# RFU610-10700

## RFU61x

**RFID**

## Ordering information

| Type | Part no. |
|---|---|
| RFU610-10700 | 1115779 |

**Included in delivery:** Mounting kit (1)

Other models and accessories ➜ www.sick.com/RFU61x

## Detailed technical data

### Features

| | |
|---|---|
| **Version** | Short Range |
| **Product category** | RFID read/write device with integrated antenna |
| **Radio approval** | European Union [1] |
| **Frequency band** | UHF (860 MHz ... 960 MHz) |
| **Carrier frequency** | 865.7 MHz ... 867.5 MHz |
| **Output power** | 25 mW (ERP, 14 dBm) |
| **RFID standard** | EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C, RAIN |
| **Modulation** | PR-ASK |
| **Connection type** | IO-Link |
| **Aperture angle** | 110° |
| **Read range** | ≤ 0.5 m [2] |
| **Antenna** | Integrated |
| Transmitting power | Adjustable |
| Polarization | Circular |
| Axial ratio | Typ. 2 dB |
| Front-to-back ratio | > 5 dB |

[1] All member states of the European Union, EEA-EFTA states (Liechtenstein, Iceland, Norway), Switzerland, Turkey.
[2] Depending on transponder used and ambient conditions.

### Mechanics/electronics

| | |
|---|---|
| **Connection type** | 1 x M12, 4-pin male connector, A-coded<br>1 x M8, 4-pin socket<br>1 x USB, 5-pin micro-B socket |
| **Supply voltage** | 18 V DC ... 30 V DC |

[1] Operation at +50 °C.

| | |
|---|---|
| **Power consumption** | 6 W, standby 3 W |
| **Housing material** | Aluminum die cast<br>Plastic (PPS) |
| **Enclosure rating** | IP67 |
| **Protection class** | III |
| **Weight** | 313 g |
| **Dimensions (L x W x H)** | 92 mm x 80 mm x 38 mm |
| **MTBF** | 22.25 years [1] |

[1] Operation at +50 °C.

## Interfaces

| | |
|---|---|
| **IO-Link** | ✓, IO-Link V1.1 |
| Remark | Process data length: IN (input), 32 bytes; OUT (output), 32 bytes, SIO mode not supported |
| Function | Process data, parameterization, diagnosis |
| Data transmission rate | COM3 (230,4 kBaud) |
| **Digital inputs** | 1 (physical, switching, trigger sensor can be connected directly to the device (port 3)) |
| **Digital outputs** | 1 ($Q_2$, Switching, PNP, in IO-Link mode) |
| **Optical indicators** | 4 LEDs, multi-color (device status)<br>4 RGB LED (Process feedback) |
| **Configuration software** | PLC software<br>SOPAS ET [1] |
| **Memory card** | Micro SD memory card |

[1] In combination with SiLink2 Master or SIG200.

## Ambient data

| | |
|---|---|
| **Electromagnetic compatibility (EMC)** | EN 301489-1 V2.1.1 (2017) / EN 301489-3 V1.6.1 (2013) |
| **Vibration resistance** | IEC 60068-2-6:2007<br>IEC 60068-2-64:2008 |
| **Shock resistance** | EN 60068-2-27:2008 |
| **Ambient operating temperature** | –25 °C ... +50 °C |
| **Storage temperature** | –40 °C ... +70 °C |
| **Permissible relative humidity** | 90 %, Non-condensing |

## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27280401 |
| **ECLASS 5.1.4** | 27280401 |
| **ECLASS 6.0** | 27280401 |
| **ECLASS 6.2** | 27280401 |
| **ECLASS 7.0** | 27280401 |
| **ECLASS 8.0** | 27280401 |
| **ECLASS 8.1** | 27280401 |
| **ECLASS 9.0** | 27280401 |
| **ECLASS 10.0** | 27280401 |
| **ECLASS 11.0** | 27280401 |
| **ECLASS 12.0** | 27280401 |

| | |
|---|---|
| **ETIM 6.0** | EC002998 |
| **ETIM 7.0** | EC002998 |
| **ETIM 8.0** | EC002998 |
| **UNSPSC 16.0901** | 52161523 |

## Dimensional drawing (Dimensions in mm (inch))
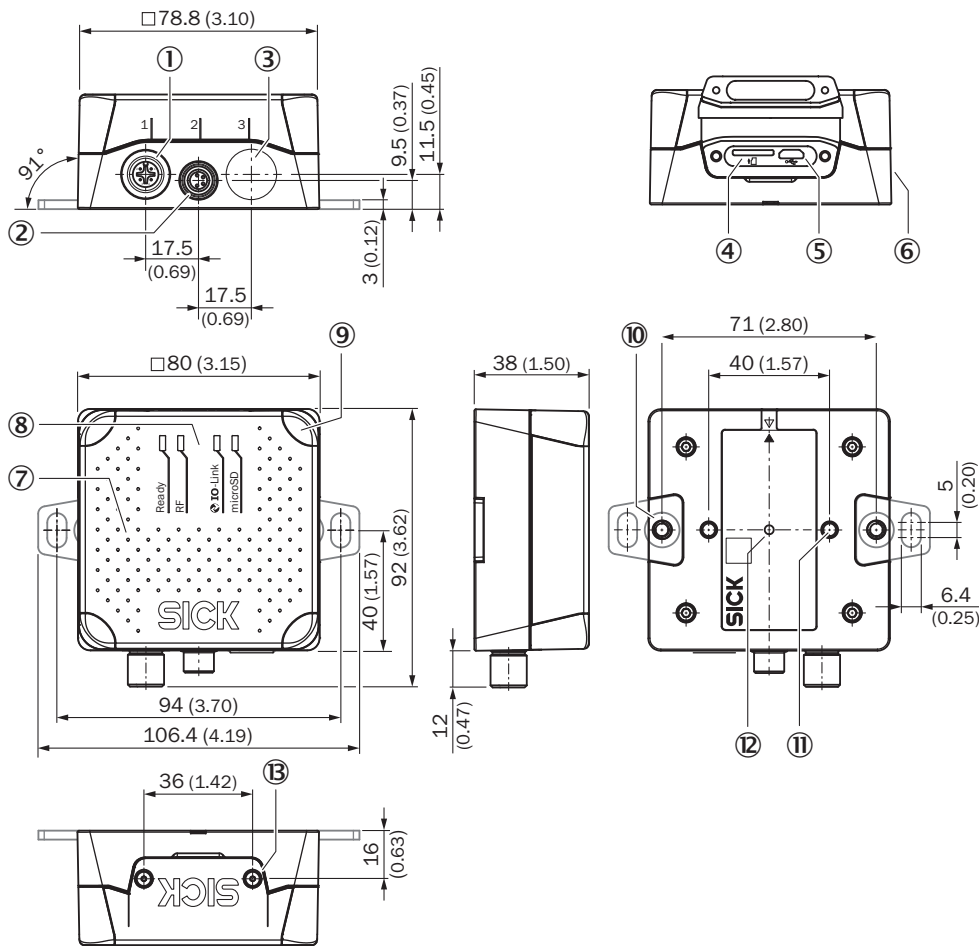
① Connection 1: IO-Link (male connector, M12, 4-pin, A-coded)
② Connection 2: Trigger (female connector, M8, 4-pin, coded)
③ Dummy plug
④ Slot for microSD memory card
⑤ "USB" connection (female connector, 5-pin, type Micro-B) interface for temporary use (service)
⑥ Side type label
⑦ Cover with integrated antenna
⑧ 4 x multi-colored LED (status)
⑨ 4 x multi-colored LED (process feedback)
⑩ 2 x M5 blind tapped holes, 6 mm deep for attaching the mounting straps
⑪ 2 x M5 blind tapped holes, 7 mm deep for mounting the device
⑫ Type label with integrated pressure compensation membrane
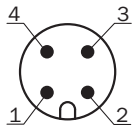⑬ 2 x screw (M2,5 socket screw), captive, for side cover

## Radiation pattern
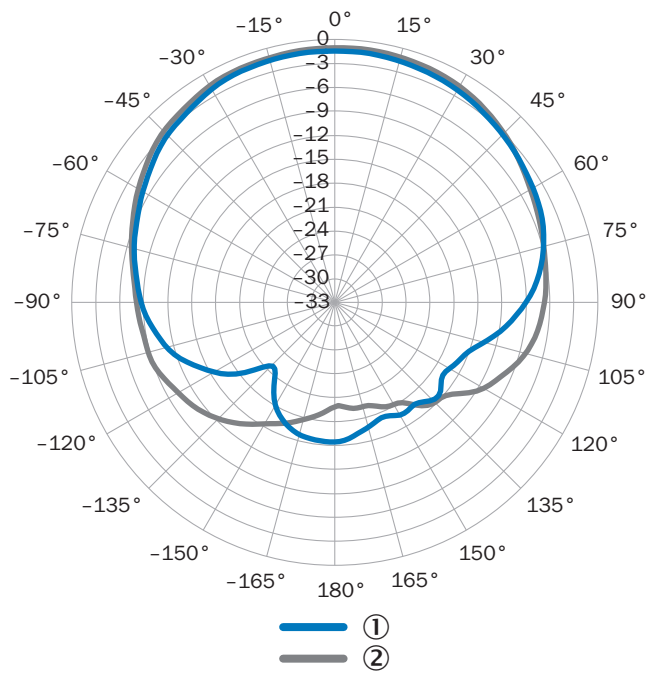


Measured antenna gain in dBic at 866.5 MHz, LHCP (left-hand circularly polarized)
① Horizontal plane (azimuth)
② Vertical plane (elevation)

## PIN assignment

IO-Link connection



IO-Link connection (male connector, M12, 4-pin, A-coded)
① L+
② Reserved
③ L-
④ C/Q1

## Recommended accessories

Other models and accessories ➜ www.sick.com/RFU61x

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Reflectors** | | | |
| | Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Others** | | | |
| | • **Carrier frequency:** 865 MHz ... 928 MHz<br>• **Memory capacity (UII / user memory):** 496/128 Bit<br>• **Dimensions (L x W x H):** 15 mm x 97 mm x 0.2 mm | UHF Transponder, paper label, global | 6070051 |
| | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 0.6 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-C60UB3M2A14 | 2095999 |
| **Photoelectric sensors** | | | |
| | • **Sensing range max.:** 0.03 m ... 6 m<br>• **Functional principle:** Photoelectric retro-reflective sensor<br>• **Connection type:** Male connector M8, 4-pin<br>• **Type of light:** Visible red light<br>• **Adjustment:** Potentiometer<br>• **Housing:** Rectangular | GL6-P4211 | 1059241 |
| **Sensor Integration Gateway** | | | |
| | • **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions<br>• **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A)<br>• **Logic editor:** yes<br>• **Communication interface:** IO-Link, USB, Ethernet, PROFINET, REST API<br>• **Product category:** IO-Link Master | SIG200-0A0412200 | 1089794 |

## Recommended services

Additional services ➜ www.sick.com/RFU61x

| | Type | Part no. |
|---|---|---|
| **Commissioning** | | |
| • **Product area:** RFID<br>• **Range of services:** Inspection of connection, alignment, optimization of parameters of the RFU/RFH as well as tests, Setup of previously defined functions of reading configuration, data processing and network, interfaces and inputs and outputs<br>• **Duration:** Additional work will be invoiced separately | Commissioning RFU/RFH | 1610018 |
| **Maintenance** | | |
| • **Product area:** RFID<br>• **Range of services:** Inspection, analysis and restoring of defined functions, Checking and adjustment of reading configuration, data processing, network, interfaces and inputs and outputs as well as operating data<br>• **Duration:** Additional work will be invoiced separately | Maintenance RFU/RFH | 1611424 |
| **Extended warranty** | | |
| • **Product area:** Machine vision, LiDAR sensors, safety camera sensors, Safety laser scanners, Safety radar sensors, Radar sensors, Fixed mount barcode scanners, Image-based code readers, RFID, Mobile handheld scanners<br>• **Range of services:** The services correspond to the scope of the statutory warranty (SICK General Terms of Delivery)<br>• **Duration:** Five-year warranty from delivery date. | Extended warranty for a total of five years from delivery date | 1680671 |

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## WORLDWIDE PRESENCE:

Contacts and other locations –**www.sick.com**

SICK AG  |  Waldkirch  |  Germany  |  www.sick.com

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