CFP0500-XPXNNCT

CFP Cubic

CAPACITIVE LEVEL SENSOR

SICK
Sensor Intelligence.

CFP0500-XPXNNCT | CFP Cubic
CAPACITIVE LEVEL SENSOR

Illustration may differ

Ordering information

Type	Part no.
CFP0500-XPXNNCT	1094557

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

Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Probe length	500 mm
Process temperature	−20 °C ... +80 °C
UL approval	✓
RoHS certificate	✓
IO-Link	✓

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
MTTF	171 years
Display	✓
Temperature measurement	
Measuring range (temperature)	−20 °C ... +80 °C
Measurement accuracy (temperature)	± 2 °C
Resolution (Temperature)	≤ 0.1 °C
Response time (temperature)	120 s

Electronics

Supply voltage	10 V DC ... 30 V DC [1]
Power consumption	≤ 100 mA at 24 V DC without output load
Initialization time	≤ 4 s
Protection class	III
Connection type	M12 round connector x 1, 8-pin
Output signal	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
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
Output current	< 100 mA
Inductive load	< 1 H
Capacitive load	100 nF
Enclosure rating	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	12 bit

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

Mechanics

Wetted parts	Outer tube: polypropylene (PP-H) G ¾" and ¾" NPT: PPSU Easy-clamp bracket: PP
Process connection	Without process connection
Housing material	PBT / PC
Max. probe load	≤ 4 Nm
Probe diameter	16 mm

Ambient data

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

Classifications

ECLASS 5.0	27200503
ECLASS 5.1.4	27200503
ECLASS 6.0	27200503
ECLASS 6.2	27200503
ECLASS 7.0	27200503
ECLASS 8.0	27200503
ECLASS 8.1	27200503
ECLASS 9.0	27200503
ECLASS 10.0	27200503
ECLASS 11.0	27200503

ECLASS 12.0	27200503
ETIM 5.0	EC001447
ETIM 6.0	EC001447
ETIM 7.0	EC001447
ETIM 8.0	EC001447
UNSPSC 16.0901	41113710

Type code

Probe lfength in mm

0100	100 mm (in increments of 50 mm)
0500	500 mm (in increments of 100 mm)
1000	1,000 mm

Special design

P	Rod probe from PP

Process connection

X	Without process connection
A	G ¾ A; made from PBT
B	¾" NPT; made from PBT

Application type

N	Oil and water application

Housing

N	Plastic housing with display

Electrical output

A	2 digital outputs
B	2 digital outputs + 1 analog output
C	4 digital outputs + 2 analog outputs

Additional option

T	With temperature sensor
X	No additional options

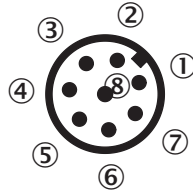| CFP		-	X	P	N	N		

Not all variants of the type code can be combined!

Dimensional drawing (Dimensions in mm (inch))

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)
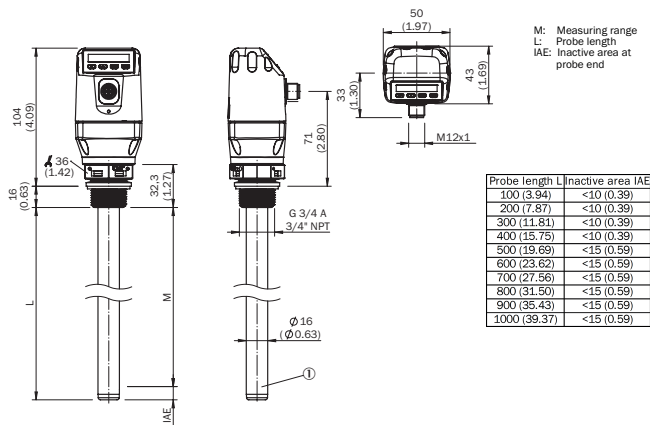
Connection type
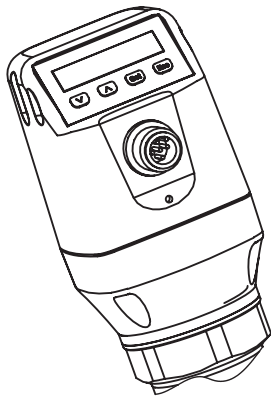
① L$^+$: Supply voltage
② Q$_2$: Switching output 2, PNP/NPN/DRV (Push-Pull)
③ M: Ground, reference ground for current-/voltage output
④ C/Q1: Switching output 2, PNP/NPN/DRV (Push-Pull) / IO-Link
⑤ Q$_3$: Switching output 3, PNP/NPN/DRV (Push-Pull)
⑥ Q$_4$: Switching output 4, PNP/NPN/DRV (Push-Pull)
⑦ Q$_A$: Analog current-/voltage output
⑧ Q$_B$: Analog current-/voltage output

Recommended accessories

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

Brief description	Type	Part no.
Connection modules		
IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
Plug connectors and cables		
• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A18-020UA5XLEAX	2095652
• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A18-050UA5XLEAX	2095653
• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A18-100UA5XLEAX	2095654

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	Brief description	Type	Part no.
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YF2A28-020VA6XLEAX	2096243
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YF2A28-050VA6XLEAX	2096244
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YF2A28-100VA6XLEAX	2096245
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YG2A18-020UA5XLEAX	2095779
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YG2A18-050UA5XLEAX	2095780
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YG2A18-100UA5XLEAX	2095781
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YG2A28-020VA6XLEAX	2096218
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals	YG2A28-050VA6XLEAX	2096219
Terminal and alignment brackets			
	Easy-clamp bracket for variable probe fastening, without mounting hardware	BEF-FL-PRBCFP-HLDR	2087299
Sensor Visualization			
	• **Product category:** LED signal lamp • **Further functions:** IO-Link signal lamp, Parameterization via IO-Link, Simple configuration directly via the SOPAS ET user interface, the engineering tool from SICK	SLT060-0B010J700	6075938

Recommended services

Additional services ➜ www.sick.com/CFP_Cubic

	Type	Part no.
Function Block Factory		
• **Description:** The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. • **Note:** You can configure your function block at Function Block Factory. As a login please use your SICK ID.	Function Block Factory	On request

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."

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