



# RFU630-04106

RFU63x

RFID

**SICK**  
Sensor Intelligence.



## Ordering information

| Type         | Part no. |
|--------------|----------|
| RFU630-04106 | 1068569  |

Other models and accessories → [www.sick.com/RFU63x](http://www.sick.com/RFU63x)



## Detailed technical data

## Features

|                          |                                                                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Version</b>           | Long Range                                                                                                                                                                                                |
| <b>Product category</b>  | RFID read/write device without integrated antenna                                                                                                                                                         |
| <b>Radio approval</b>    | Japan (ARIB STD-T106)                                                                                                                                                                                     |
| <b>Frequency band</b>    | UHF (860 MHz ... 960 MHz)                                                                                                                                                                                 |
| <b>Carrier frequency</b> | 916.8 MHz ... 920.4 MHz                                                                                                                                                                                   |
| <b>Output power</b>      | 30 dBm at external antenna ports, output power adjustable                                                                                                                                                 |
| <b>RFID standard</b>     | EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C                                                                                                                                                     |
| <b>Modulation</b>        | PR-ASK, DSB-ASK                                                                                                                                                                                           |
| <b>Read range</b>        | ≤ 10 m <sup>1)</sup>                                                                                                                                                                                      |
| <b>Antenna</b>           | Not integrated                                                                                                                                                                                            |
| <b>External antennas</b> | 4 external antennas (Up to + 30 dBm, can be adjusted separately)                                                                                                                                          |
| <b>Further functions</b> | Diagnosis, updatable firmware, freely programmable data output format, Heartbeat, triggering, SICK AppSpace functionalities can be enabled with the SD card accessory SDK6U-P00100 (for firmware ≥ 2.0.0) |

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

## Mechanics/electronics

|                          |                                                                                                                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Connection type</b>   | 1 x M12, 17-pin male connector, A-coded<br>1 x M12, 4-pin female connector, D-coded<br>1 x USB, 5-pin micro-B socket |
| <b>Supply voltage</b>    | 18 V DC ... 30 V DC                                                                                                  |
| <b>Power consumption</b> | Typ. 20 W                                                                                                            |
| <b>Housing</b>           | Aluminum die cast                                                                                                    |
| <b>Housing color</b>     | Blue, black, silver                                                                                                  |
| <b>Enclosure rating</b>  | IP67                                                                                                                 |

<sup>1)</sup> Operation at +25 °C.

|                               |                         |
|-------------------------------|-------------------------|
| <b>Protection class</b>       | III                     |
| <b>Weight</b>                 | 2.1 kg                  |
| <b>Dimensions (L x W x H)</b> | 239 mm x 197 mm x 40 mm |
| <b>MTBF</b>                   | 28 years <sup>1)</sup>  |

<sup>1)</sup> Operation at +25 °C.

## Interfaces

|                              |                                                                                                     |
|------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Ethernet</b>              | ✓, TCP/IP, OPC UA                                                                                   |
| Remark                       | Companion Spec V1.0 from firmware 2.20                                                              |
| Function                     | Host, AUX                                                                                           |
| Data transmission rate       | 10/100 MBit/s                                                                                       |
| <b>PROFINET</b>              | ✓                                                                                                   |
| Function                     | PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2), Host   |
| Data transmission rate       | 10/100 MBit/s                                                                                       |
| <b>EtherNet/IP™</b>          | ✓                                                                                                   |
| Function                     | Host                                                                                                |
| Data transmission rate       | 10/100 MBit/s                                                                                       |
| <b>EtherCAT</b>              | ✓                                                                                                   |
| Type of fieldbus integration | Optional over external fieldbus module CDF600                                                       |
| Function                     | Host                                                                                                |
| <b>Serial</b>                | ✓, RS-232, RS-422                                                                                   |
| Remark                       | RS-422 only via 4-wire                                                                              |
| Function                     | Host, AUX                                                                                           |
| Data transmission rate       | 0.3 kBaud ... 115.2 kBaud, AUX: 57.6 kBaud                                                          |
| <b>CAN</b>                   | ✓                                                                                                   |
| Remark                       | CSN (SICK CAN Sensor Network)                                                                       |
| Function                     | Host                                                                                                |
| <b>PROFIBUS DP</b>           | ✓                                                                                                   |
| Type of fieldbus integration | Optional over external fieldbus module CDF600-2                                                     |
| Function                     | Host                                                                                                |
| <b>USB</b>                   | ✓                                                                                                   |
| Remark                       | USB 2.0                                                                                             |
| Function                     | AUX                                                                                                 |
| <b>CANopen</b>               | ✓                                                                                                   |
| Function                     | Host                                                                                                |
| <b>Digital inputs</b>        | 2 (physical, 2 additional logical inputs via optional CMC600 parameter memory in CD-B620 / CDM420)  |
| <b>Digital outputs</b>       | 2 (physical, 2 additional logical outputs via optional CMC600 parameter memory in CD-B620 / CDM420) |
| <b>Optical indicators</b>    | 7 LEDs, multi-color (device status)<br>1 RGB LED (Process feedback)                                 |
| <b>Acoustic indicators</b>   | 1 beeper (Feedback)                                                                                 |

<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).

|                               |                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------|
| <b>Control elements</b>       | 2 buttons (choose and start/stop functions)                                       |
| <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

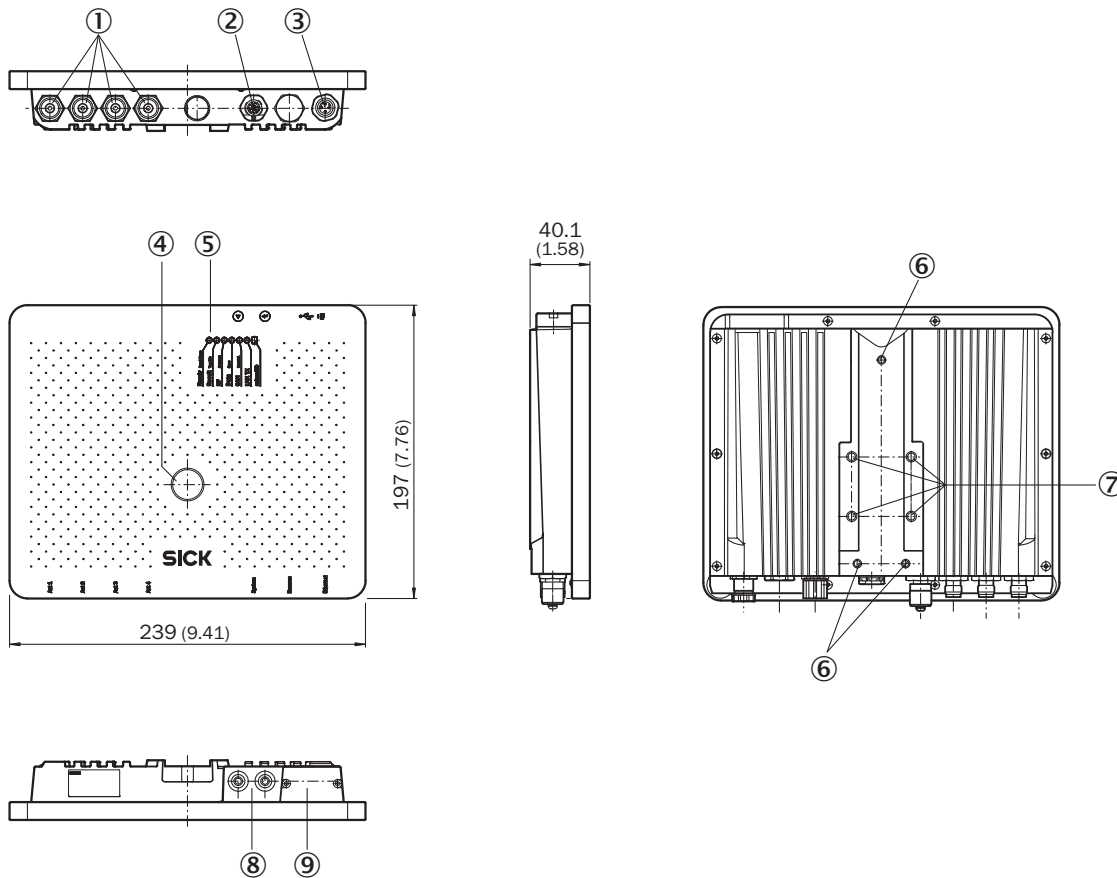
|                                            |                                  |
|--------------------------------------------|----------------------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 301489-3<br>EN 50121-4 (2017) |
| <b>Vibration resistance</b>                | EN 60068-2-64:2008-02            |
| <b>Ambient operating temperature</b>       | -30 °C ... +60 °C <sup>1)</sup>  |
| <b>Storage temperature</b>                 | -30 °C ... +70 °C                |
| <b>Permissible relative humidity</b>       | ± 90 %, Non-condensing           |

<sup>1)</sup> From Firmware version V2.02.

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.0</b>     | 27280401 |
| <b>ECl@ss 5.1.4</b>   | 27280401 |
| <b>ECl@ss 6.0</b>     | 27280401 |
| <b>ECl@ss 6.2</b>     | 27280401 |
| <b>ECl@ss 7.0</b>     | 27280401 |
| <b>ECl@ss 8.0</b>     | 27280401 |
| <b>ECl@ss 8.1</b>     | 27280401 |
| <b>ECl@ss 9.0</b>     | 27280401 |
| <b>ECl@ss 10.0</b>    | 27280401 |
| <b>ECl@ss 11.0</b>    | 27280401 |
| <b>ETIM 6.0</b>       | EC002998 |
| <b>ETIM 7.0</b>       | EC002998 |
| <b>UNSPSC 16.0901</b> | 52161523 |

## Dimensional drawing (Dimensions in mm (inch))



- ① 4 x antenna input ("external", TNC plug, reverse)
- ② "Power/Serial Data/CAN/I/O" connection
- ③ Ethernet connection
- ④ 1 x LED, multi-colored (process feedback)
- ⑤ 7 x LED for status display
- ⑥ 3 x M5 threaded mounting holes, 8 mm deep
- ⑦ 4 x M6 threaded mounting holes, 11 mm deep
- ⑧ Function buttons
- ⑨ Micro-USB female connector and slot for microSD memory card, behind screw-mounted cover

## Overview

## SICK AppSpace



## Recommended accessories

Other models and accessories → [www.sick.com/RFU63x](http://www.sick.com/RFU63x)

|                                                                                     | Brief description                                                    | Type                                 | Part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------|----------|
| Mounting brackets and plates                                                        |                                                                      |                                      |          |
|  | Pivot mounting bracket, incl. assembly material                      | Mounting bracket                     | 2080967  |
|  | Mounting bracket for wall mounting, incl. assembly material          | Mounting bracket                     | 2060912  |
| Others                                                                              |                                                                      |                                      |          |
|  | UHF label, global, plastic, 122 mm x 18 mm x 2 mm; Impinj Monza 4 QT | UHF Transponder, rectangular, global | 6068184  |

|                                                                                   | Brief description                                                                                                                                                                                        | Type                | Part no. |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
|  | Power supply unit (Euro plug) unit with pre-assembled M12 female connector, 17-pin, dimensions (L x W x H): 102 mm x 36 mm x 53 mm                                                                       | Power supply unit   | 2062249  |
| Modules                                                                           |                                                                                                                                                                                                          |                     |          |
|  | Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals. | CDB650-204          | 1064114  |
| Storage media                                                                     |                                                                                                                                                                                                          |                     |          |
|  | microSD memory card with 1 GB for industrial use                                                                                                                                                         | microSD memory card | 4051366  |
| Plug connectors and cables                                                        |                                                                                                                                                                                                          |                     |          |
|  | Head A: male connector, USB-A<br>Head B: male connector, Micro-B<br>Cable: USB 2.0, unshielded, 2 m                                                                                                      | USB cable           | 6036106  |
|  | Head A: female connector, M12, 17-pin, straight, A-coded<br>Head B: male connector, M12, 17-pin, straight, A-coded<br>Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, shielded, 0.9 m         | YM2A8D-C90XXF2A8D   | 6052945  |
|  | Head A: male connector, M12, 4-pin, straight, D-coded<br>Head B: male connector, RJ45, 8-pin, straight<br>Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 2 m                                | YM2D24-020EA1MRJA4  | 6034414  |

## Recommended services

Additional services → [www.sick.com/RFU63x](http://www.sick.com/RFU63x)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Type                  | Part no. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------|
| Commissioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> RFID</li> <li>• <b>Range of services:</b> 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</li> <li>• <b>Travel expenses:</b> The prices do not include travel costs such as hotel, flight, travel time and expenses.</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul> | Commissioning RFU/RFH | 1610018  |
| Product, system, and software training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |          |
| <ul style="list-style-type: none"> <li>• <b>Range of services:</b> The training contents are geared toward the RFID read/write devices, Training format and location can be worked out in collaboration with SICK, SICK offers training courses for numerous target groups ranging from basic to expert levels</li> </ul>                                                                                                                                                                                                                             | RFH/RFU training      | 1612233  |
| Maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> RFID</li> <li>• <b>Range of services:</b> 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</li> <li>• <b>Travel expenses:</b> The prices do not include travel costs such as hotel, flight, travel time and expenses.</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul>                                | Maintenance RFU/RFH   | 1611424  |

|                                                                                                                                                                                                                                                                                                                                                                                                      | Type                                                           | Part no. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------|
| Warranty extensions                                                                                                                                                                                                                                                                                                                                                                                  |                                                                |          |
| <ul style="list-style-type: none"><li>• <b>Product area:</b> Identification solutions, machine vision, Distance sensors, Detection and ranging solutions</li><li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase)</li><li>• <b>Duration:</b> Five-year warranty from delivery date.</li></ul> | Extended warranty for a total of five years from delivery date | 1680671  |

## 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)