

NEARFI P 2A B - Inductive coupler



1234226

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NearFi, base coupler for contactless power transmission in the centimeter range, 24 V DC, 2 A, M12 connection technology, IP65 type of protection. A remote coupler is required for operation.

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	1234226
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN12
Product key	DNC692
GTIN	4063151337926
Weight per piece (including packing)	574 g
Weight per piece (excluding packing)	535 g
Customs tariff number	85176200
Country of origin	DE

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Technical data

Product properties

Product type	Inductive coupler
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	1

Electrical properties

Maximum power dissipation for nominal condition	0.72 W
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Supply

Supply voltage range	19 V DC ... 30 V DC
Typical current consumption	30 mA (without remote coupler, at 24 V DC, at 25°C)
	125 mA (with remote coupler, without load, at 24 V DC, at 25°C)
Max. current consumption	≤ 3.2 A (with remote coupler, 2 A load, input voltage of 19 V DC)
Inrush current	≤ 0.8 A (8 ms at 24 V DC, without remote coupler)
	≤ 4.5 A (6 ms at 24 V DC, with remote coupler, without load)
Protective circuit	Transient protection, polarity protection
Connection method	M12 connector (A-coded)

Input data

Digital

Description of the input	Digital input
Number of inputs	1
Voltage input signal	19 V DC ... 30 V DC
Switching level "1" signal	19 V DC ... 30 V DC

Output data

Signal

Output name	Digital output
Number of outputs	1
Voltage output signal	24 V DC

Connection data

Supply

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Connection method	M12 connector (A-coded)
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Interfaces

Inductive: Power transmission

Switch-on time	< 50 ms
Range	min. 0 mm
	typ. 10 mm (at 60 °C)
	typ. 12 mm (at 25 °C)
Frequency range	100 kHz ... 148.5 kHz (Power transmission)
Test field strength	~ 1.95 µA/m (within 10 m distance)

Dimensions

Dimensional drawing	
Width	80 mm
Height	86 mm
Depth	39 mm

Material specifications

Material	PBT
	Die-cast zinc
Flammability rating according to UL 94	V0
Impact strength	IK06

Cable/line

Other resistance	Resistant to welding splashes
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
Impact strength	IK06
Ambient temperature (operation)	-20 °C ... 60 °C (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)

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Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above sea level)
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Approvals

CE

Certificate	CE-compliant
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Wireless approval, Europe

Note	RED 2014/53/EU
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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
Conducted noise emission	EN 55032 Class A, industrial applications

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)
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)

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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	Yes
Other resistance	Resistant to welding splashes
Standards/regulations	EN 60204-1 (PELV)
Standard designation	Protective extra-low voltage

Mounting

Mounting type	Wall mounting
Assembly instructions	Observe derating
Mounting position	any

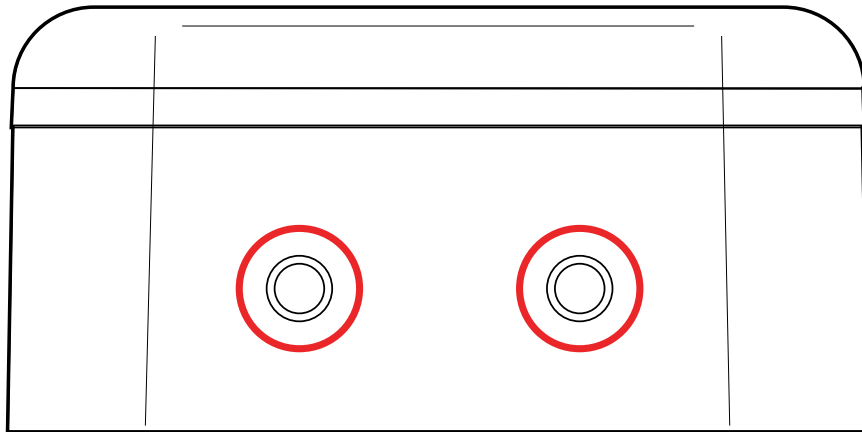
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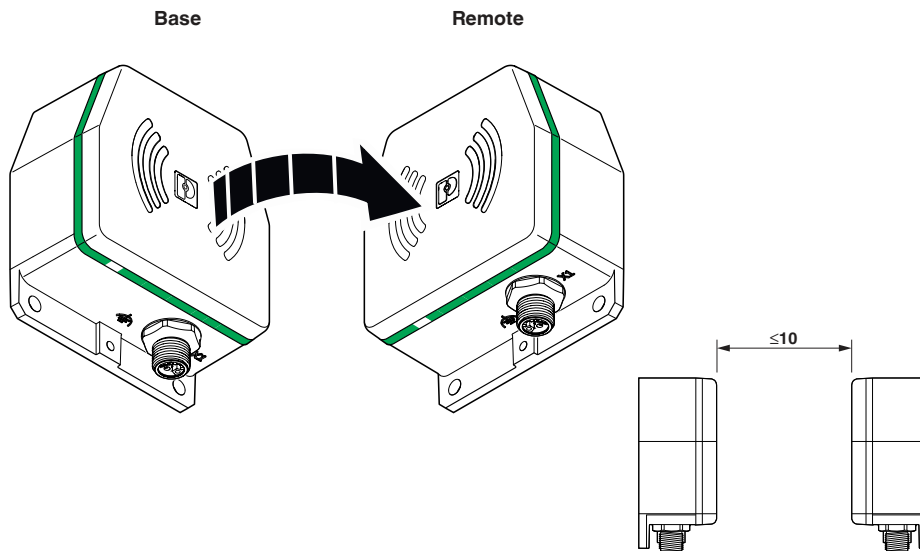
Drawings

Schematic diagram



Mounting option

Schematic diagram



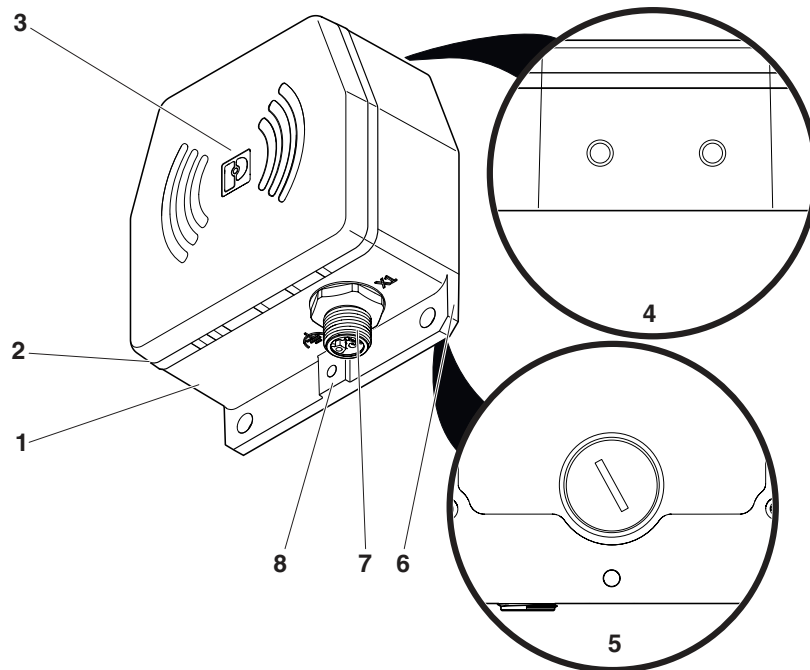
Method of operation

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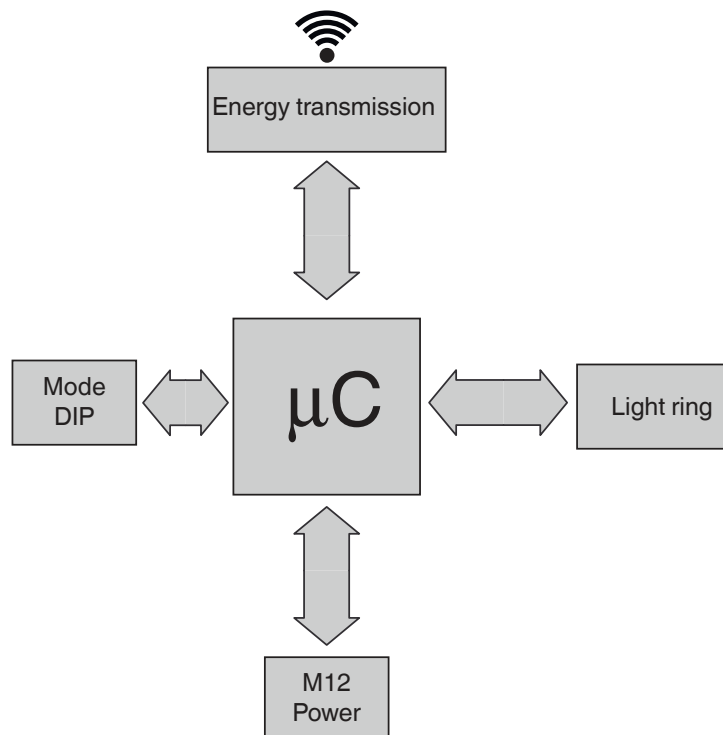
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Schematic diagram



Function elements

Block diagram



Basic circuit diagram

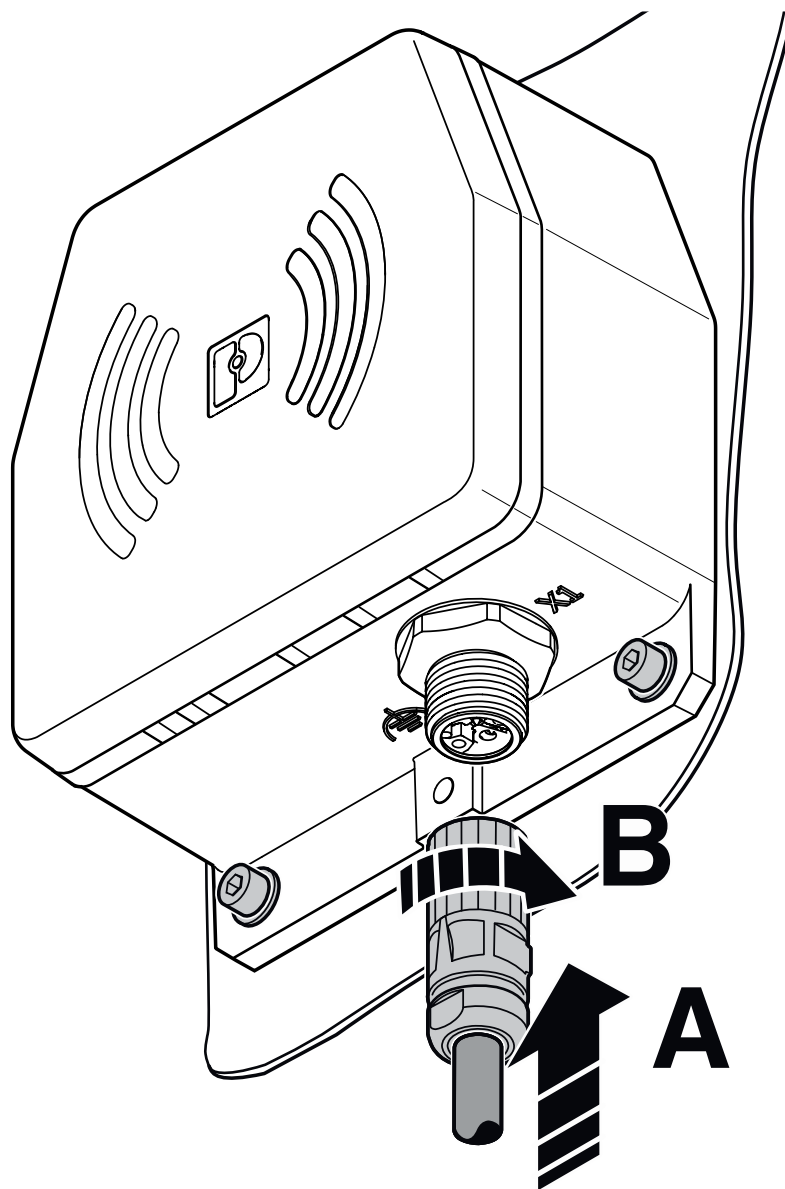
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Schematic diagram



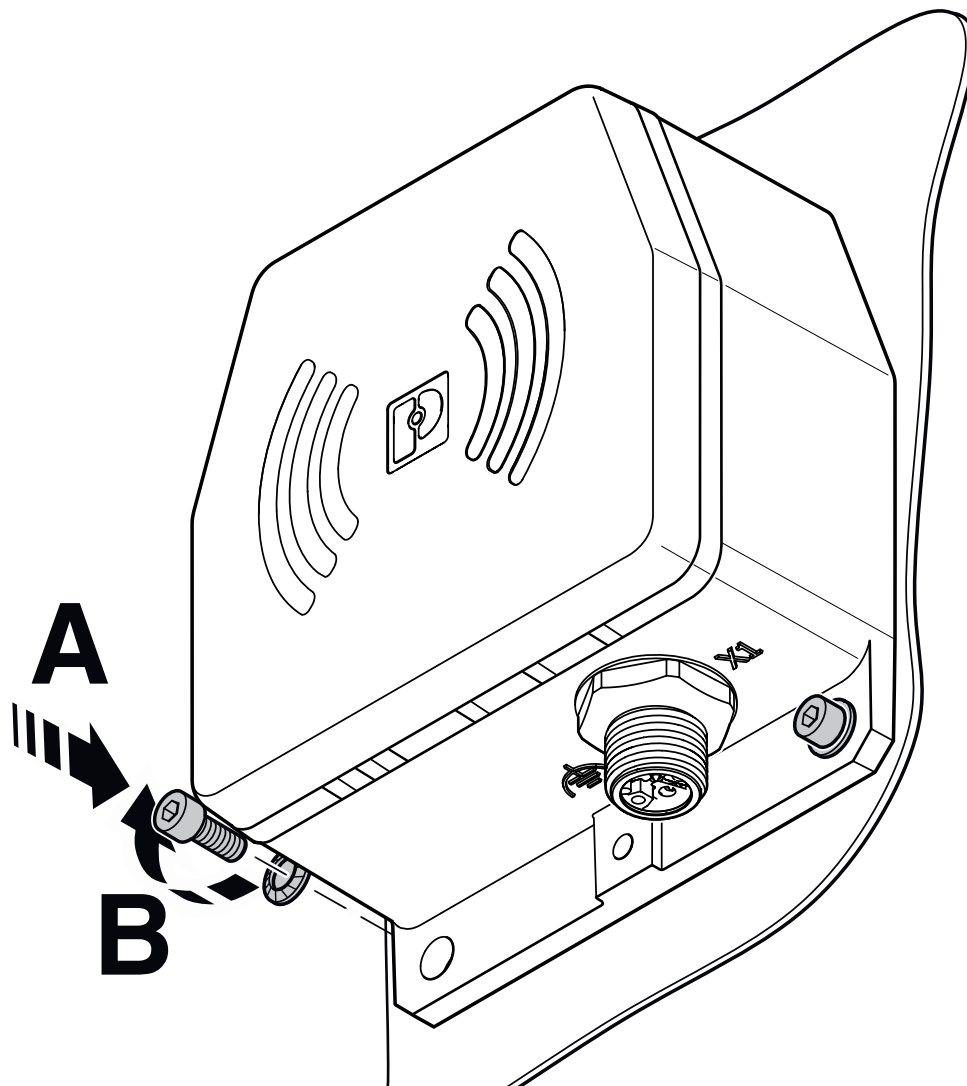
Connecting the cables

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Schematic diagram



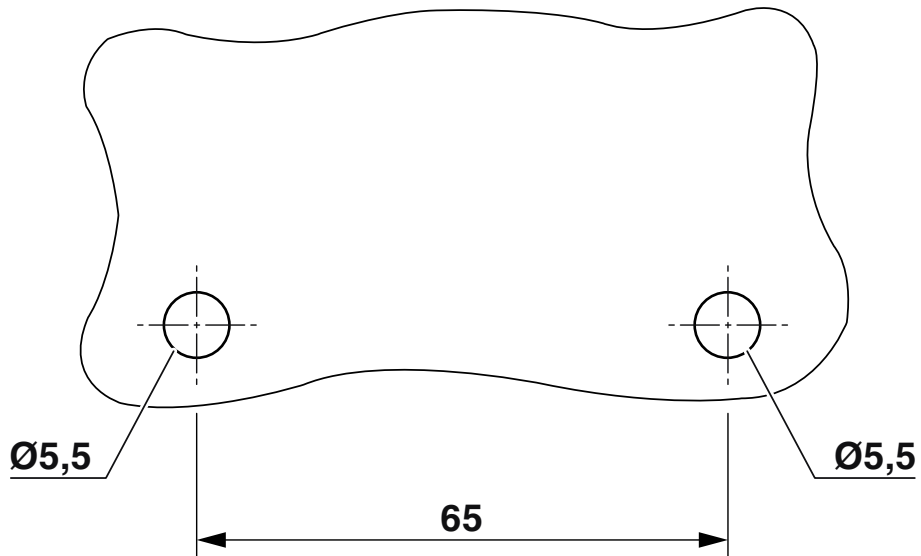
Mounting with two screws

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Drilling plan/solder pad geometry



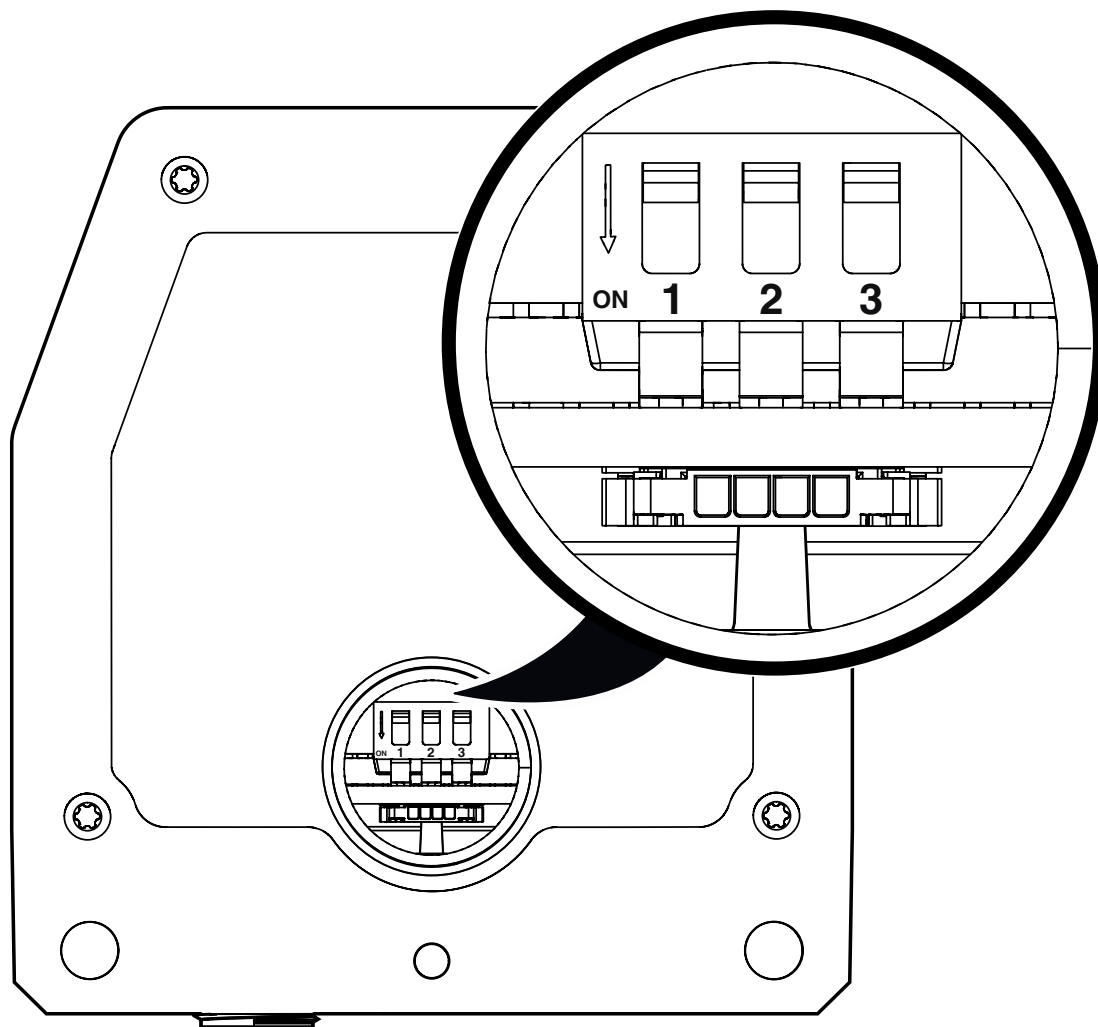
Drilling diagram

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Schematic diagram



DIP switches

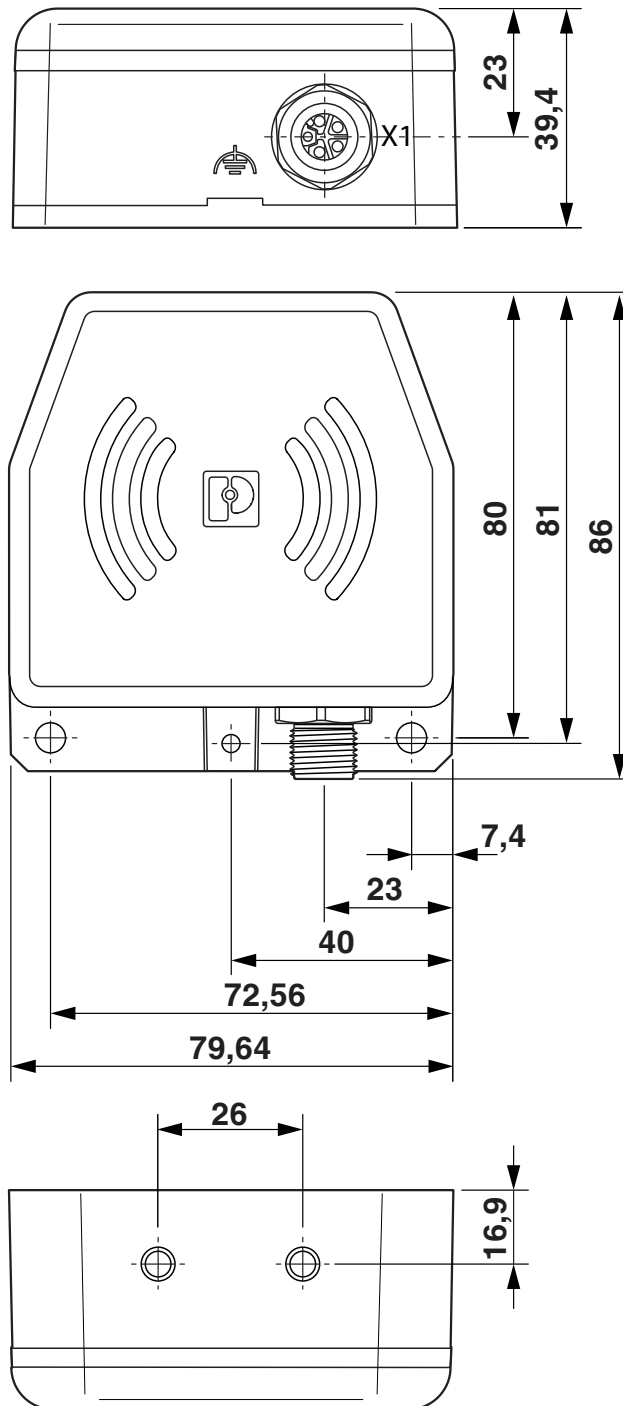
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Dimensional drawing



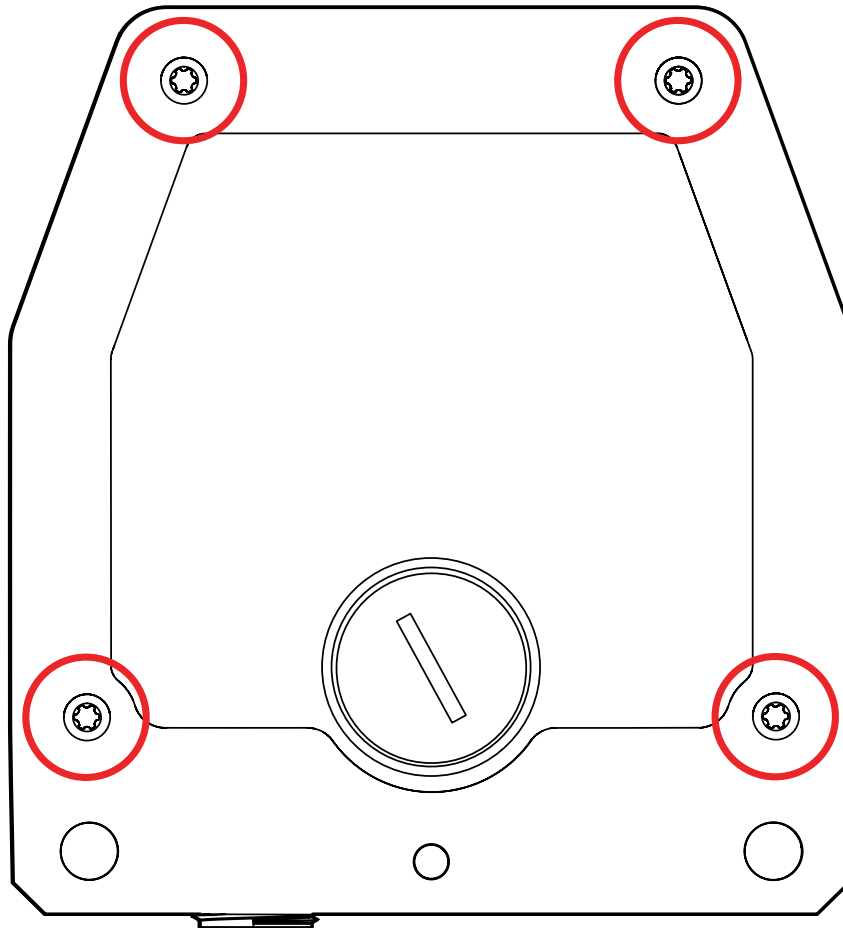
Dimensional drawing

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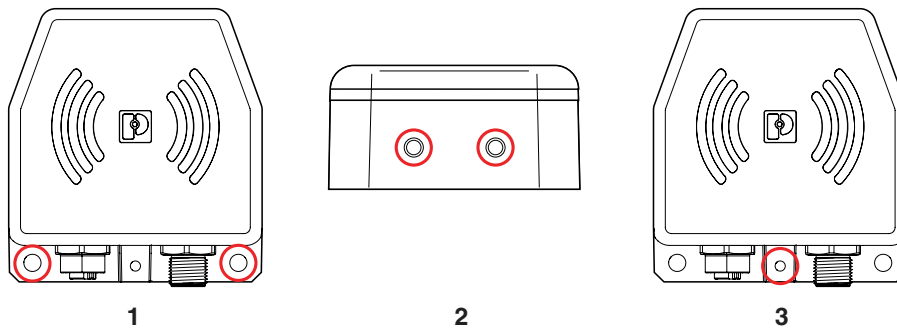
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Schematic diagram



Mounting with four screws

Schematic diagram



Options for functional grounding

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Approvals

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UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27040701
ECLASS-12.0	27040701
ECLASS-13.0	27040701

ETIM

ETIM 8.0	EC002540
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UNSPSC

UNSPSC 21.0	39121000
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Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Mandatory accessories

NEARFI P 2A R - Inductive coupler

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NearFi, remote coupler for contactless power transmission in the centimeter range, 24 V DC, 2 A, M12 connection technology, IP65 type of protection. A base coupler is required for operation.

Accessories

SAC-5P- 2,0-186/FS SCO - Sensor/actuator cable

1518368

<https://www.phoenixcontact.com/us/products/1518368>



Sensor/actuator cable, 5-position, free cable end, on Socket straight M12, coding: A SPEEDCON, cable length: 2 m

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SAC-5P- 5,0-186/FS SCO - Sensor/actuator cable

1518371

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Sensor/actuator cable, 5-position, free cable end, on Socket straight M12, coding: A SPEEDCON, cable length: 5 m

SAC-5P-10,0-186/FS SCO - Sensor/actuator cable

1518384

<https://www.phoenixcontact.com/us/products/1518384>



Sensor/actuator cable, 5-position, free cable end, on Socket straight M12, coding: A SPEEDCON, cable length: 10 m

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SAC-5P-15,0-186/FS SCO - Sensor/actuator cable

1518397

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Sensor/actuator cable, 5-position, free cable end, on Socket straight M12, coding: A SPEEDCON, cable length: 15 m

SAC-5P-MS/ 1,0-186/FS SCO - Sensor/actuator cable

1518423

<https://www.phoenixcontact.com/us/products/1518423>



Sensor/actuator cable, 5-position, Plug straight M12, coding: A SPEEDCON, connected with unwired, on Socket straight M12, coding: A SPEEDCON, cable length: 1 m

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SAC-5P-MS/ 2,0-186/FS SCO - Sensor/actuator cable

1518436

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Sensor/actuator cable, 5-position, Plug straight M12, coding: A SPEEDCON, connected with unwired, on Socket straight M12, coding: A SPEEDCON, cable length: 2 m

SAC-5P-MS/ 5,0-186/FS SCO - Sensor/actuator cable

1518449

<https://www.phoenixcontact.com/us/products/1518449>



Sensor/actuator cable, 5-position, Plug straight M12, coding: A SPEEDCON, connected with unwired, on Socket straight M12, coding: A SPEEDCON, cable length: 5 m

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SAC-5P-MS/10,0-186/FS SCO - Sensor/actuator cable

1518452

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Sensor/actuator cable, 5-position, Plug straight M12, coding: A SPEEDCON, connected with unwired, on Socket straight M12, coding: A SPEEDCON, cable length: 10 m

SAC-5P-MS/15,0-186/FS SCO - Sensor/actuator cable

1518465

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Sensor/actuator cable, 5-position, Plug straight M12, coding: A SPEEDCON, connected with unwired, on Socket straight M12, coding: A SPEEDCON, cable length: 15 m

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SACC-M12FS-5CON-PG9-M - Connector

1681486

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Connector, Universal, 5-position, Socket straight M12, A, Screw connection, knurl material: Zinc die-cast, nickel-plated, cable gland Pg9, external cable diameter 6 mm ... 8 mm

SACC-M12FR-5CON-PG9-M - Connector

1681499

<https://www.phoenixcontact.com/us/products/1681499>



Connector, Universal, 5-position, Socket angled M12, A, Screw connection, knurl material: Zinc die-cast, nickel-plated, cable gland Pg9, external cable diameter 6 mm ... 8 mm

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PROT-M12 FS - Sealing cap

1560251

<https://www.phoenixcontact.com/us/products/1560251>



M12 sealing cap for unoccupied M12 plugs of the sensor/actuator cable, flush-type plugs and I/O devices in the field

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