



# RFU610-10605

RFU61x

RFID

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
RFU610-10605	1101394

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

Other models and accessories → [www.sick.com/RFU61x](http://www.sick.com/RFU61x)



## Detailed technical data

## Features

<b>Version</b>	Short Range
<b>Product category</b>	RFID read/write device with integrated antenna
<b>Radio approval</b>	China Thailand
<b>Frequency band</b>	UHF (860 MHz ... 960 MHz)
<b>Carrier frequency</b>	920.625 MHz ... 924.375 MHz
<b>Output power</b>	25 mW (ERP, 14 dBm)
<b>RFID standard</b>	EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C, RAIN
<b>Modulation</b>	PR-ASK
<b>Connection type</b>	PoE, Power and Ethernet
<b>Aperture angle</b>	110°
<b>Reading range</b>	≤ 0.5 m <sup>1)</sup>
<b>Antenna</b>	Integrated
Transmitting power	Adjustable
Polarization	Circular
Axial ratio	Typ. 3 dB
Front-to-back ratio	> 5 dB

<sup>1)</sup> Depending on transponder used and ambient conditions.

## Mechanics/electronics

<b>Connection type</b>	1 x M12, 4-pin male connector, A-coded 1 x M12, 8-pin female connector, X-coded 1 x M8, 4-pin female connector, A-coded 1 x USB, 5-pin micro-B socket
<b>Supply voltage</b>	18 V DC ... 30 V DC <sup>1)</sup>
<b>Power consumption</b>	6 W, standby 3 W

<sup>1)</sup> PoE: 48 V DC ... 57 V DC in accordance with PoE technology.

<sup>2)</sup> Operation at +50 °C.

<b>Housing material</b>	Aluminum die cast Plastic (PPS)
<b>Enclosure rating</b>	IP67
<b>Protection class</b>	III
<b>Weight</b>	313 g
<b>Dimensions (L x W x H)</b>	92 mm x 80 mm x 38 mm
<b>MTBF</b>	22 years <sup>2)</sup>

<sup>1)</sup> PoE: 48 V DC ... 57 V DC in accordance with PoE technology.

<sup>2)</sup> Operation at +50 °C.

## Interfaces

<b>Ethernet</b>		✓ , TCP/IP, PoE, OPC UA
	Remark	Companion Spec V1.0 from firmware 2.20
	Function	Data interface (read result output), Service interface
	Data transmission rate	10/100 MBit/s
<b>PROFINET</b>		✓
	Function	PROFINET Single Port, Data interface (read result output)
	Data transmission rate	10/100 MBit/s
<b>EtherNet/IP™</b>		✓
	Function	Data interface (read result output)
	Data transmission rate	10/100 MBit/s
<b>USB</b>		✓
	Remark	USB 2.0
	Function	Service interface
<b>Digital inputs</b>		1 (physical, switching, trigger sensor can be connected directly to the device (port 3) - max. 40 mA)
<b>Optical indicators</b>		4 LEDs, multi-color (device status) 4 RGB LED (Process feedback)
<b>Operator interfaces</b>		Web server
<b>Configuration software</b>		SOPAS ET <sup>1)</sup>
<b>Programming interface</b>		Application-specific programming using the SICK AppStudio development environment
<b>Memory card</b>		microSD memory card (parameter cloning, data storage)

<sup>1)</sup> Another alternative is to generate your own configuration tools based on the SICK command language CoLa (e.g. in your own software or on PLC function blocks).

## Ambient data

<b>Electromagnetic compatibility (EMC)</b>	EN 301489-3
<b>Vibration resistance</b>	EN 60068-2-6:2007
<b>Shock resistance</b>	EN 60068-2-27:2008
<b>Ambient operating temperature</b>	-25 °C ... +50 °C
<b>Storage temperature</b>	-40 °C ... +70 °C
<b>Permissible relative humidity</b>	90 %, Non-condensing

## Certificates

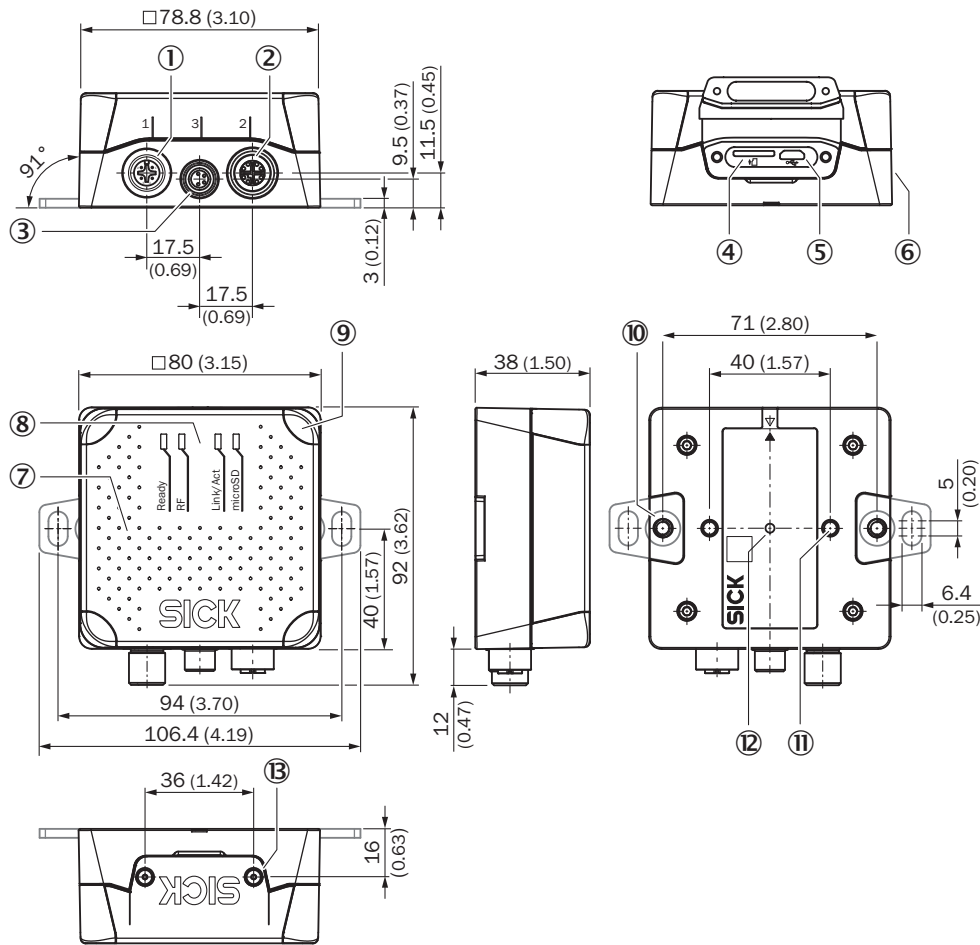
<b>China RoHS</b>	✓
<b>Radio Approval certificate China</b>	✓

Radio Approval certificate Thailand	✓
RAIN RFID	✓

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 5.0	EC002998
ETIM 6.0	EC002998
ETIM 7.0	EC002998
ETIM 8.0	EC002998
UNSPSC 16.0901	52161523

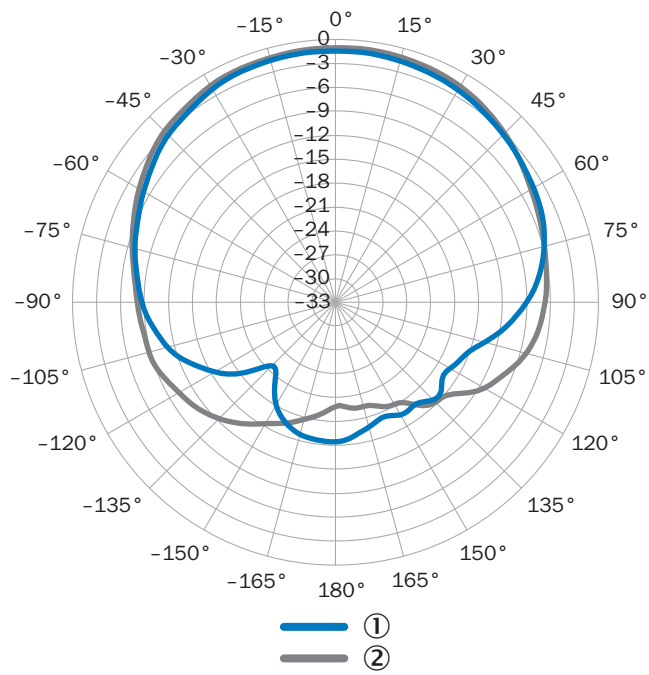
## Dimensional drawing



Dimensions in mm (inch)

- ① port 1: Power (male connector, M12, 4-pin, A-coded)
- ② port 2: PoE (female connector, M12, 8-pin, X-coded)
- ③ port 3: Trigger (female connector, M8, 4-pin, A-coded)
- 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 RGB 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



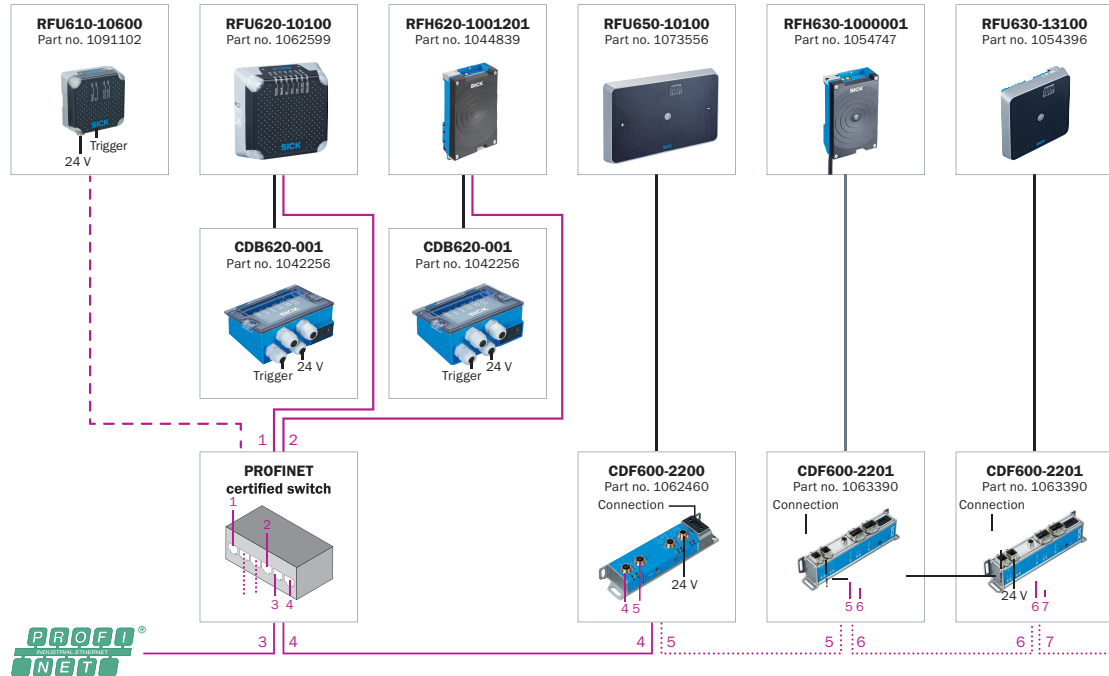
measured antenna gain in dBic at 866.5 MHz, LHCP (left-hand circularly polarized)

① Horizontal plane (azimuth)

② vertical plane (elevation)

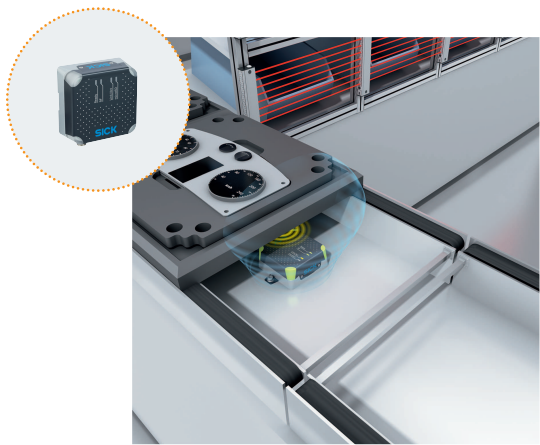
## Connection diagram PROFINET IO/RT

### PROFINET

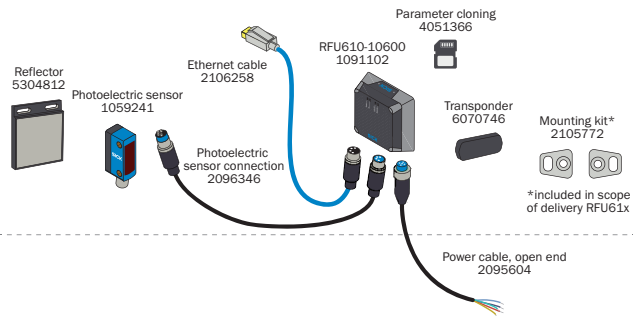


- Connecting cable (already present on device)
- Connection cable, 2 m (Part no. 6061702)
- PROFINET cable, 2 m (Part no. 2106182)
- PROFINET cable, 2 m (Part no. 2106258)
- ... PROFINET cable, ready to assemble AIDA plug connectors

System construction





RFU61x










Monitoring of an assembly line, PCB production and pallet identification

Recommended accessories

Other models and accessories → [www.sick.com/RFU61x](http://www.sick.com/RFU61x)

	Brief description	Type	part no.
Photoelectric sensors			
	<ul style="list-style-type: none"><li>• <b>Sensing range max.:</b> 0.03 m ... 6 m</li><li>• <b>Functional principle:</b> Photoelectric retro-reflective sensor</li><li>• <b>Connection type:</b> Male connector M8, 4-pin</li><li>• <b>Type of light:</b> Visible red light</li><li>• <b>Adjustment:</b> Potentiometer</li><li>• <b>Housing:</b> Rectangular</li></ul>	GL6-P4211	1059241
reflectors and optics			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Rectangular, screw connection</li><li>• <b>Dimensions:</b> 51 mm 61 mm</li><li>• <b>Ambient operating temperature:</b> -30 °C ... +65 °C</li></ul>	P250	5304812



	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-020UB3XLEAX	2095607
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-pin, straight, X-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 8-pin, straight</li> <li><b>Signal type:</b> Ethernet, Gigabit Ethernet</li> <li><b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, Gigabit Ethernet</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	YM2X18-020EG1M-RJA8	2106258
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 8-pin, straight, X-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 8-pin, straight</li> <li><b>Signal type:</b> Ethernet, Gigabit Ethernet</li> <li><b>Cable:</b> 3 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, Gigabit Ethernet</li> <li><b>Application:</b> Zones with oils and lubricants</li> </ul>	YM2X18-030EG1M-RJA8	2145693
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-C60UB3XLEAX	2145654
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-010UB3XLEAX	2145655
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 3 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-030UB3XLEAX	2145656
RFID transponders			
	<ul style="list-style-type: none"> <li><b>Carrier frequency:</b> 865 MHz ... 928 MHz</li> <li><b>Memory capacity (EPC / user memory):</b> 496/128 Bit (EPC / User Memory)</li> <li><b>Dimensions (L x W x H):</b> 18 mm x 122 mm x 2 mm</li> </ul>	UHF Transponder, Rectangular, global	6088050

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)