



# CFP0300-XPANNBX

CFP Cubic

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
CFP0300-XPANNBX	1083219

Other models and accessories → [www.sick.com/CFP\\_Cubic](http://www.sick.com/CFP_Cubic)

### Detailed technical data

#### Features

<b>Medium</b>	Fluids
<b>Measurement</b>	Switch, Continuous
<b>Probe length</b>	300 mm
<b>Process pressure</b>	-0.5 bar ... 3 bar
<b>Process temperature</b>	-20 °C ... +80 °C
<b>UL approval</b>	✓
<b>RoHS certificate</b>	✓
<b>IO-Link</b>	✓

#### Performance

<b>Accuracy of sensor element</b>	± 15 mm, with water or oil under reference conditions
<b>Reproducibility</b>	< 5 mm
<b>Resolution</b>	< 2 mm
<b>Response time</b>	< 300 ms
<b>Dielectricity constant</b>	≥ 2
<b>Conductivity</b>	No limitation
<b>Deactivated area at end of probe</b>	7 mm ... 15 mm, Depending on probe length
<b>MTTF</b>	171 years
<b>Display</b>	✓

#### Electronics

<b>Communication interface</b>	IO-Link
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<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Power consumption</b>	≤ 100 mA at 24 V DC without output load
<b>Initialization time</b>	≤ 4 s
<b>Protection class</b>	III
<b>Connection type</b>	Round connector M12 x 1, 5-pin
<b>Output signal</b>	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
<b>Output load</b>	4 mA ... 20 mA < 500 Ohm at U <sub>v</sub> > 15 V, 4 mA ... 20 mA < 350 Ohm at U <sub>v</sub> > 12 V, 0 V ... 10 V > 750 Ohm at U <sub>v</sub> 14 ≥ V
<b>Hysteresis</b>	Min. 3 mm, min. 2 °C, free adjustable
<b>Output current</b>	< 100 mA
<b>Inductive load</b>	< 1 H
<b>Capacitive load</b>	100 nF
<b>Enclosure rating</b>	IP67
<b>Temperature drift</b>	< 0.1 mm/K
<b>Lower signal level</b>	3.8 mA ... 4 mA
<b>Upper signal level</b>	20 mA ... 20.5 mA
<b>Resolution of analog output</b>	12 bit

<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

## Mechanics

<b>Wetted parts</b>	Outer tube: polypropylene (PP-H) G ¾" and ¾" NPT: PPSU Easy-clamp bracket: PP
<b>Process connection</b>	G ¾ A
<b>Housing material</b>	PBT / PC
<b>Max. probe load</b>	≤ 4 Nm
<b>Probe diameter</b>	16 mm

## Ambient data

<b>Ambient operating temperature</b>	-20 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +80 °C

## Classifications

<b>ECLASS 5.0</b>	27200503
<b>ECLASS 5.1.4</b>	27200503
<b>ECLASS 6.0</b>	27200503
<b>ECLASS 6.2</b>	27200503
<b>ECLASS 7.0</b>	27200503
<b>ECLASS 8.0</b>	27200503
<b>ECLASS 8.1</b>	27200503
<b>ECLASS 9.0</b>	27200503
<b>ECLASS 10.0</b>	27200503
<b>ECLASS 11.0</b>	27200503

<b>ECLASS 12.0</b>	27200503
<b>ETIM 5.0</b>	EC001447
<b>ETIM 6.0</b>	EC001447
<b>ETIM 7.0</b>	EC001447
<b>ETIM 8.0</b>	EC001447
<b>UNSPSC 16.0901</b>	41113710

### Type code

#### Probe length 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 3/4 A; made from PBT
- B** 3/4" 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

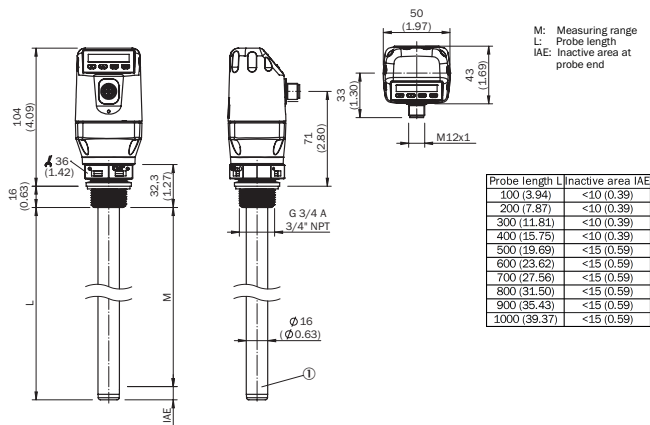
#### Additional option

- T** With temperature sensor
- X** No additional options

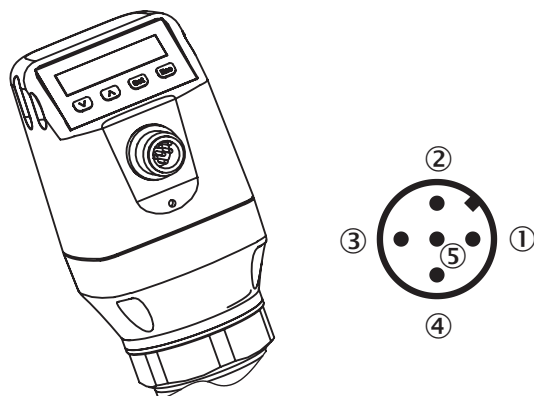
CFP - X P N N

Not all variants of the type code can be combined!

Dimensional drawing (Dimensions in mm (inch))








## Connection type



- ① L<sup>+</sup>: Supply voltage
- ② Q<sub>A</sub>: 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<sub>2</sub>: Switching output 2, PNP/NPN/DRV (Push-Pull)

## Recommended accessories

Other models and accessories → [www.sick.com/CFP\\_Cubic](http://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
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-020VB5XLEAX	2096215
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-050VB5XLEAX	2096216
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-100VB5XLEAX	2096217
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-020UB5XLEAX	2095617

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-050UB5XLEAX	2095618
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-100UB5XLEAX	2095619
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A15-020UB5XLEAX	2095772
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A15-050UB5XLEAX	2095773
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A15-100UB5XLEAX	2095774
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-020VB5XLEAX	2096239
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-050VB5XLEAX	2096240
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-100VB5XLEAX	2096241
Sensor Visualization			
	<ul style="list-style-type: none"> <li>• <b>Product category:</b> LED signal lamp</li> <li>• <b>Further functions:</b> IO-Link signal lamp, Parameterization via IO-Link, Simple configuration directly via the SOPAS ET user interface, the engineering tool from SICK</li> </ul>	SLT060-0B010J700	6075938

## Recommended services

Additional services → [www.sick.com/CFP\\_Cubic](http://www.sick.com/CFP_Cubic)

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"> <li>• <b>Description:</b> The Function Block Factory is an engineering tool for creating device and environment-specific function blocks that enable IO-Link sensors to be integrated into programmable logic controllers. The Function Block Factory supports common programmable logic controllers (PLCs) of various manufacturers such as Siemens, Beckhoff, Rockwell Automation B&amp;R and more. More information on the FBF can be found <a href="https://fbf.cloud.sick.com" target="_blank">here</a>.</li> <li>• <b>Provision:</b> Customers can obtain access to the Function Block Factory and the license via <a href="https://fbf.cloud.sick.com" target="_blank">https://fbf.cloud.sick.com</a>.</li> </ul>	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.”

## WORLDWIDE PRESENCE:

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