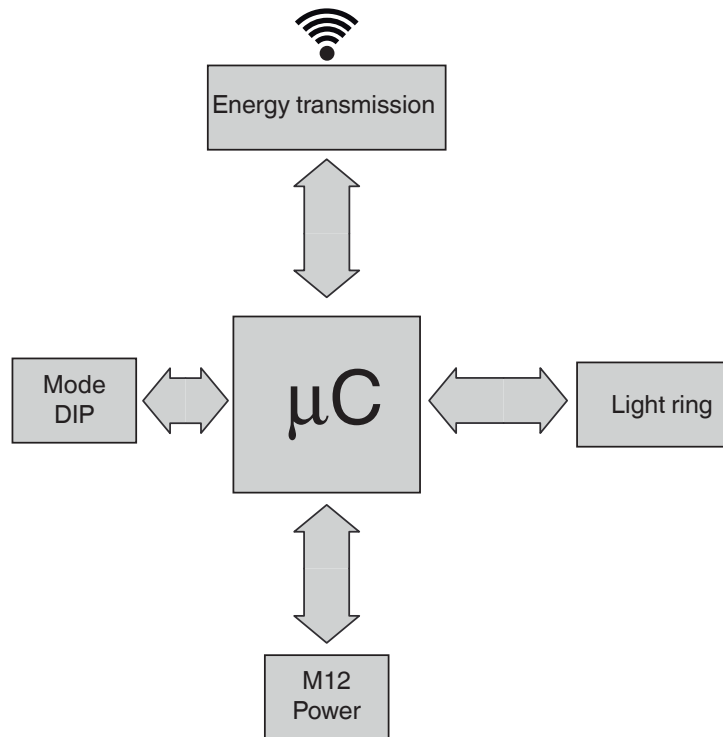
Centering template

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Block diagram



Basic circuit diagram

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## Approvals

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### FCC

Approval ID: YG3P2AR



### KC

Approval ID: R-R-PCK-1234232



### cULus Listed

Approval ID: E238705

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## Classifications

### ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	19170417

### ETIM

ETIM 10.0	EC001467
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

### 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	f8a6ad68-7988-4d54-9cc1-17ad3b4ec099

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