

## CDF600-2200 Fieldbus module



Module for integrating a SICK identification sensor into PROFINET IO networks

**SICK**  
Sensor Intelligence.



### Correct use

The CDF600-2200 fieldbus module is used exclusively to integrate a single identification sensor as an IO device in PROFINET IO networks. It provides a dual port switch for the fieldbus for the assembly of a line topology, for example.

In terms of data technology, the fieldbus module and identification sensor (referred to as the ID sensor below) represent an IO device (field device) on the bus; they communicate with one another via a serial data interface (RS-232). One fieldbus module is required for each ID sensor on the PROFINET IO network.

The CDF600-2200 fieldbus module currently supports the following ID sensors:

In proxy mode:

- CLV61x FIELDBUS, CLV62x to CLV65x, CLV69x bar code scanners
- Lector®62x image-based code reader
- RFH62x and RFH63x (both HF), RFU62x and RFU63x (both UHF) RFID read/write devices

In gateway mode:

- SICK ID sensors, which do not yet support proxy mode, such as Lector®64x and Lector®65x image-based code readers

- SICK IDM1xx and IDM2xx hand-held scanners
- Any sensors with RS-232 interface and suitable data format and data transmission rate.

The fieldbus module can be used at an ambient temperature range of -35 °C to + 50 °C.

Correct use also includes compliance with all information in these operating instructions and the supplementary [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924).

### About this document

These operating instructions will help you to assemble one CDF600-2200 fieldbus module in the ambient temperature range from 0 °C to +50 °C quickly and easily and establish an electrical connection between it and the ID sensor, fieldbus and local trigger sensor (if there is one). The operating mode of the fieldbus module is set via its mechanical control element.

The CDF600-2200 fieldbus module is referred to simply as "fieldbus module" in the following sections.

### Supplementary and other relevant documents

More detailed information about the electrical installation and configuration of the fieldbus module is available in the [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924). This document describes:

- The suppression of ground potential equalization currents in applications with widely distributed systems
- The use of the fieldbus module together with a heatable ID sensor that supports proxy mode in the deep-freeze range up to -35 °C
- Setting up a small SICK CAN sensor network as a subnet-work on the ID sensor connected to the fieldbus module
- The integration of the fieldbus module in the IO controller
- Proxy mode: The procedure for configuring the fieldbus module with the SOPAS ET configuration software of the ID sensor supporting proxy mode or through the IO controller with the help of modules from the GSML file
- Gateway mode: Connection and configuration of the hand-held scanner by means of controlled scanning of corresponding bar codes and/or configuration of the Lector®64x/65x with the SOPAS ET configuration software

Information about PROFINET IO-related configuration is also available in the SOPAS ET configuration software's online help function for the relevant proxy ID sensor.

The CDF600-22xx Fieldbus Module Technical Information is available as a PDF on the product site of the fieldbus module on the web: [www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2).

PDF visualizing software such as Acrobat® Reader® is required to view the documents in PDF format on a PC ([get.adobe.com/reader/](http://get.adobe.com/reader/)).

### Safety information

- This chapter is dedicated to the safety of commissioning personnel and personnel operating the system in which the fieldbus module is integrated.
- Read these operating instructions carefully before commissioning the fieldbus module in order to familiarize yourself with the device and its physical controls and status indicators. The operating instructions are a component part of the device and must be kept in the immediate vicinity of the fieldbus module where they can be accessed at all times.
- Protect the fieldbus module from moisture and dust, when the side panel covering the USB interface and the rotary coding switch is open. In this state, the module does not conform to a specified IP enclosure rating. To safeguard the IP 65 enclosure rating in active operation, the following requirements must be met:
  - The side panel over the USB interface and the rotary encoding switch must be screwed tight to the device
  - Connections that are not being used must be fitted with yellow protective caps and plugs which must be screwed tight (as on delivery)
  - The seal on the D-Sub HD female connector (DEVICE connection) must be present; both screws for the D-Sub plug connector must be fastened tight



CDF600-2200: Protective caps and plugs as on delivery

- Opening the fieldbus module housing that is screwed tight with the cover will invalidate any warranty claims against SICK AG. For further warranty provisions, see the General Terms and Conditions of SICK AG, e.g., on the delivery note of the fieldbus module.
- Data integrity:  
SICK AG uses standardized data interfaces, such as standard IP technology, in its products. The emphasis here is on the availability of products and their features. SICK AG always assumes that the integrity and confidentiality of the data and rights affected by the use of these products will be ensured by the customer. In all cases, appropriate security measures, such as network separation, firewalls, virus protection, and patch management, must be taken by the customer on the basis of the situation in question.

### Commissioning and configuration

#### Scope of delivery

- Fieldbus module, equipped with yellow protective caps/plugs on the M12 connections. Without connecting cables.
- Printed operating instructions in German (no. 8015921) and English (no. 8015922). Possibly available in other languages as a PDF on the product site of the fieldbus module on the web: [www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2).

- Possible optionally ordered accessories (cables, trigger sensors, etc.)
- The required GSML files for the ID sensors are also available on the product site of the fieldbus module

### Operating principle of the fieldbus module (overview)

On PROFINET IO, the fieldbus module functions as an IO device. It can be operated by any PROFINET IO controller that conforms to the relevant standards (e.g., PLC).

The fieldbus module operates as a proxy for a SICK identification sensor from the IDpro device families. For the IO controller, only the ID sensor is visible.

Alternatively, the fieldbus module can operate as a gateway for a sensor that is only gateway-compatible if it is outputting data and has a serial data interface (RS-232). In this case, for the IO controller, only the fieldbus module is visible.

As a proxy, the fieldbus module loads the device description for its parameters from the ID sensor on system startup. The ID sensor must be capable of supporting the fieldbus module when it is functioning as a proxy. Communication takes place via the serial AUX interface of the ID sensor (RS-232).

The fieldbus module also saves the parameter set of the ID sensor that supports proxy mode to its internal parameter memory; this makes the replacement process easier if the ID sensor should fail.

As a gateway for ID sensors that support gateway mode, the fieldbus module transmits data telegrams framed with STX and ETX. These telegrams are received at its serial data interface, that can be set to 9.6 kBd or 57.6 kBd.

The ID sensor that supports proxy mode receives external object trigger signals via the PROFINET IO or locally e.g., from a trigger sensor via the switching input of the fieldbus module.

Six LEDs indicate statuses of the fieldbus module: Connection status, status of the switching input and diagnosed system and bus errors as well as the PROFINET IO Link/Activity.

A smaller SICK-specific CAN sensor network of SICK ID sensors with CAN interface can be set up as a subnet-work using the CAN bus. In this case, the ID sensor connected to the PROFINET IO performs a coordinating function, e.g., as master. Wiring of the CAN bus is carried out via the POWER connection.

### Step 1: Mounting

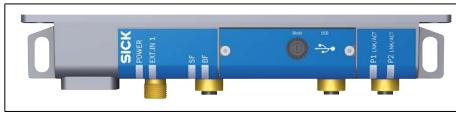
#### Equipment required

- 2 cylinder head screws (M6) for mounting; screw length dependent upon fixing base (wall thickness). Max. tightening torque 5 Nm + 1.

#### Mounting requirements

- The permissible ambient conditions for the operation of the fieldbus module must be observed (e.g., temperature, ground potential → see "Technical Specifications", page 5 and "Step 2: Electrical installation", page 2).
- Shock- and vibration-free mounting.

- The device must only be mounted by inserting two screws into the elongated drill holes.
- Stable mounting equipment with sufficient load-bearing capacity and appropriate dimensions for the fieldbus module. The module has been optimized for mounting on standard frame profiles. Weight 360 g (without cables). Dimension drawing → see "Device layout", page 4.
- Required switching space across the electrical connections: approx. 300 mm, access to USB interface and rotary encoding switch: approx. 400 mm.
- Clear view of the transparent panels on the rotary encoding switch and the optical indicators.
- In order to achieve electromagnetic-compatible mounting, a continuous metallic connection must be established with the housing.



- Use the two elongated drill holes to mount the fieldbus module in the lugs of the cover or the bar on the side. Ideally, the fieldbus module should be mounted in a horizontal or vertical position, so that the writing on the rotary encoding switches reads correctly when viewed by the user.
- Mount the ID sensor and align it with the codes/transponders to be identified as indicated in the corresponding operating instructions. The operating instructions of the relevant ID sensor are available on the corresponding product site online, e.g., for the CLV62x bar code scanner at [www.mysick.com/en/clv62x](http://www.mysick.com/en/clv62x).

## Step 2: Electrical installation

- Only skilled electricians with appropriate training and qualifications are permitted to perform electrical installation.
- Standard safety requirements must be met when working in electrical systems!**
- Electrical connections between the fieldbus module and other devices may only be made or separated when there is no power to the system. Otherwise, the devices may be damaged.
- Where connecting cables with one end open are concerned, make sure that bare wire ends are not touching (risk of short circuit when the supply voltage is switched on). Wires must be appropriately insulated from each other.
- Wire cross sections of the supply cable from the customer's power system for the fieldbus module should be designed and protected in accordance with the applicable standards. Insert a separate, external fuse (max. 3 A slow-blow) at the start of the supply cable to protect the fieldbus module (and the ID sensor connected to it).
- All electric circuits to be connected to the fieldbus module must be designed as SELV circuits (SELV = Safety Extra Low Voltage).

## DANGER

### Risk of injury and damage caused by electrical current!

The CDF600-2200 fieldbus module is designed for operation in a system with proficient grounding of all connected devices and mounting surfaces to the same ground potential. Incorrect grounding of the fieldbus module can result in equipotential bonding currents between the fieldbus module and other grounded devices in the system. This can lead to hazardous voltages being applied to metal housing, cause devices to malfunction or sustain irreparable damage and damage the cable shield as a result of heat rise, causing cables to set alight.

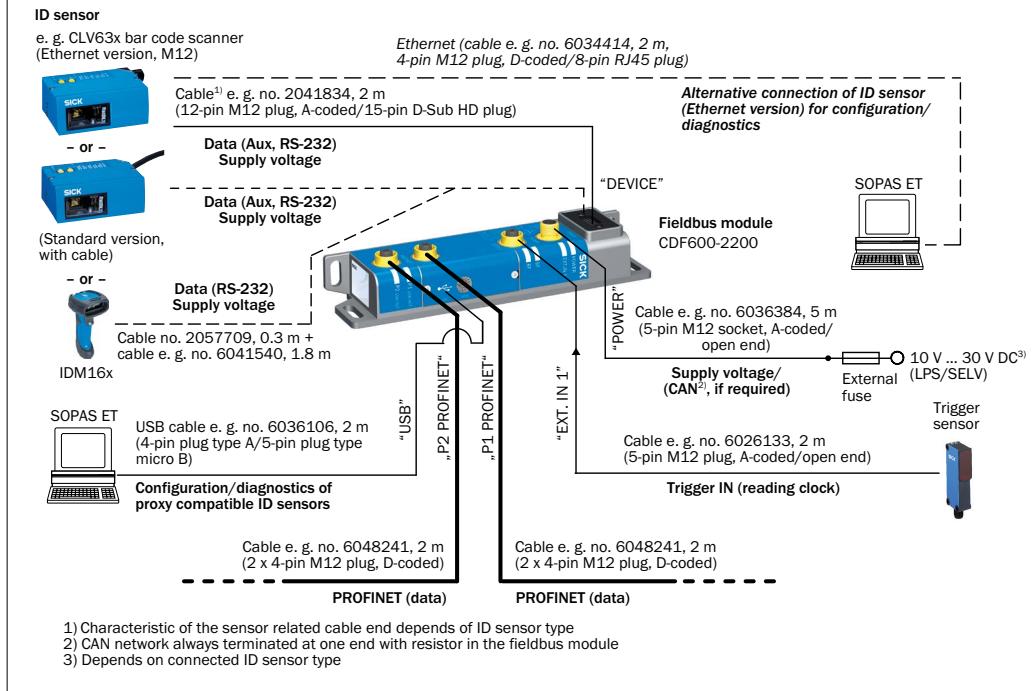
- Only skilled electricians should be permitted to carry out work on the electrical system.
- Ensure that the ground potential is the same at all grounding points.
- If the cable insulation is damaged, disconnect the power supply immediately and have the damage repaired.

See [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924), available on the product site on the web ([www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2)) for suggested courses of action for eliminating hazards.

- In order to install the desired application, wire the fieldbus module as appropriate for the ID sensor type with the help of the optional pre-assembled SICK cables as shown in the block diagram. The cables are only included as accessories in the delivery of the module if they are ordered separately. The part number varies by type for the required M12 adapter cable to D-Sub HD ("DEVICE" connection) for the ID sensor with Ethernet interface. It should, for example, be taken from the operating instructions or product information for the ID sensor on the corresponding online product page.

#### Cable types and lengths:

- The cable used for the incoming supply cable must be a screened cable, length of cable < 30 m. Take appropriate measures to isolate unused open wire ends (CAN bus) for the "POWER" connection (risk of short-circuit)
  - Screened connection cable between fieldbus module and ID sensor < 5 m, as a RS-232 interface to the data transmission is used between fieldbus module and ID sensor.
- Prepare and protect the supply voltage for the fieldbus module. The level of the supply voltage for the unit consisting of fieldbus module and ID sensor is dependent on the connected sensor, see → "CDF600-2200-relevant specifications of ID sensors", page 3. The fieldbus module provides a supply voltage range of DC 10 V to 30 V. The supply voltage is also applied to the connected ID sensor. The power supply or the power supply unit must meet the requirements relating to SELV according to the currently valid EN 60950-1 standard. In addition, the supply voltage must be designed according



Block diagram: CDF600-2200 fieldbus module connected to CLV6xx bar code scanner or IDM 16x hand-held scanner (example)

to the requirements for LPS (Limited Power Source) as per the EN 60950-1 standard or must comply with NEC (National Electrical Code) Class 2.

#### Power output of the power source:

The fieldbus module itself consumes < 5 W power (without ID sensor and trigger sensor). The additional power consumed by the connected ID sensor and trigger sensor (if there is one) varies by type. The output of the power supply unit must be dimensioned based on the total consumption of all loads.

## NOTE

### Risk of damage caused by electrical current!

The supply voltage at the DEVICE connection is not short-circuit-protected. If the "POWER" LED no longer lights up following a short-circuit between pin 1 and pin 5, the device must be sent to SICK Service so that its functionality can be re-established.

- Do **not** connect the supply voltage yet.

## CDF600-2200-relevant specifications of ID sensors

ID sensor	Supply voltage	Power consumption <sup>1)</sup>	Firmware version
<b>ID sensors that support proxy mode</b>			
CLV61x FIELD-BUS	DC 10 V ... 30 V	2.8 W, typical	V. 1.21
CLV62x	DC 10 V ... 30 V	Max. 4.5 W	V. 5.26
CLV63x line/raster	DC 18 V ... 30 V	5 W typical	
CLV63x Line with SwSP	DC 18 V ... 30 V	6 W typical	
CLV64x line/raster	DC 18 V ... 30 V	5 W typical	
CLV64x Line with SwSP	DC 18 V ... 30 V	6.5 W typical	
CLV65x line	DC 18 V ... 30 V	8.5 W typical	
CLV65x Line with SwSP	DC 18 V ... 30 V	9.5 W typical	
CLV63x ... 65x, for heating in addition <sup>2)</sup>	DC 24 V ±10%	Electronics type-specific, see above, heating max 30 W	
CLV69x <sup>3)</sup> line	DC 18 V ... 30 V	15 W typical	On request
CLV69x <sup>3)</sup> Line with SwSP	DC 18 V ... 30 V	17 W typical	On request
Lector®62x	DC 10 V ... 30 V	3 W typical	On request
RFH62x	DC 10 V ... 30 V	Max. 5 W	V. 3.10
RFH63x	DC 10 V ... 30 V	Max. 8 W	V. 3.10
RFU62x	DC 10 V ... 30 V <sup>4)</sup>	8 W, typical <sup>5)</sup>	V. 1.50
RFU63x	DC 18 V ... 30 V	< 20 W, typical	V. 1.50
<b>ID sensors that support gateway mode</b>			
Lector®64x/65x	DC 24 V ±20%	20 W typical	-
IDM160	Transducer DC 24 V/5 V	1.15 W typical	-
IDM161	Transducer DC 24 V/5 V	0.9 W typical	-
IDM260	Transducer DC 24 V/5 V	1.68 W typical	-
IDM261	Transducer DC 24 V/5 V	1.65 W typical	-
1) Switching output without load Power consumption of the fieldbus module additionally < 5 W.			
2) Connection diagram see <a href="#">CDF600-22xx Fieldbus Module Technical Information</a> (no. 8015924).			
3) Without configuration option via configuration module in the GSMDL file.			
4) DC 20 V to 30 V when using the RFU62x-101xx in ambient temperatures of -20°C to -40°C.			
5) Additionally max. 12 W from -20°C to -40°C. Line with SwSP = Line scanner with oscillating mirror			

Other ID sensors on request.

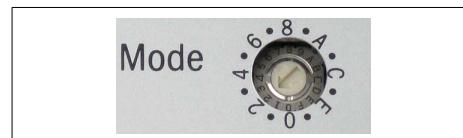
## Step 3: Configuration

### a. Overview of the configuration process

- Set operating mode of the fieldbus module using the "Mode" rotary encoding switch.
- Integrate the fieldbus module in the IO controller.
- Configure data communication in the fieldbus.
- Only ID sensor that supports proxy mode:  
Use the SOPAS ET configuration software to set the remaining functions of the fieldbus module.

### b. Setting the operating mode in the fieldbus module

- Open the side cover by unscrewing the two screws (10). (→ see "Device layout", page 4). You can now access the "Mode" rotary encoding switch.



Set the operating mode with the rotary encoding switch.

#### Position 0:

Fieldbus module operates as a proxy for an ID sensor (e.g., bar code scanners from the CLV6xx product family).

#### Position 2 and 4:

Fieldbus module operates as a gateway for an ID sensor that supports gateway mode (e.g., hand-held scanner); data transmission rate dependent on switch setting.

List of modes that can be configured → see ""Mode" rotary encoding switch (hexadecimal-coded)", page 3. The new setting is applied on the fieldbus module when the supply voltage is switched on.

Changes to the settings of the rotary encoding switch after the power supply has been switched on are not applied in data communication initially; however, the "POWER" LED flashes cyclically 2 times.

To apply a change to the operating mode to the fieldbus module, restart both the fieldbus module and the ID sensor. In order to do this, switch off the supply voltage for the fieldbus module and switch it on again.

### c. Configuring the fieldbus module (resume here for ID sensor that supports proxy mode)

The SOPAS ET configuration software for SICK identification sensors is used as standard for the commissioning and further configuration of the fieldbus module with the ID sensor that supports proxy mode connected to it.

**The configuration of the fieldbus module is integrated in the menu of the respective ID sensor that supports proxy mode.**

### Installing and starting the configuration software

- Download and install the latest version of the SOPAS ET configuration software, as well as current device description files (\*.sdd), from the online product page for the software: [www.mysick.com/en/SOPAS\\_ET](http://www.mysick.com/en/SOPAS_ET) by following the instructions provided there.

## Connect the PC to the fieldbus module and switch on devices

- Connect the PC (switched-off) as follows:

- Serial version of the ID sensor that supports proxy mode with fixed connecting cable (serial data interfaces only): Use a data cable (no. 6036106, 2 m) to connect the USB interface ④ of the fieldbus module to the PC interface (USB).
- Ethernet version of the ID sensor supporting proxy mode:  
Use a data cable (e.g., no. 6034414, 2 m) to connect the Ethernet interface of the ID sensor to the Ethernet network of the PC.

- On the user side, switch on the supply voltage DC 10 V to 30 V chosen according to the table on the left for the fieldbus module and the connected ID sensor.

Following initialization of the fieldbus module and while attempting to establish communication with the ID sensor, the green "POWER" LED flashes. Once communication has been established and the fieldbus module is ready for operation, the "POWER" LED lights up steady. Meaning of LEDs → see "Optical status indicators", page 4.

- Switch on PC and start configuration software via the "SOPAS" option. Path: Start > Programs > SICK > SOPAS ET Engineering Tool > SOPAS.

- Start communication with the ID sensor with SOPAS ET as described in the operating instructions for the connected ID sensor that supports proxy mode. In order to do this, select the desired communication interface for searching in the connection wizard.

For the remaining steps in the process of configuring the connected ID sensor, see [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924).

### d. Integrating the ID sensor in the IO controller and configuring data communication on the fieldbus

This section provides a brief overview of the general procedure. This is covered in detail in relation to the ID sensor in the [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924).

#### Important!

The required GSMDL files are available on the product site of the fieldbus module online: [www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2).

#### ID sensor that supports proxy mode:

- Integrate ID sensor as a new IO device in the IO controller (e.g., PLC).

For this purpose, transfer the SICK sensor-specific GSMDL file for the corresponding ID sensor to the device description database of the IO controller.

See [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924).

- Specify the object trigger source and the output format of the ID sensor for the fieldbus using SOPAS ET.

## ID sensor that supports gateway mode:

- Integrate the fieldbus module as a new IO device in the IO controller master (e.g., PLC).

For this purpose, transfer the SICK-specific GSMDL file for the fieldbus module to the device description database of the IO controller.

### 2. IDM1xx and IDM2xx hand-held scanner:

Use the configuration codes to configure the hand-held scanner for the fieldbus module.

For more information, see [CDF600-22xx Fieldbus Module Technical Information](#) (no. 8015924).

### 3. Any ID sensor with RS-232 interface:

Connect RS-232 interface to pin 2, 3, 5 of the fieldbus module (DEVICE connection).

Set communication parameters to:

- Datastring framing: STX and ETX
- Data format: 8 databits, no parity, 1 stop bit
- Data transmission rate: 9.6 kBd or 57.6 kBd according to the selected position, 4 or 2, of the "Mode" rotary encoding switch.

## "Mode" rotary encoding switch (hexadecimal-coded)

Operating mode and communication mode for ID sensor to be connected.

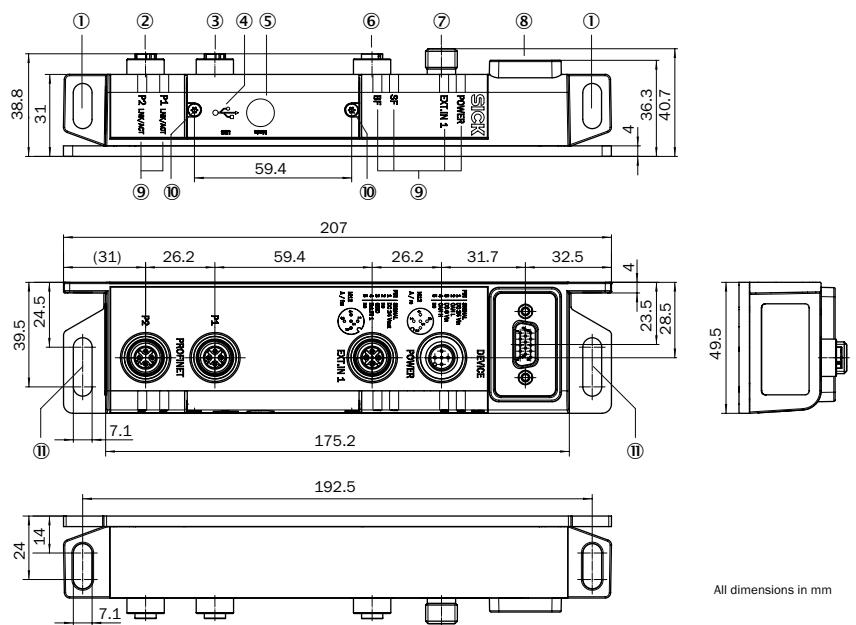
Position	Operating mode/Functions
<b>Proxy mode for ID sensor that supports proxy mode</b>	
<b>0</b>	Operation with ID sensor that supports proxy mode. CDF600 communication mode. (factory default). Parameter cloning for ID sensor. Configuration with parameterization modules of GSMDL file possible via IO controller.
<b>1</b>	
<b>Gateway mode for ID sensor that supports gateway mode</b>	
<b>2</b>	Operation with ID sensor that supports gateway mode. The fieldbus module operates as a gateway. CDF600 communication mode. Data transmission rate between ID sensor and fieldbus module: 57.6 kBd.
<b>3</b>	Reserved for future use.
<b>4</b>	As position 2, but data transmission rate between ID sensor and fieldbus module: 9.6 kBd
<b>5</b>	Reserved for future use.
<b>Additional functions</b>	
<b>6 ... D</b>	Reserved for future use
<b>E</b>	Operation for firmware update <sup>1)</sup> of fieldbus module. No communication with PROFINET IO.
<b>F</b>	Transparent operation <sup>2)</sup> of the fieldbus module for firmware update of ID sensor. No communication with PROFINET IO.

1) All LEDs flash simultaneously.

2) Data transmission rate 57.6 kBd.  
"POWER" LED flashes cyclically 3 times.

## Device Description

### Device layout



CDF600-2200: View and dimensions

### Legend:

- ① Elongated drill hole (2 x), length 10 mm, unpainted, for mounting with M6 screw
- ② "P2 PROFINET" connection, 4-pin M12 female connector, D-coded
- ③ "P1 PROFINET" connection, 4-pin M12 female connector, D-coded
- ④ "USB" connection, 5-pin micro-B female connector, for configuration and diagnostics, behind screw-mounted cover
- ⑤ "Mode" rotary encoding switch, for operating mode, behind screw-mounted cover
- ⑥ "EXT. IN 1" connection, 5-pin M12 female connector, A-coded
- ⑦ "POWER" connection, 5-pin M12 male connector, A-coded
- ⑧ "DEVICE" connection, 15-pin D-SUB HD female connector with seal
- ⑨ LED (6 x), status indicator (POWER, EXT. IN 1, SF, BF, P1 LNK/ACT, P2 LNK/ACT)
- ⑩ Screw (Torx T8), captive (2x), for cover
- ⑪ Elongated drill hole (2 x), length 15 mm, unpainted, for alternative mounting with M6 screw

### Optical status indicators

Indication	LED	Status	Status
POWER	-	OFF	Fieldbus module without supply voltage
	● (Green)	Flashes cyclically	Sequence: Once: Only in operating mode 0 (proxy): Following startup, the fieldbus module searches for the ID sensor that supports proxy mode. Twice: The position of the rotary coding switch "Mode" was changed during operation. This has no influence on active operation. Following a restart, the fieldbus module then works in the operating mode that the new position of the rotary encoding switch presents. 3 times: Transparent operation of fieldbus module (operating mode F) for firmware update of the ID sensor. No communication with PROFINET IO.
EXT. IN1	● (Green)	ON	Fieldbus module ready following start and initialization. Operating mode 0 (proxy): Communication established with ID sensor that supports proxy mode. The fieldbus module is operational. Operating mode 2 or 4 (gateway): The fieldbus module is operational.
	-	OFF	No power supply to external input 1 <sup>1)</sup>
SF	● (Yellow)	ON	Power supply to external input 1 <sup>1)</sup>
	-	OFF	Fieldbus module without internal error
BF	● (Red)	ON	Operating mode 0 (proxy): Following startup, the fieldbus module searches for the ID sensor that supports proxy mode
	-	OFF	Data exchange between fieldbus module (IO device) and IO controller via PROFINET IO possible
P1 LNK/ACT <sup>2)</sup>	● (Red)	ON	No connection between fieldbus module (IO device) and IO controller. Possible causes: - No electrical connection between fieldbus module and PROFINET IO - IO controller not available or switched off - Wrong PROFINET name - Wrong GSML file used - Wrong GSML module selected
	● (Red)	Flashes cyclically	Frequency 0.5 Hz Possible causes: - Parameterization error on IO controller (e.g., incorrect ID for IO device), no data exchange - Error on IO controller affecting configuration with modules, no data exchange
P1 LNK	● (Green)	ON	Fieldbus module connected with active network, e.g. with an Ethernet switch (switched-on)
P1 ACT	● (Orange)	ON	LED flickers when the fieldbus module is sending or receiving data
P2 LNK/ACT <sup>2)</sup>	-	OFF	Fieldbus module not connected to any active network; no data traffic possible
	● (Green)	ON	Fieldbus module connected with active network, e.g. with an Ethernet switch (switched-on)
P2 ACT	● (Orange)	ON	LED flickers when the fieldbus module is sending or receiving data

SF = system failure, BF = bus failure.

1) Regardless of the logic assigned to the input via the SOPAS ET configuration software of the ID sensor.

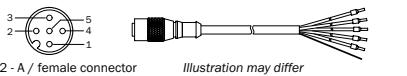
2) There are 2 separate LEDs under the display window

● = illuminated; ● = flashing

## Overview of pin assignments and wire colors (cables)

### 1. POWER connection (supply voltage)

Cable no. 6036384 (5 m)



M12 - A / female connector

Illustration may differ

Pin	Signal	Function	Wire color
1	DC 24 V <sub>in</sub>	Supply voltage IN (DC 10 V ... 30 V)	Brown
2	CAN L	CAN bus <sup>1)</sup>	White
3	DC 0 V <sub>in</sub>	Supply voltage ground	Blue
4	CAN H	CAN bus <sup>1)</sup>	Black
5	N. c.	-	Gray
-	-	Shield	Metal

<sup>1)</sup> CAN-Bus only with support from ID sensor with CAN interface.

Pin assignment of the 5-pin M12 POWER female connector (A-coded, straight) of the cable and wire colors of the open cable end

Cable no. 6049456<sup>1)</sup>, SPEEDCON (3 m)

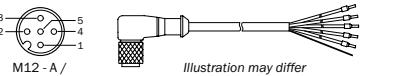


Illustration may differ

Pin	Signal	Function	Wire color
1	DC 24 V <sub>in</sub>	Supply voltage IN (DC 10 V ... 30 V)	Brown
2	CAN L	CAN bus <sup>1)</sup>	White
3	DC 0 V <sub>in</sub>	Supply voltage ground	Blue
4	CAN H	CAN bus <sup>1)</sup>	Black
5	N. c.	-	Gray
-	-	Shield	Metal

<sup>1)</sup> CAN-Bus only with support from ID sensor with CAN interface.

Pin assignment of the 5-pin M12 POWER female connector (A-coded, 90° angle) of the cable and wire colors of the open cable end.

1) Other lengths: no. 6049455 (1.5 m), no. 6049457 (5 m), no. 6049458 (10 m)

### 2. EXTERNAL IN 1 connection (digital switching input)

Cable no. 6026133 (2 m)

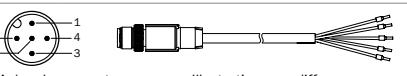


Illustration may differ

Pin	Signal	Function	Wire color
1	DC 24 V <sub>out</sub>	Supply voltage OUT (DC 10 V ... 30 V), max. 400 mA	Brown
2	N. c.	-	White
3	GND	Supply voltage ground	Blue
4	EXT. IN 1	External input 1	Black
5	N. c.	-	Gray

Pin assignment of the 5-pin M12 male connector EXT. IN1 (A-coded, straight) of the cable and wire colors of the open cable end

### 3. P1/P2 PROFINET connections

	M12 - D / female connector
Pin assignment of both the 4-pin M12 P1/P2 PROFINET IO female connectors (D-coded)	
<b>Pin</b>	<b>Signal</b>
1	TD+
2	RD+
3	TD-
4	RD-

Pin assignment of both the 4-pin M12 P1/P2 PROFINET IO female connectors (D-coded)

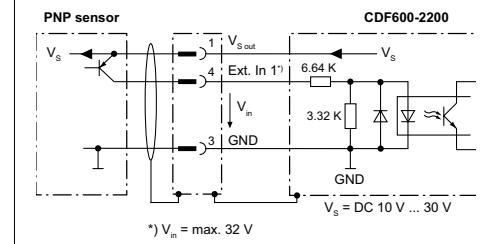
### 4. DEVICE connection

	Pin assignment of the 15-pin D-SUB HD female connector DEVICE
Pin	
1	DC 24 V <sub>out</sub>
2	TxD (AUX) RS-232, sender
3	RxD (AUX) RS-232, receiver
5	GND Supply voltage ground
4, 6 ... 9	N. c. -
10	CAN H CAN bus <sup>1)</sup>
11	CAN L CAN bus <sup>1)</sup>
12 ... 15	N. c. -

<sup>1)</sup> CAN-Bus only with support from ID sensor with CAN interface.

Pin assignment of the 15-pin D-SUB HD female connector DEVICE

### Wiring of the "EXT. IN 1" switching input



Example wiring of the EXT. IN 1 switching input

Features	Description
Switching behavior	Power at the input starts the assigned function in the ID sensor that supports proxy mode (default: level active high, debounce 10 ms)
Properties	Can be wired, e.g., to PNP output of a trigger sensor
Electrical values	Low:  V <sub>in</sub>   ≤ 2 V;  I <sub>in</sub>   ≤ 0.3 mA High: 6 V ≤  V <sub>in</sub>   ≤ 32 V; 0.7 mA ≤  I <sub>in</sub>   ≤ 5 mA
LED "EXT. IN 1"	Low: OFF High: ON

Specifications of the EXT. IN 1 switching input

## Technical Specifications

<b>Model name</b>	<b>CDF600-2200 (no. 1062460)</b>
<b>Function</b>	Proxy or gateway for PROFINET IO networks
<b>Supported SICK identification sensors</b>	ID sensors that support proxy mode: CLV61x FIELDBUS, CLV62x ... 65x, CLV69x bar code scanners Lector®620 image-based code reader RFH620 and RFH630 RFID read/write devices (both HF) RFU62x and RFU63x (both UHF) ID sensors that support gateway mode: Lector®64x and Lector®65x image-based code readers IDM1xx and IDM2xx hand-held scanner
<b>Station type</b>	PROFINET IO device
<b>Supported communication modes</b>	Dependent upon sensor type, see <a href="#">CDF600-22xx Fieldbus Module Technical Information (no. 8015924)</a> In operating mode 0 (proxy): CDF600 mode with handshake, CDF600 mode without handshake In operating mode 2 or 4 (gateway): CDF600 mode with handshake
<b>PROFINET IO data interface</b>	2-port Ethernet in accordance with IEEE 802.3 (data transmission rate 100 MBit/s, full-duplex transmission, 2-port switch, auto negotiation, auto crossover). Maximum data length limited to 4000 bytes by communication mode (fragmentation protocol).
<b>AUX data interface (DEVICE connection)</b>	Serial (RS-232), 57.6 kBd or 9.6 kBd, for data communication with the ID sensor
<b>CAN bus data interface (POWER connection)</b>	Connection of an ID sensor via the fieldbus module as a last participant on a CAN bus. 10 kBit/s ... 1 MBit/s, CAN sensor network. CAN network in the fieldbus module with termination resistor already connected on one side
<b>USB data interface</b>	USB 2.0 for configuration and diagnostics
<b>Digital switching inputs</b>	1 x V <sub>in</sub> = max. 32 V, can be wired, e.g., with PNP output of a trigger sensor
<b>Digital switching outputs</b>	-
<b>Optical indicators</b>	6 x LED <sup>1)</sup>
<b>Parameter cloning</b>	Integrated (configuration data of the connected ID sensor, in proxy mode)
<b>Electrical connections</b>	1 x 15-pin, D-SUB HD female connector (DEVICE), with seal 1 x 5-pin M12 male connector (POWER), A-coded 1 x 5-pin, M12 female connector (EXT. IN 1), A-coded 2 x 4-pin, M12 female connector (P1/P2 PROFINET), D-coded 1 x USB female connector, type micro-B (covered) <sup>2)</sup>
<b>Supply voltage IN</b>	DC 10 V ... 30 V, reverse polarity protected. Voltage range may be restricted by connected ID sensor → see "CDF600-2200-relevant specifications of ID sensors", page 3 Power supply unit: SELV acc. to EN 60950-1:2006-04 and LPS acc. to EN 60950-1:2006-04 or Class 2 (UL 1310) Protection of the supply cable with max. 3 A
<b>Supply voltage OUT (DEVICE)</b>	As supply voltage IN, not short-circuit-protected.
<b>Power consumption</b>	< 5 W (no ID sensor connected, switching input "EXT. IN 1" not connected)
<b>Fieldbus module current consumption</b>	Max. 250 mA
<b>Current flow to ID sensor</b>	2 A, max. (internal fuse, cannot be accessed)
<b>Housing/housing color</b>	Non-varnished cast aluminum, light-blue labeling film (RAL 5012)
<b>Safety</b>	According to EN 60950-1:2006-04 + A11:2009-03 + A1:2010-03
<b>Enclosure rating</b>	IP 65, acc. to EN 60529:1991-10 + A1:2000-02 <sup>3)</sup>
<b>Electrical protection class</b>	III, acc. to EN 60950-1:2006-04 + A11:2009-03 + A1:2010-03
<b>Dimensions</b>	207 mm x 49.5 mm x 40.7 mm (without connected cables)
<b>Weight</b>	360 g
<b>Electromagnetic compatibility (EMC)</b>	Radiated emission: acc. to EN 61000-6-3:2007-01 + A1:2011-03 Shock resistance: acc. to EN 61000-6-2:2005-08
<b>Vibration resistance/Shock resistance</b>	Acc. to EN 60068-2-6:2008-02 / acc. to EN 60068-2-27:2009-05
<b>Ambient temperature</b>	Operation: -35 °C ... +50 °C / Storage: -35 °C ... +70 °C
<b>Permissible relative humidity</b>	Max 90 %, non-condensing
<b>Mark of conformity</b>	CE, UL 60950-1 (E244281)

1) Under the two LNK/ACT display windows there are 2 separate LEDs

2) Only for configuration and diagnosis.

3) Under the following conditions: When using a SICK scanner standard connection cable for the ID sensor. M12 male connectors of connected lines are clamped and unused connections are equipped with yellow, secured protective caps or plugs.

For detailed technical specifications, see the [Online data sheet](#) on the product site on the web ([www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2)).

## Parameter Cloning (in the proxy mode)

In the same way as the optional CMC600 parameter memory module (which can be installed in the CDB and CDM connection modules), the CDF600-2200 fieldbus module provides an external parameter memory for the ID sensor that supports proxy mode. When the parameter values in the connected ID sensor are permanently saved (proxy mode 0), the fieldbus module also stores a copy of this parameter set in its parameter memory.

This makes it easier to exchange the ID sensor in the event of device failure because the new device of the same type automatically loads the parameter set from the parameter memory of the fieldbus module. This means that manual configuration is not required.

In the event of failure of the fieldbus module, the ID sensor which supports proxy mode automatically copies its parameter set into the empty parameter memory of the replaced, connected fieldbus module of the same type after initialization.

## Maintenance and Care

With the exception of cleaning the transparent panels covering the rotary encoding switches and status indicators, the CDF600-2200 fieldbus module is maintenance-free in operation.

➤ In contaminated environments, the side cover with the circular transparent panel covering the rotary encoding switch and the transparent panels covering the status indicators should be cleaned from time to time. Use a soft cloth dipped in a mild cleaning agent for this purpose.

## Transport and storage

Transport and store the fieldbus module in the original packaging, with protective plugs and caps completely screwed-on. Do not store outdoors. To ensure that any residual moisture present can escape, do not store the devices in airtight containers. Do not expose to aggressive media (e.g. solvents). Storage conditions: Dry, dust-free, no direct sunlight, as little vibration as possible, storage temperature -35°C to +70°C, relative humidity max. 90% (non-condensing).

## Repairs

Repair work on the fieldbus modules may only be performed by qualified and authorized service personnel from SICK AG.

## Disassembly and disposal

Any fieldbus module which can no longer be used at the end of the product life cycle must be disposed of in an environmentally friendly manner in accordance with the respective applicable country-specific waste disposal regulations. As they are categorized as electronic waste, fieldbus modules must never be disposed of with household waste. SICK AG does currently not take back fieldbus modules that are no longer fit for use.

## Sources for obtaining additional information

The following sources of additional information about the CDF600-2200 fieldbus module, its optional accessories, and SICK identification sensors are available in electronic format on the corresponding SICK product pages on the web:

### Fieldbus modules CDF600-2200

[www.mysick.com/en/cdf600-2](http://www.mysick.com/en/cdf600-2)

- Detailed technical specifications (online data sheet)
- Technical information CDF600-22xx fieldbus module in German (no. 8015923) and English (no. 8015924)
- GSDML files for the ID sensors and the fieldbus module for integration in the IO controller
- EC declarations of conformity
- Dimensional drawing and 3D CAD dimension models in various electronic formats
- Eplan connection diagrams (drawings)
- Suitable accessories (including cables, trigger sensors)
- Operating instructions CDF600-2200 fieldbus module in German (no. 8015921) and English (no. 8015922) as well as in other languages if applicable
- Ordering information in the identification solutions product catalog

### SICK ID sensors that support proxy mode

e.g. CLV62x bar code scanner

[www.mysick.com/en/CLV62x](http://www.mysick.com/en/CLV62x)

- Operating instructions

### SICK ID sensors that support gateway mode

e.g. LECTOR®65x image-based code reader

[www.mysick.com/en/lector65x](http://www.mysick.com/en/lector65x)

- Operating instructions

### e.g. hand-held scanner:

#### 1D hand-held scanner

[www.mysick.com/en/idm14x](http://www.mysick.com/en/idm14x)

[www.mysick.com/en/idm16x](http://www.mysick.com/en/idm16x)

#### 2D hand-held scanner

[www.mysick.com/en/idm24x](http://www.mysick.com/en/idm24x)

[www.mysick.com/en/idm26x](http://www.mysick.com/en/idm26x)

- Operating instructions for the IDM1xx and IDM2xx hand-held scanners

Support is also available from your sales partner:

[www.sick.com/worldwide](http://www.sick.com/worldwide)