PRODUCT INFORMATION

CFP Cubic

SIMPLY CONNECT AND MEASURE – LEVEL SENSOR WITH ADDED VALUE

Level sensors

SICK
Sensor Intelligence.

THE LEVEL SENSOR WITH ADDED VALUE: THE CFP Cubic

One sensor – many values

Whether you're using it for level, point level, or temperature measurement, the CFP Cubic combines a wide variety of measurement functions into one sensor. The customizable digital and analog outputs allow you to monitor levels and point levels in the tank. Where necessary, the IO-Link integrates the process data into an automation network. The ample display and the teach-in buttons on the sensor head immediately adapt the settings to the measuring task at hand. The integrated temperature sensor at the end of the probe also determines the temperature of the measured fluid.

Thanks to intelligent technology and the integrated reference electrode, the CFP Cubic measures all media over the entire length of the probe.

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Ample display for status and level indication

Control unit integrated right into the sensor

5-pin and 8-pin connection, along with IO-Link interface

Pressure compensation hole with breathable membrane

Process connection with G ¾ and NPT ¾" screw connection or Easy Clamp

Temperature sensor at the end of the probe

CFP CUBIC

The multifunctional sensor operates without the need for moving parts or filling medium calibration. It is highly resistant to aggressive fluids. Thanks to the intuitive setup using the guided sensor menu, it can be adapted quickly and easily to the measuring task.

ENHANCED FLEXIBILITY WITH CAPACITIVE LEVEL MEASUREMENT

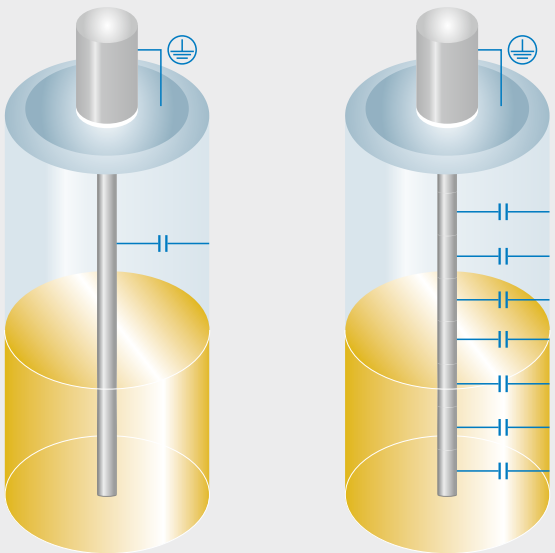
CFP Cubic from SICK represents a profound step forward in capacitive level measurement. With just one rod probe, the sensor reliably measures the level regardless of the material properties of the tank in question. With a system based on the specially developed MCiM technology, SICK therefore offers an efficient alternative to conventional level measurement.

Conventional measurement method

The hitherto commonplace method of capacitive level measurement requires two electrically conductive surfaces. The electrical field generated between the two electrodes measures the different permittivity for fluids and gases. If the fluid level increases, the capacity changes, giving an indication of how high the tank is filled. While the tank wall and the rod probe function as electrodes when used in a metal tank, a plastic tank will always require a second probe, since plastic walls do not conduct electricity. In the conventional method of capacitive level measurement, a calibration between an empty and full tank must be performed prior to fluids being changed.

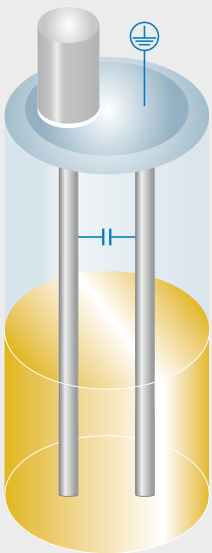
Conventional level measurement in metal tanks...

Single and multiple measurements in metal tanks were previously carried out using the sensor rod probe and the grounded metallic tank wall.



...and in plastic tanks

In the previous measurement method, two probes are required in order to carry out measurements in plastic tanks.



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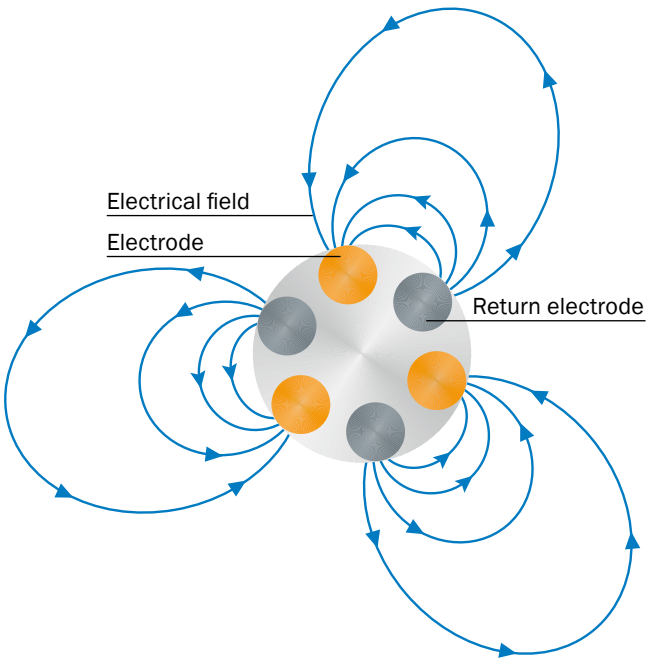
New feature: MCiM technology from SICK

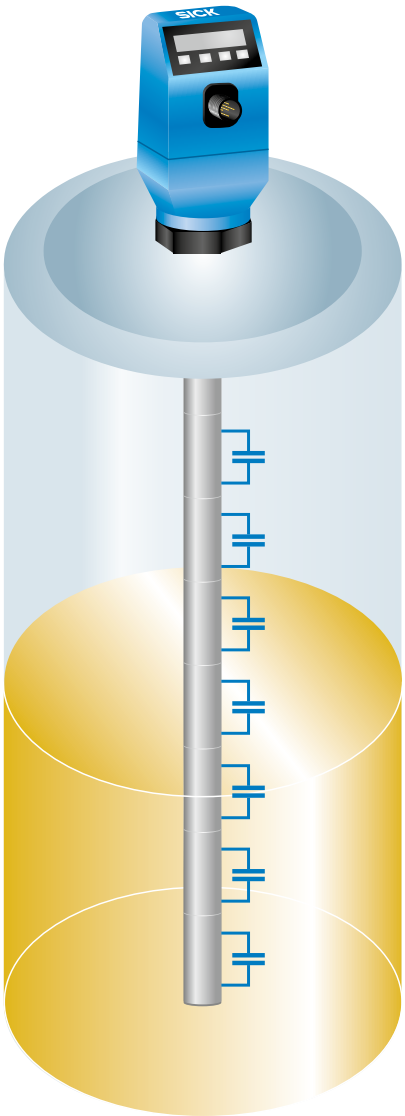
With a new technology called “multi-capacitive intra-probe measurement” (or MCiM for short), the CFP Cubic from SICK measures capacity in multiple segments within the measurement probe. Electrodes integrated into the probe make it possible to calibrate to the surrounding fluid. Thanks to the use of electrodes and referential return electrodes in a single rod probe, this measurement method works independently of the tank properties and does not require a second probe. Instead, the electrical field for the purposes of capacity measurement is generated between the integrated electrodes and through the medium being measured. This partitioned structure of the probe allows you to perform an exact level measurement along the probe regardless of the medium in question.

Advantages:

- Measurements can be performed regardless of the tank’s shape
- Measurements can be performed in metal and plastic tanks without the need for a parallel probe
- No grounding required



Integrated electrodes and return electrodes enable capacitive level measurement with just one rod probe.



Capacitive level measurement along the entire rod probe.

SIMPLY CONNECT AND MEASURE

CFP Cubic – one-minute installation

The CFP Cubic level sensor proves its value even before any measurements are taken: You can install the device, make any necessary customizations, and ensure that the sensor is fully functional all in less than a minute.

0–15 seconds

- Mechanical installation in the tank

15–30 seconds

- Connection to the cable

30–45 seconds

- Definition of switching and reset points
- Zero point and medium calibration

45–60 seconds

- Selection of required display option

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Benefits at a glance

The CFP Cubic combines simple installation with high process accuracy and advanced technology.

Customized operating options

- Manual settings available for the sensor via the guided menu or expert menu
- Convenient teach-in and data management options from your computer thanks to the IO-Link 1.1 interface

One sensor for level and temperature

- Continuous level measurement
- Point level measurement
- Temperature measurement by means of the integrated temperature sensor at the end of the probe

Easy installation, measurements in no time

- Measurement irrespective of container material
- Measurement in oils, or water-based liquids

Measurement in confined installation situations

- Low dead zone
- Variable probe length up to 1,000 mm
- Adjustable height thanks to the Easy Clamp clamping jaws

EASY TO INSTALL
IN ALMOST ANY APPLICATION

Flexibility and process accuracy for a variety of measuring tasks

Level and temperature measurement in hydraulic systems

Task:

Continuous level monitoring for oils

Special features of the product in this application:

- Quick installation

Level measurement in plastic tanks

Task:

Continuous measurement and point level monitoring for fluids

Special features of the product in this application:

- Short installation time
- No accessories required
- Not affected by the shape of the container
- Grounding of the tank is not required

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Monitoring of cleaning solutions and cleaning agents in machine engineering

Task:

Monitoring using the sensor display and point level monitoring

Special features of the product in this application:

- Fast commissioning
- Measured value indicated clearly on the display
- Low dead zone; measurement possible down to the base of the tank

SIMPLY CONNECT AND MEASURE – LEVEL SENSOR WITH ADDED VALUE

Product description

The CFP Cubic is a capacitive level sensor for taking continuous level, limit, and simultaneous temperature measurements. Thanks to intelligent MCiM technology (multi-capacitive intra-probe measuring), the CFP Cubic measures media over the entire length of the probe – irrespective of the container material and without the need for additional accessories. The probe's plastic surface prevents deposits and ensures high resistance to aggressive media. The sensor's intuitive setup uses a guided menu to ensure quick and easy adaptation to the measuring task. IO-Link allows the process data to be integrated into an automation network.

At a glance

- Continuous level measurement and temperature measurement as well as level and temperature switches
- Measurement irrespective of container material
- Probe from 100 mm to 1,000 mm
- Display and intuitive menu navigation
- No mechanical moving parts
- IP 67 enclosure rating and IO-Link 1.1
- No dead zone along the measuring range

Your benefits

- One sensor for two measuring applications - level and temperature measurement - reduces installation complexity and stock requirements
- Simple, intuitive operation thanks to predefined menu navigation and integrated display
- One sensor for two measuring applications reduces installation complexity and stock requirements
- Flexible measurement in containers made of different materials – including plastic – without additional accessories
- Measurement in small containers and close to the ground possible
- Measurement in oils and water-based liquids without additional accessories saves on purchase and storage costs

IO-Link

Additional information

→ www.sick.com/CFP_Cubic

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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Detailed technical data

Features

Medium	Water or oil-based liquids
Measurement	Switch, Continuous
Probe length	100 mm ... 1,000 mm
Process pressure	–0.5 bar ... 3 bar
Process temperature	–20 °C ... +80 °C
UL approval	✔
RoHS certificate	✔
IO-Link	✔
Temperature measurement	Probe tip (depending on type) [1]

[1] Available for product variants with output signal C (4 digital outputs + 2 analog outputs).

Performance

Accuracy of sensor element	± 15 mm (with water or oil under reference conditions)
Reproducibility	< 5 mm
Resolution	< 2 mm
Response time	< 300 ms
Dielectricity constant	≥ 2
Conductivity	No limitation
Deactivated area at end of probe	7 mm ... 15 mm, depending on probe length
Temperature measurement	
Measuring range (temperature)	–20 °C ... +80 °C
Accuracy (temperature)	± 2 °C
Resolution (temperature)	≤ 0.1 °C
Response time (temperature)	120 s

Mechanics

Wetted parts	Outer tube: polypropylene (PP-H), G 3/4" and 3/4'' NPT: PBT, Easy Clamp Bracket: PP
Process connection	Without process connection G ¾ A ¾" NPT (depending on type)
Housing material	PBT / PC
Max. probe load	≤ 4 Nm
Probe diameter	16 mm

Electronics

Supply voltage	10 V DC ... 30 V DC [1]
Power consumption	≤ 100 mA at 24 V DC without output load
Initialization time	≤ 5 s
Protection class	III
Electrical connection	Round connector M12 x 1, 5-pin / M12 round connector x 1, 8-pin (depending on type)
Output signal	2 x PNP/NPN/push-pull transistor outputs switchable 2 x PNP/NPN/push-pull transistor outputs switchable and 1 x analog output 4 mA ... 20 mA / 0 V ... 10 V automatically switchable depending on output load or output voltage depending on the load 4 x PNP/NPN/push-pull transistor outputs switchable and 2 x analog outputs 4 mA ... 20 mA, 0 V ... 10 V depending on output load or output voltage depending on the load (depending on type)

[1] All connections are polarity protected. All outputs are overload and short-circuit protected.

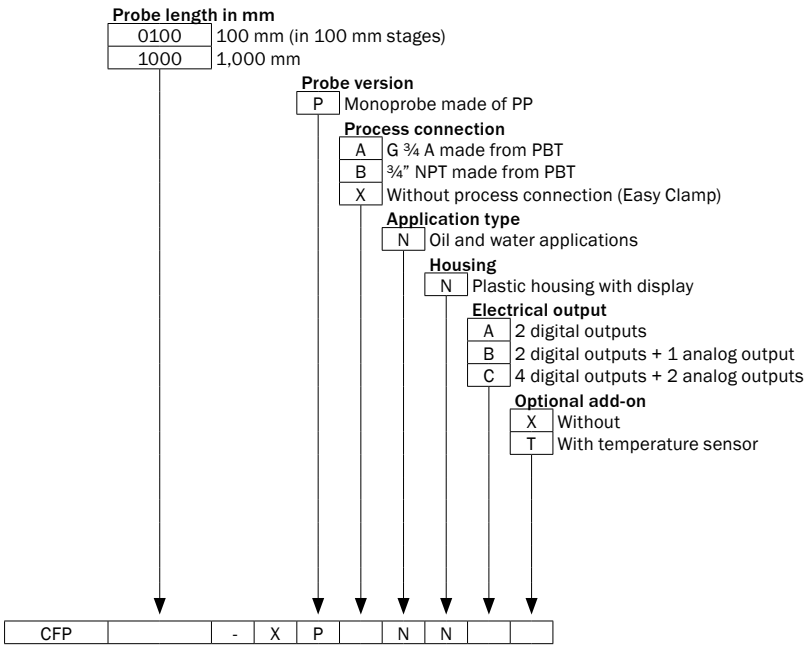
Output load	4 mA ... 20 mA < 500 Ohm at Uv > 15 V 4 mA ... 20 mA < 350 Ohm at Uv > 12 V 0 V ... 10 V > 750 Ohm at Uv 14 ≥ V
Hysteresis	Min. 3 mm, min. 2 °C, free adjustable
Signal voltage HIGH	V_s - 3 V
Signal voltage LOW	≤ 3 V
Output current	< 100 mA
Inductive load	< 1 H
Capacitive load	100 nF
Enclosure rating	IP65 / IP67
Temperature drift	< 0.1 mm/K
Lower signal level	3.8 mA ... 4 mA
Upper signal level	20 mA ... 20.5 mA
Resolution of analog output	16 bit

[1] All connections are polarity protected. All outputs are overload and short-circuit protected.

Ambient data

Ambient operating temperature	–20 °C ... +60 °C
Ambient storage temperature	–40 °C ... +80 °C

Type code



Not all variants of the type code can be combined!

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Ordering information

- **Enclosure rating:** IP65 / IP67
- **Process temperature:** –20 °C ... +80 °C
- **Process pressure:** 0 bar relativ
- **Housing material:** PBT / PC
- **Electrical connection:** round connector M12 x 1, 5-pin

Process connection	Output signal	Probe length	Type	Part no.
G ¾ A	2 x PNP/NPN/Push-Pull	100 mm	CFP0100-XPANNAX	1083197
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	100 mm	CFP0100-XPANNBX	1083216
¾" NPT	2 x PNP/NPN/Push-Pull	100 mm	CFP0100-XPBNNAX	1083234
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	100 mm	CFP0100-XPBNNBX	1083255
Without process connection	2 x PNP/NPN/Push-Pull	100 mm	CFP0100-XPXNNAX	1083100
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	100 mm	CFP0100-XPXNNBX	1083119
G ¾ A	2 x PNP/NPN/Push-Pull	200 mm	CFP0200-XPANNAX	1083199
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	200 mm	CFP0200-XPANNBX	1082626
¾" NPT	2 x PNP/NPN/Push-Pull	200 mm	CFP0200-XPBNNAX	1083236
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	200 mm	CFP0200-XPBNNBX	1083257
Without process connection	2 x PNP/NPN/Push-Pull	200 mm	CFP0200-XPXNNAX	1083102
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	200 mm	CFP0200-XPXNNBX	1083121
G ¾ A	2 x PNP/NPN/Push-Pull	300 mm	CFP0300-XPANNAX	1083201
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	300 mm	CFP0300-XPANNBX	1083219
¾" NPT	2 x PNP/NPN/Push-Pull	300 mm	CFP0300-XPBNNAX	1083238
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	300 mm	CFP0300-XPBNNBX	1083259
Without process connection	2 x PNP/NPN/Push-Pull	300 mm	CFP0300-XPXNNAX	1083104
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	300 mm	CFP0300-XPXNNBX	1083123
G ¾ A	2 x PNP/NPN/Push-Pull	400 mm	CFP0400-XPANNAX	1083203
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	400 mm	CFP0400-XPANNBX	1083221
¾" NPT	2 x PNP/NPN/Push-Pull	400 mm	CFP0400-XPBNNAX	1083240
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	400 mm	CFP0400-XPBNNBX	1083261
Without process connection	2 x PNP/NPN/Push-Pull	400 mm	CFP0400-XPXNNAX	1083106
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	400 mm	CFP0400-XPXNNBX	1083125
G ¾ A	2 x PNP/NPN/Push-Pull	500 mm	CFP0500-XPANNAX	1083205
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	500 mm	CFP0500-XPANNBX	1082627
¾" NPT	2 x PNP/NPN/Push-Pull	500 mm	CFP0500-XPBNNAX	1083242
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	500 mm	CFP0500-XPBNNBX	1083263
Without process connection	2 x PNP/NPN/Push-Pull	500 mm	CFP0500-XPXNNAX	1083094
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	500 mm	CFP0500-XPXNNBX	1083127
G ¾ A	2 x PNP/NPN/Push-Pull	600 mm	CFP0600-XPANNAX	1083207
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	600 mm	CFP0600-XPANNBX	1083224

Process connection	Output signal	Probe length	Type	Part no.
¾" NPT	2 x PNP/NPN/Push-Pull	600 mm	CFP0600-XPBNNAX	1083244
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	600 mm	CFP0600-XPBNNBX	1083265
Without process connection	2 x PNP/NPN/Push-Pull	600 mm	CFP0600-XPXNNAX	1083109
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	600 mm	CFP0600-XPXNNBX	1083129
G ¾ A	2 x PNP/NPN/Push-Pull	700 mm	CFP0700-XPANNAX	1083209
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	700 mm	CFP0700-XPANNBX	1083226
¾" NPT	2 x PNP/NPN/Push-Pull	700 mm	CFP0700-XPBNNAX	1083246
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	700 mm	CFP0700-XPBNNBX	1083267
Without process connection	2 x PNP/NPN/Push-Pull	700 mm	CFP0700-XPXNNAX	1083111
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	700 mm	CFP0700-XPXNNBX	1083131
G ¾ A	2 x PNP/NPN/Push-Pull	800 mm	CFP0800-XPANNAX	1083211
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	800 mm	CFP0800-XPANNBX	1083228
¾" NPT	2 x PNP/NPN/Push-Pull	800 mm	CFP0800-XPBNNAX	1083248
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	800 mm	CFP0800-XPBNNBX	1083269
Without process connection	2 x PNP/NPN/Push-Pull	800 mm	CFP0800-XPXNNAX	1083113
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	800 mm	CFP0800-XPXNNBX	1083133
G ¾ A	2 x PNP/NPN/Push-Pull	900 mm	CFP0900-XPANNAX	1083213
¾" NPT	2 x PNP/NPN/Push-Pull	900 mm	CFP0900-XPBNNAX	1083250
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	900 mm	CFP0900-XPBNNBX	1083271
Without process connection	2 x PNP/NPN/Push-Pull	900 mm	CFP0900-XPXNNAX	1083115
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	900 mm	CFP0900-XPXNNBX	1083135
G ¾ A	2 x PNP/NPN/Push-Pull	1,000 mm	CFP1000-XPANNAX	1082175
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	1,000 mm	CFP1000-XPANNBX	1083232
¾" NPT	2 x PNP/NPN/Push-Pull	1,000 mm	CFP1000-XPBNNAX	1083252
	2 x PNP/NPN/Push-Pull + 4 mA ... 20 mA / 0 V ... 10 V	1,000 mm	CFP1000-XPBNNBX	1083253
Without process connection	2 x PNP/NPN/Push-Pull	1,000 mm	CFP1000-XPXNNAX	1083117
			CFP1000-XPXNNBX	1083095

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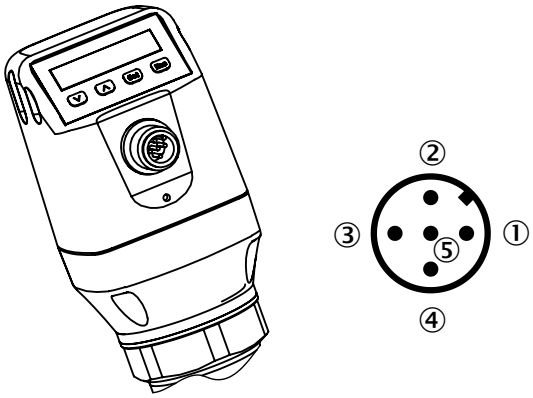
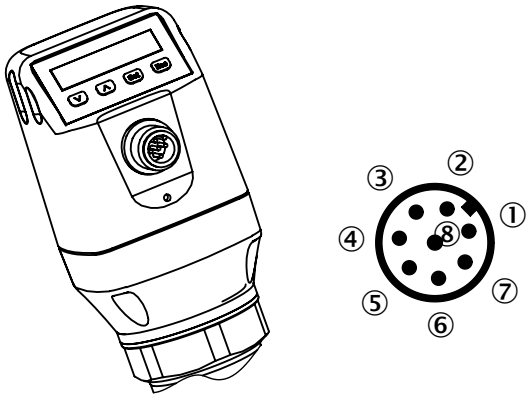
- **Enclosure rating:** IP65 / IP67
- **Output signal:** 4 x PNP/NPN/Push-Pull + 2 x 4 mA ... 20 mA / 0 V ... 10 V
- **Process temperature:** –20 °C ... +80 °C
- **Process pressure:** 0 bar relativ
- **Housing material:** PBT / PC
- **Electrical connection:** M12 round connector x 1, 8-pin
- **Temperature measurement:** ✔

Process connection	Probe length	Type	Part no.
G ¾ A	100 mm	CFP0100-XPANNCT	1090856
¾" NPT	100 mm	CFP0100-XPBNNCT	1090865
G ¾ A	200 mm	CFP0200-XPANNCT	1090858
¾" NPT	200 mm	CFP0200-XPBNNCT	1090867
G ¾ A	300 mm	CFP0300-XPANNCT	1090859
¾" NPT	300 mm	CFP0300-XPBNNCT	1090869
G ¾ A	400 mm	CFP0400-XPANNCT	1090861
¾" NPT	400 mm	CFP0400-XPBNNCT	1090871
G ¾ A	500 mm	CFP0500-XPANNCT	1079837
¾" NPT	500 mm	CFP0500-XPBNNCT	1080913
G ¾ A	600 mm	CFP0600-XPANNCT	1090862
¾" NPT	600 mm	CFP0600-XPBNNCT	1090873
G ¾ A	700 mm	CFP0700-XPANNCT	1085460
¾" NPT	700 mm	CFP0700-XPBNNCT	1090874
G ¾ A	800 mm	CFP0800-XPANNCT	1090863
¾" NPT	800 mm	CFP0800-XPBNNCT	1090875
G ¾ A	900 mm	CFP0900-XPANNCT	1090864
¾" NPT	900 mm	CFP0900-XPBNNCT	1090876
G ¾ A	1,000 mm	CFP1000-XPANNCT	1079839
¾" NPT	1,000 mm	CFP1000-XPBNNCT	1080914

Electrical connection

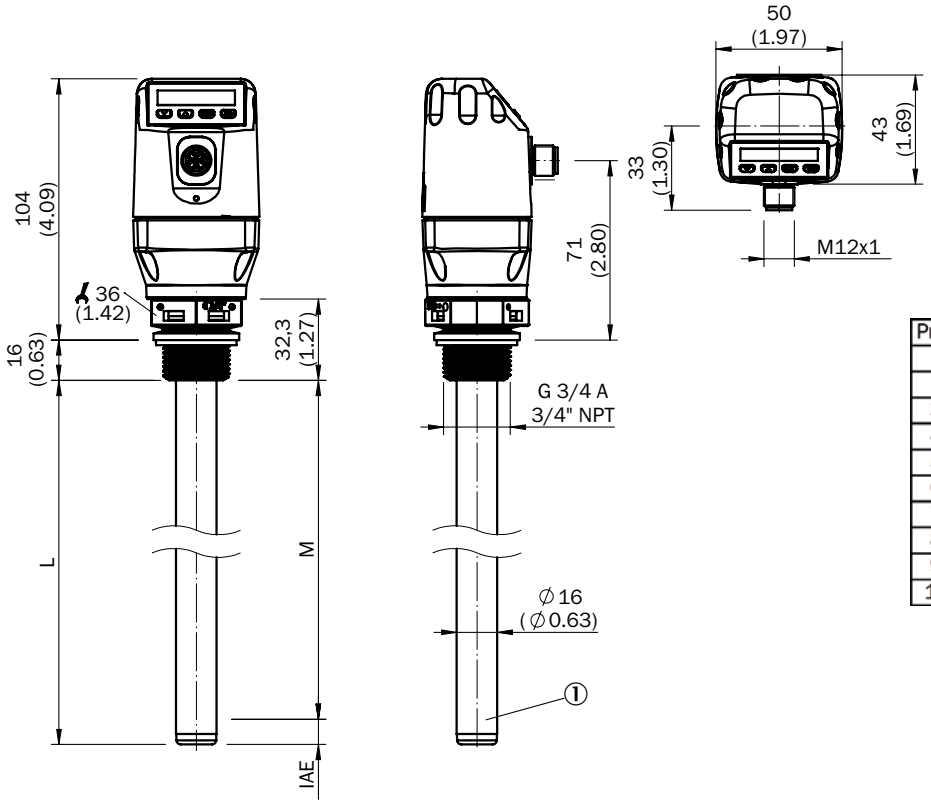


① L⁺: Supply voltage
② Q_A: Analog current-/voltage output
③ M: Ground, reference ground for current-/voltage output
④ C/Q1: Switching output 2, PNP/NPN/DRV (Push-Pull) / IO-Link
⑤ Q_2: Switching output 2, PNP/NPN/DRV (Push-Pull)



① L⁺: Supply voltage
② Q_2: Switching output 2, PNP/NPN/DRV (Push-Pull)
③ M: Ground, reference ground for current-/voltage output
④ C/Q1: Switching output 2, PNP/NPN/DRV (Push-Pull) / IO-Link
⑤ Q_3: Switching output 3, PNP/NPN/DRV (Push-Pull)
⑥ Q_4: Switching output 4, PNP/NPN/DRV (Push-Pull)
⑦ Q_A: Analog current-/voltage output
⑧ Q_B: No function or Analog current-/voltage output (depending on type)

Dimensional drawing



M: Measuring range
L: Probe length
IAE: Inactive area at probe end

Probe length L	Inactive area IAE
100 (3.94)	<10 (0.39)
200 (7.87)	<10 (0.39)
300 (11.81)	<10 (0.39)
400 (15.75)	<10 (0.39)
500 (19.69)	<15 (0.59)
600 (23.62)	<15 (0.59)
700 (27.56)	<15 (0.59)
800 (31.50)	<15 (0.59)
900 (35.43)	<15 (0.59)
1000 (39.37)	<15 (0.59)

Accessories

Mounting systems

Terminal and alignment brackets

Terminal brackets

	Brief description	Type	Part no.
	Easy-clamp bracket for variable probe fastening, without mounting hardware	BEF-FL-PRBCFP-HLDR	2087299

Connection systems

Modules and gateways

Connection modules

	Brief description	Type	Part no.
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

Fieldbus modules

	Brief description	Type	Part no.
 Illustration may differ	EtherCAT IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
 Illustration may differ	EtherNet/IP IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

Plug connectors and cables

Connecting cables

	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 6.3 mm	5 m	DOL-1208-G05MAC-R0	6054489
		10 m	DOL-1208-G10MAC-R0	6054488
		20 m	DOL-1208-G20MAC-R0	6050686
	Head A: female connector, M12, 8-pin, angled Head B: Flying leads Cable: PUR, halogen-free, unshielded, 5.9 mm	10 m	DOL-1208-W10MC	6035625

	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	2 m	YF2A15-020UB5X-LEAX	2095617
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	2 m	YF2A15-020VB5X-LEAX	2096239
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	5 m	YF2A15-050UB5X-LEAX	2095618
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	5 m	YF2A15-050VB5X-LEAX	2096240
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	10 m	YF2A15-100UB5X-LEAX	2095619
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	10 m	YF2A15-100VB5X-LEAX	2096241
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.25 mm², 5.8 mm	2 m	YF2A18-020UA5X-LEAX	2095652
		5 m	YF2A18-050UA5X-LEAX	2095653
		10 m	YF2A18-100UA5X-LEAX	2095654
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, shielded, 0.25 mm², 7 mm	2 m	YF2A28-020VA6X-LEAX	2096243
		5 m	YF2A28-050VA6X-LEAX	2096244
		10 m	YF2A28-100VA6X-LEAX	2096245
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	2 m	YG2A15-020UB5X-LEAX	2095772
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	2 m	YG2A15-020VB5X-LEAX	2096215
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	5 m	YG2A15-050UB5X-LEAX	2095773
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	5 m	YG2A15-050VB5X-LEAX	2096216

	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm², 4.8 mm	10 m	YG2A15-100UB5X-LEAX	2095774
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm², 5.2 mm	10 m	YG2A15-100VB5X-LEAX	2096217
	Head A: female connector, M12, 8-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.25 mm², 5.8 mm	2 m	YG2A18-020UA5X-LEAX	2095779
		5 m	YG2A18-050UA5X-LEAX	2095780
		10 m	YG2A18-100UA5X-LEAX	2095781
	Head A: female connector, M12, 8-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, shielded, 0.25 mm², 7 mm	2 m	YG2A28-020VA6X-LEAX	2096218
		5 m	YG2A28-050VA6X-LEAX	2096219

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