

NEARFI P 2A R - Inductive coupler

1234229

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

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NearFi remote, contactless power coupler, 50 W (US), range ≤ 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 |
|---|-----|

Supply

| | |
|--------------------|-----------------------------------|
| Protective circuit | Short-circuit/overload protection |
|--------------------|-----------------------------------|

Output data

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

Connection data

Supply

| | |
|-------------------|---------------------|
| Connection method | M12 female, A-coded |
|-------------------|---------------------|

Interfaces

Inductive: Power transmission

| | |
|--|--|
| Switch-on time | < 50 ms |
| Range | min. 0 mm |
| | ≤ 10 mm (at 60 °C) |
| | ≤ 12 mm (at 25 °C) |
| Center offset | ± 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 |
|------------------|-------------------------------|

Mechanical tests

| | |
|--|--|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | Operation: 5 g per spatial direction, 10 Hz ... 150 Hz, amplitude ± 0.34 mm |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | 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 | 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) |

Test (Salt spray)

| | |
|-----------------------|----------------|
| Test standard | IEC 60068-2-11 |
| Test duration (Total) | 96 h |

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Approvals

CE

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

Wireless approval, Europe

| | |
|------|----------------|
| Note | RED 2014/53/EU |
|------|----------------|

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 |
|-------------|---------|

KC approval for South Korea

| | |
|-------------|-----------------|
| Certificate | R-R-PCK-1234232 |
|-------------|-----------------|

EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
|-------------------------------|---|

Electrostatic discharge

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

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 |
|-----------------------|--------------|

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 |
|-----------------------|--------------|

Fast transients (burst)

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

Surge current load (surge)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

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 |
|-----------------------|--------------|

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 |
| Standards/regulations | EN 60204-1 (PELV) |
| Standard designation | Protective extra-low voltage |

Mounting

| | |
|-------------------|------------------|
| Mounting type | Panel mounting |
| Assembly note | Observe derating |
| Mounting position | any |

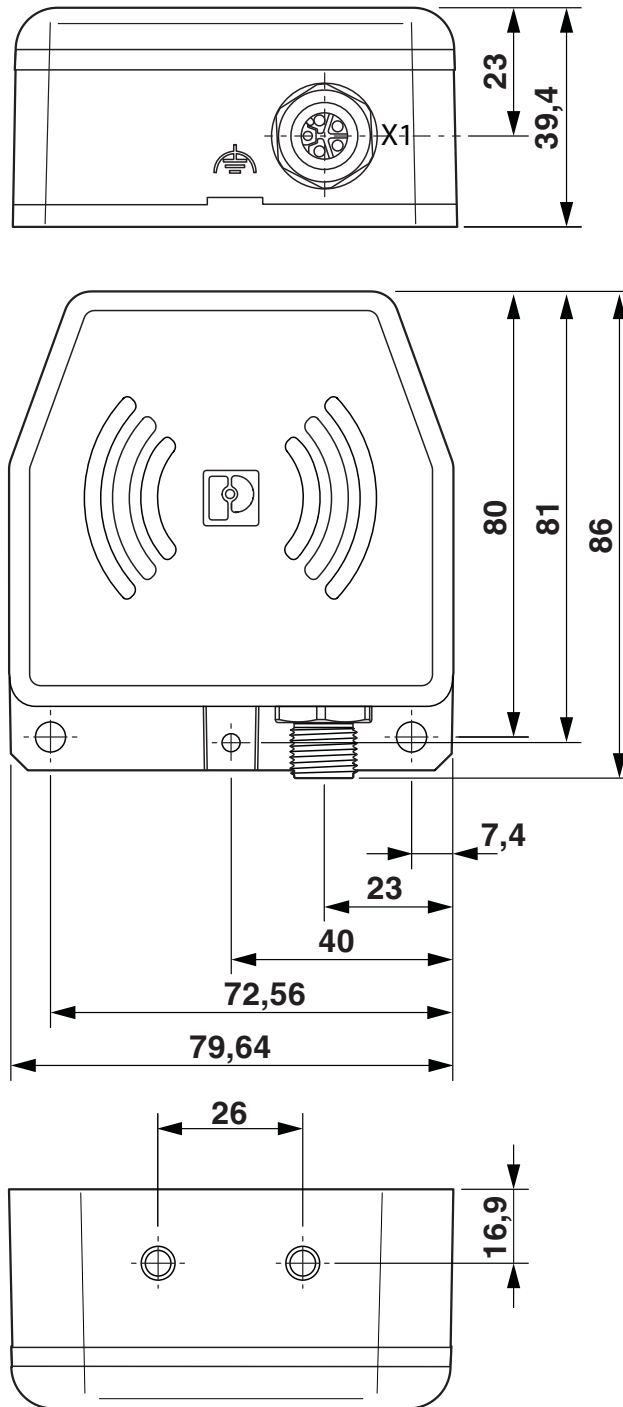
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Drawings

Dimensional drawing



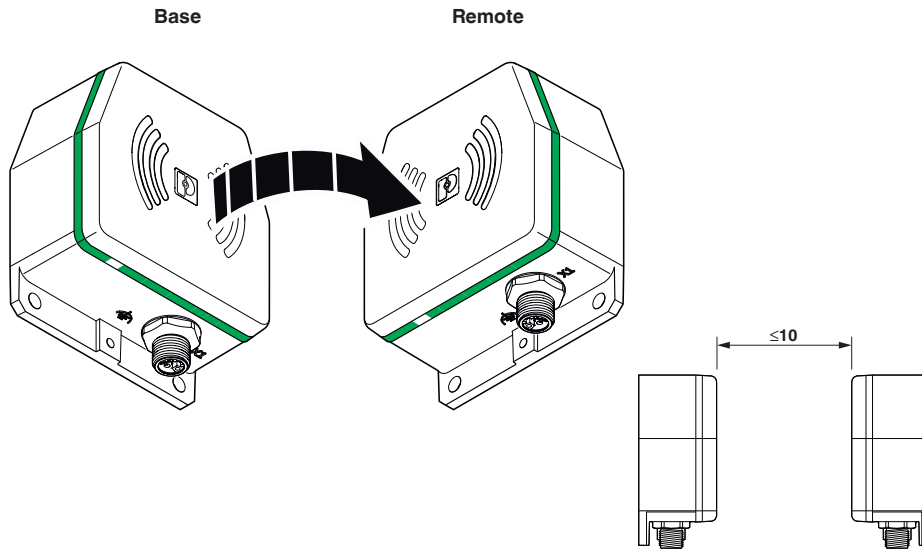
Dimensional drawing

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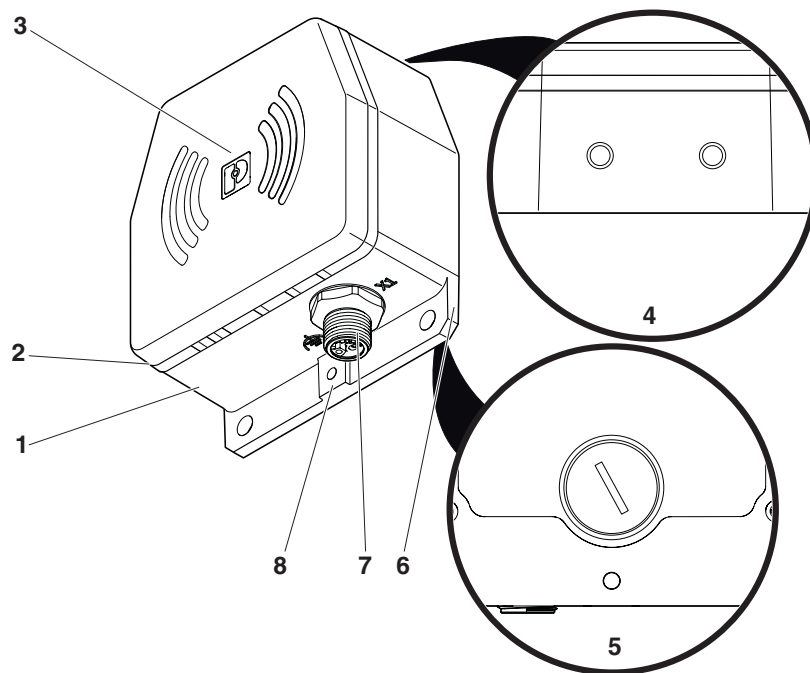
<https://www.phoenixcontact.com/us/products/1234229>

Schematic diagram



Method of operation

Schematic diagram



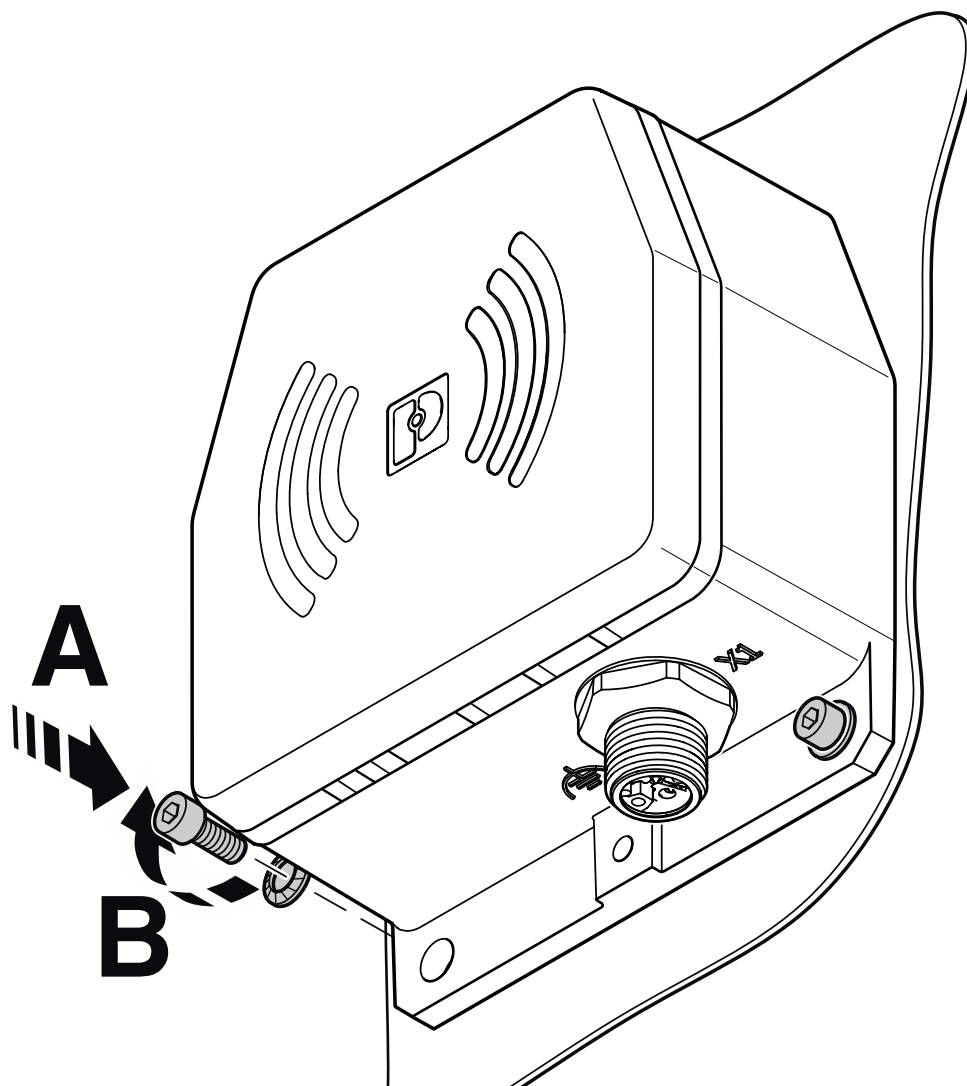
Function elements

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Schematic diagram



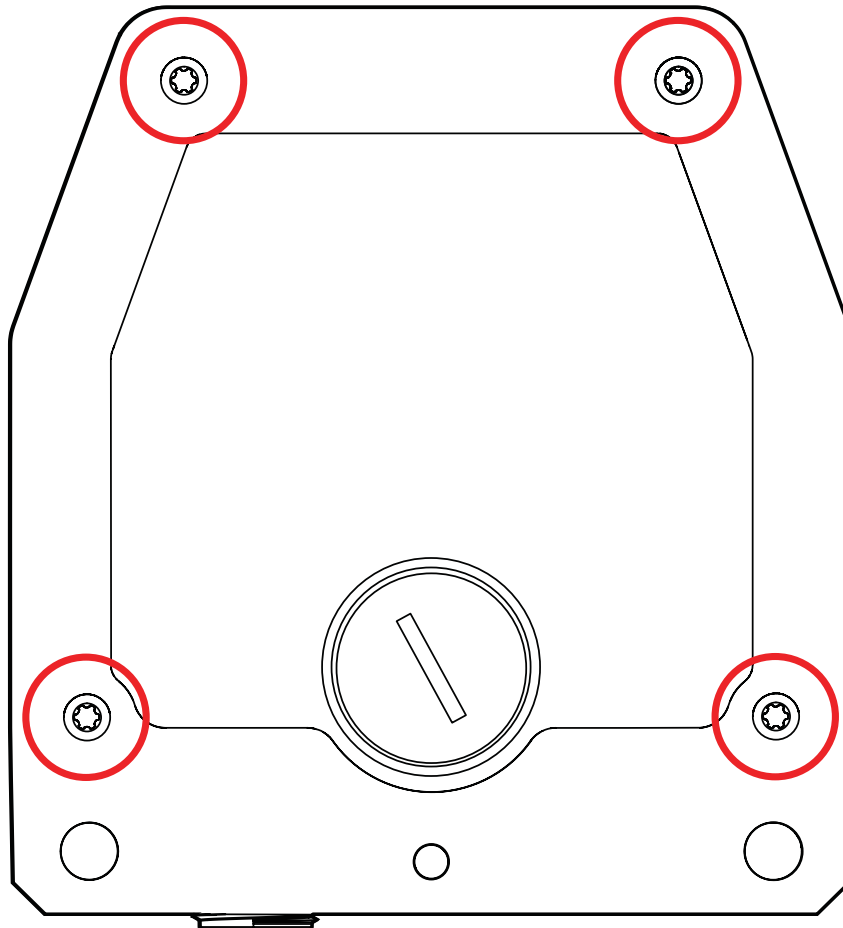
Mounting with two screws

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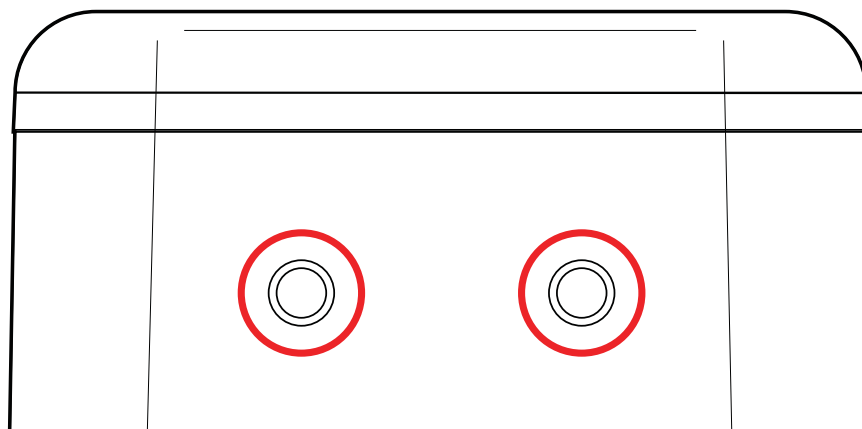
<https://www.phoenixcontact.com/us/products/1234229>

Schematic diagram



Mounting with four screws

Schematic diagram



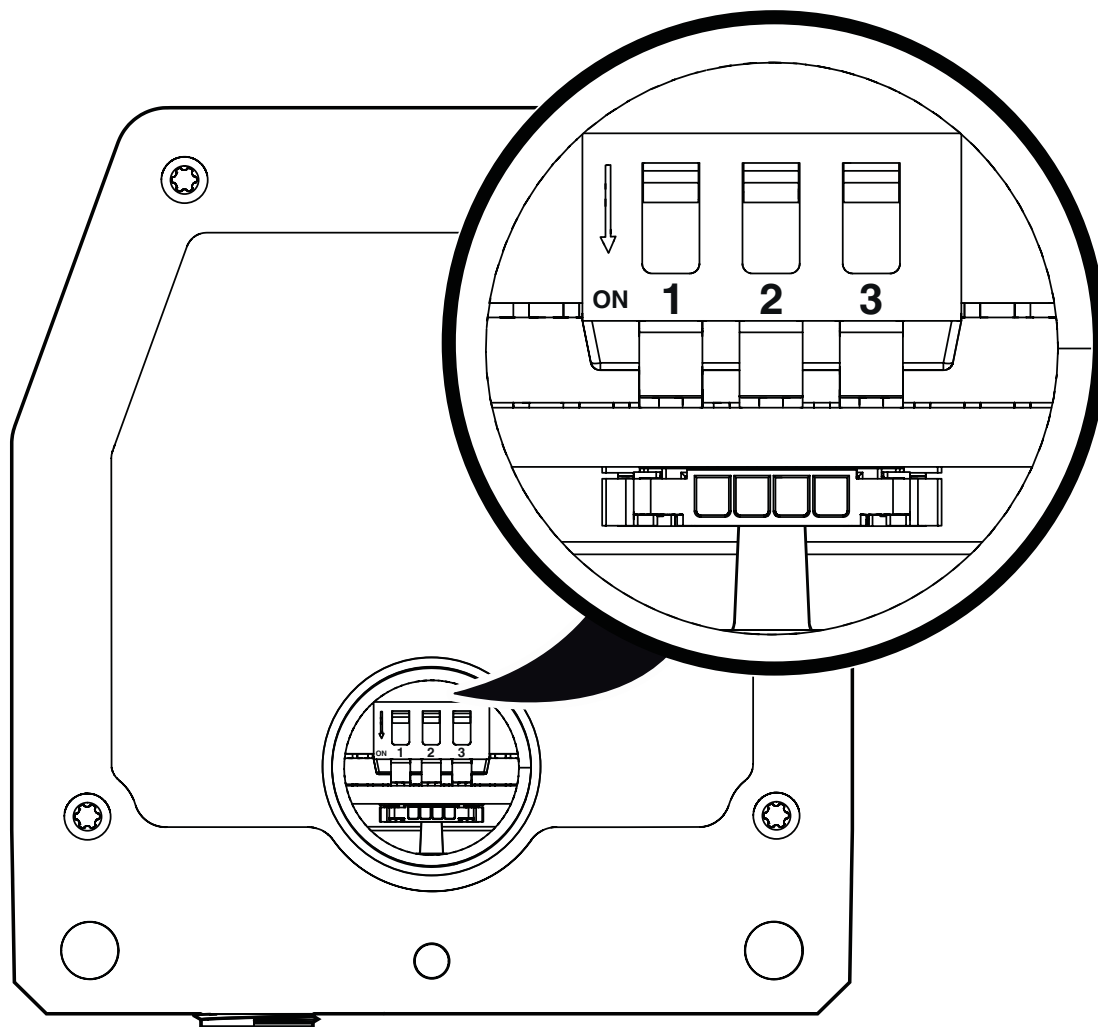
Mounting option

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Schematic diagram



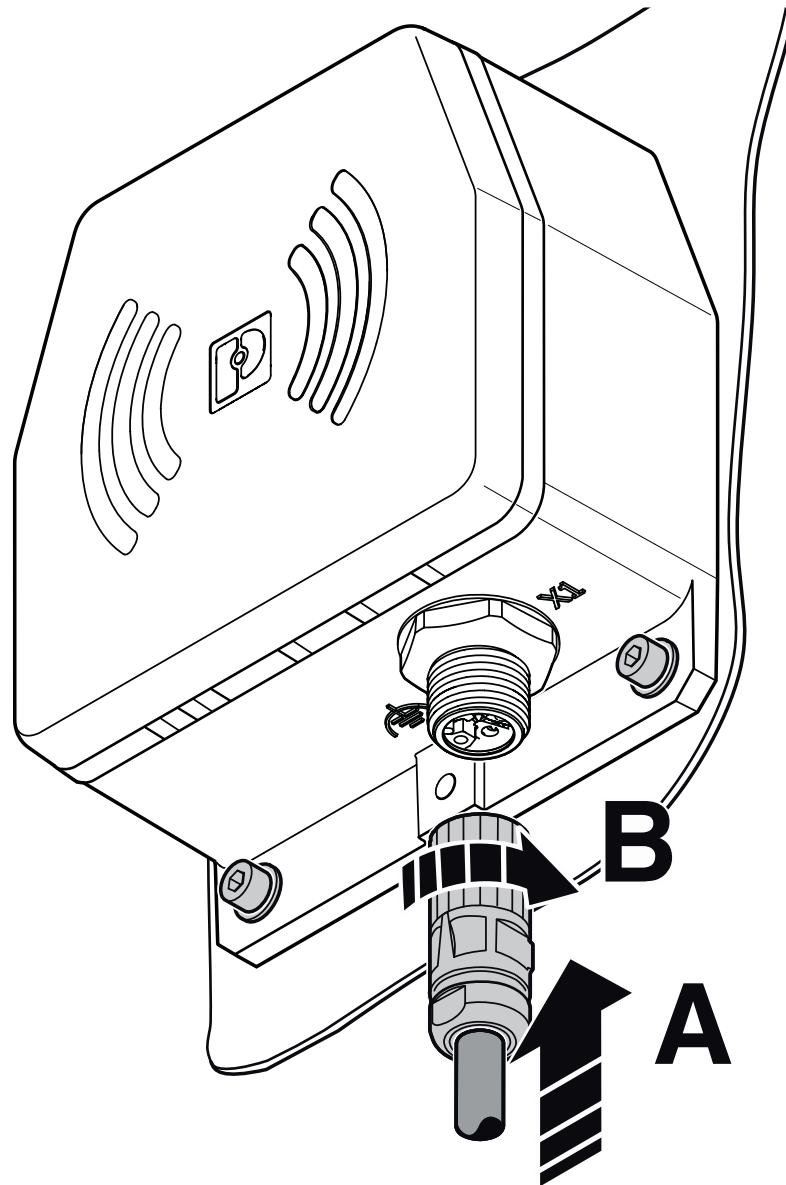
DIP switches

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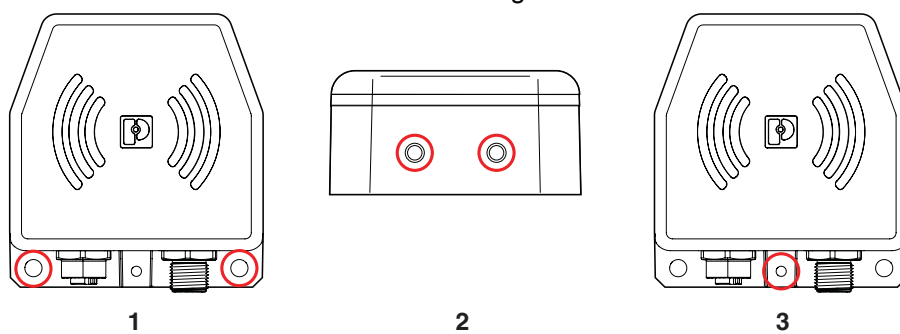
<https://www.phoenixcontact.com/us/products/1234229>

Schematic diagram



Connecting the cables

Schematic diagram



Options for functional grounding

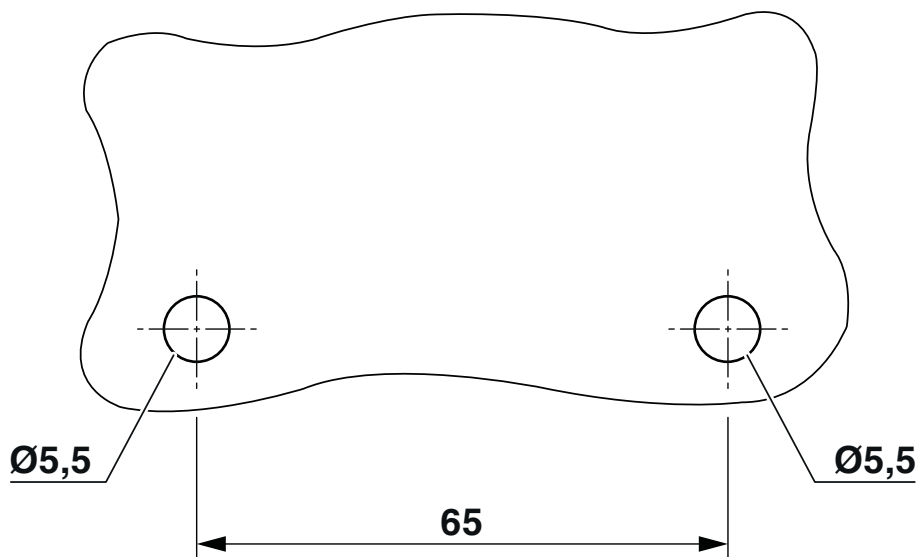
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Drilling plan/solder pad geometry



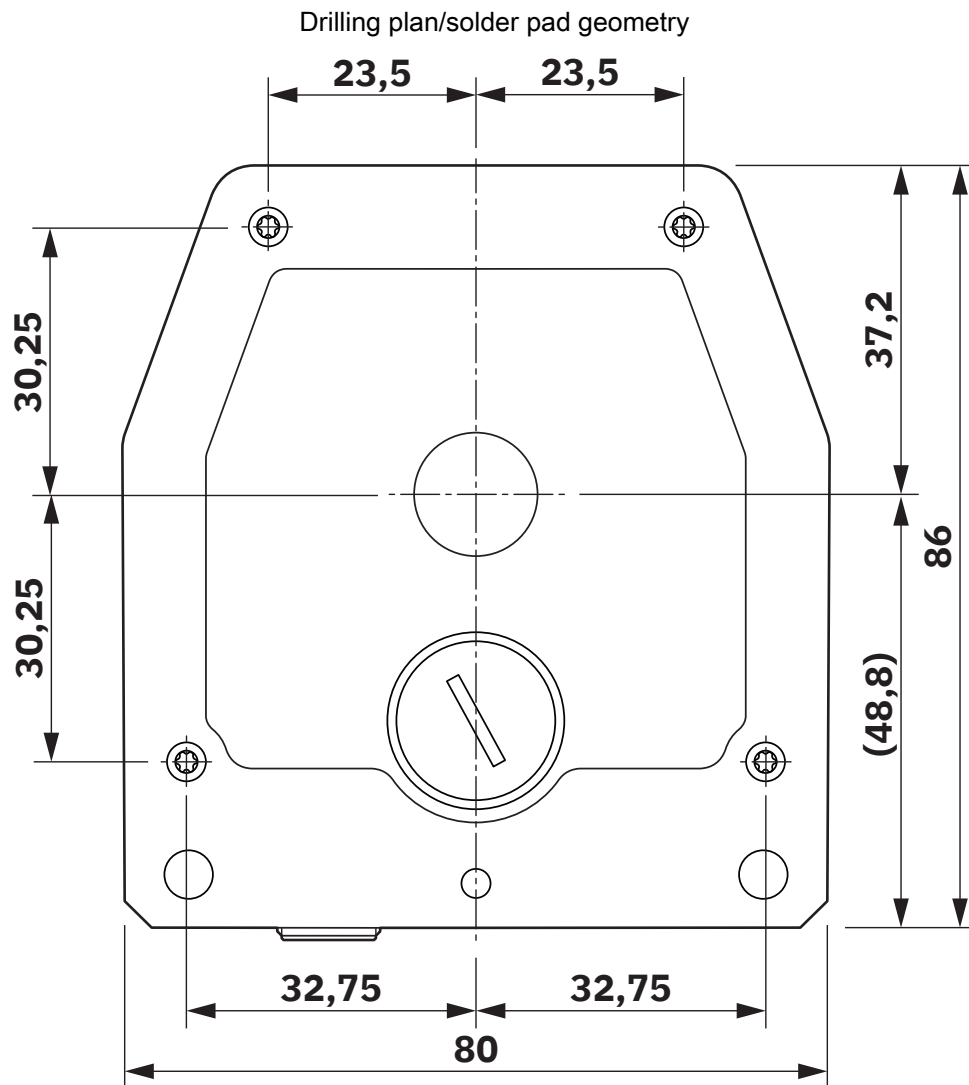
Drilling diagram

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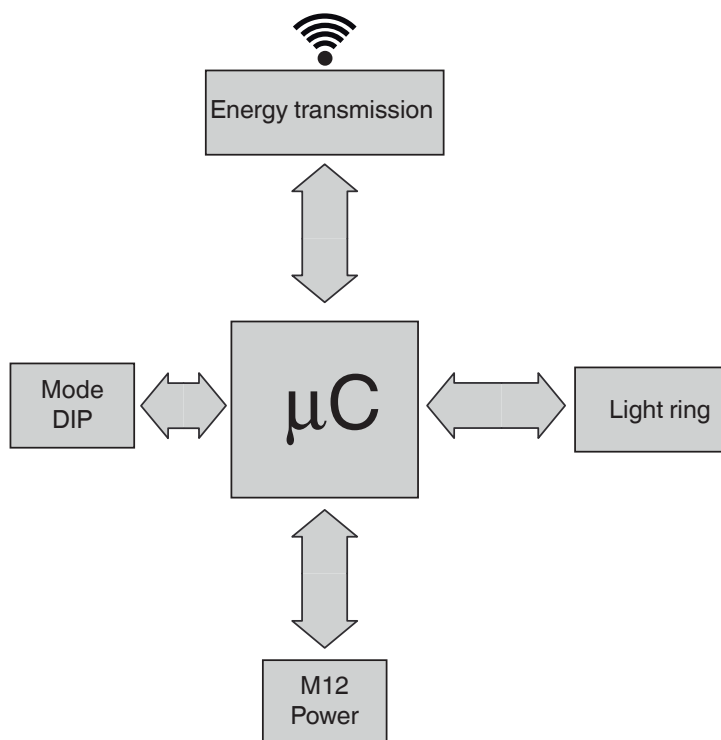
Centering template

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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 |
|-----------|----------|

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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