



# C4P-EX03031C00

deTec

SAFETY LIGHT CURTAINS

**SICK**  
Sensor Intelligence.



### Ordering information

deTec4 Ex II 3GD

Resolution	Scanning range	Protective field height	System part	Type	Part no.
30 mm	30 m	300 mm	Receiver	C4P-EX03031C00	1222447

The system plug has to be ordered separately. For details, see "Accessories".

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

Illustration may differ



### Detailed technical data

#### Features

<b>Application</b>	Explosive areas
<b>Ex-approvals</b>	ATEX for gas: II 3G Ex ec op is IIC T4 Gc ATEX for dust: II 3D Ex tc IIIC T135 °C Dc
<b>System part</b>	Receiver
<b>Resolution</b>	30 mm
<b>Scanning range</b>	30 m
<b>Protective field height</b>	300 mm
<b>Response time</b>	9 ms (Uncoded) 12 ms (code 1 or code 2)
<b>No blind zones</b>	Yes
<b>Synchronization</b>	Optical synchronisation
<b>Items supplied</b>	Receiver Test rod with diameter corresponding to the resolution of the safety light curtain "Notes for explosion protection" label(s) Safety instruction Mounting instructions Operating instructions for download

#### Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496-1)
<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (IEC 62061)
<b>Category</b>	Category 4 (ISO 13849-1)
<b>Performance level</b>	PL e (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	
Single device	15,3 x 10 <sup>-9</sup>
Cascade with one guest	30,5 x 10 <sup>-9</sup>

Cascade with two guest devices	45.6 x 10 <sup>-9</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

### Functions

<b>Protective operation</b>	✓
<b>Automatic calibration of the protective field width</b>	✓
<b>Beam coding</b>	✓
<b>Restart interlock</b>	✓
<b>External device monitoring (EDM)</b>	✓
<b>Cascading</b>	✓
<b>Smart presence detection</b>	✓
<b>Reduced resolution</b>	✓
<b>Dynamic protective field width during operation</b>	✓
<b>Differentiation between man and material (muting)</b>	✓

### Interfaces

<b>System connection</b>	Depending on system plug (M12 male connector, 5-pin or 8-pin)
<b>Extension connection</b>	Depending on system plug (without extension connection or with M12 female connector, 5-pin)
<b>Configuration method</b>	DIP switch on system plug
<b>Display elements</b>	LEDs
<b>Display of the synchronization status of the upper and lower beams</b>	✓
<b>Application diagnostic output (ADO)</b>	✓
<b>IO-Link</b>	✓
<b>Near Field Communication (NFC)</b>	✓
<b>Fieldbus, industrial network</b> Integration via Flexi Soft safety controller	CANopen <sup>1)</sup> DeviceNet™ EtherCAT® EtherNet/IP™ Modbus TCP PROFIBUS DP PROFINET

<sup>1)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

### Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage V<sub>S</sub></b>	24 V DC (19.2 V ... 28.8 V)
<b>Ripple</b>	≤ 10 %
<b>Power consumption typical</b>	3.23 W (DC)
<b>Output signal switching devices (OSSDs)</b> Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>1)</sup>

<sup>1)</sup> Applies to the voltage range between -30 V and +30 V.

ON state, switching voltage HIGH	24 V DC ( $V_S - 2.25 \text{ V DC} \dots V_S$ )
OFF state, switching voltage LOW	$\leq 2 \text{ V DC}$
Current-carrying capacity per OSSD	$\leq 500 \text{ mA}$
<b>Application diagnostic output (ADO)</b>	
Type of output	PNP semiconductor, short-circuit protected <sup>1)</sup>
Output voltage HIGH (active)	$\geq V_S - 3 \text{ V}$
Output voltage LOW (deactivated)	High resistance
Output current HIGH (active)	$\leq 100 \text{ mA}$

<sup>1)</sup> Applies to the voltage range between  $-30 \text{ V}$  and  $+30 \text{ V}$ .

## Mechanical data

<b>Dimensions</b>	See dimensional drawing
<b>Housing material</b>	Aluminum extruded profile

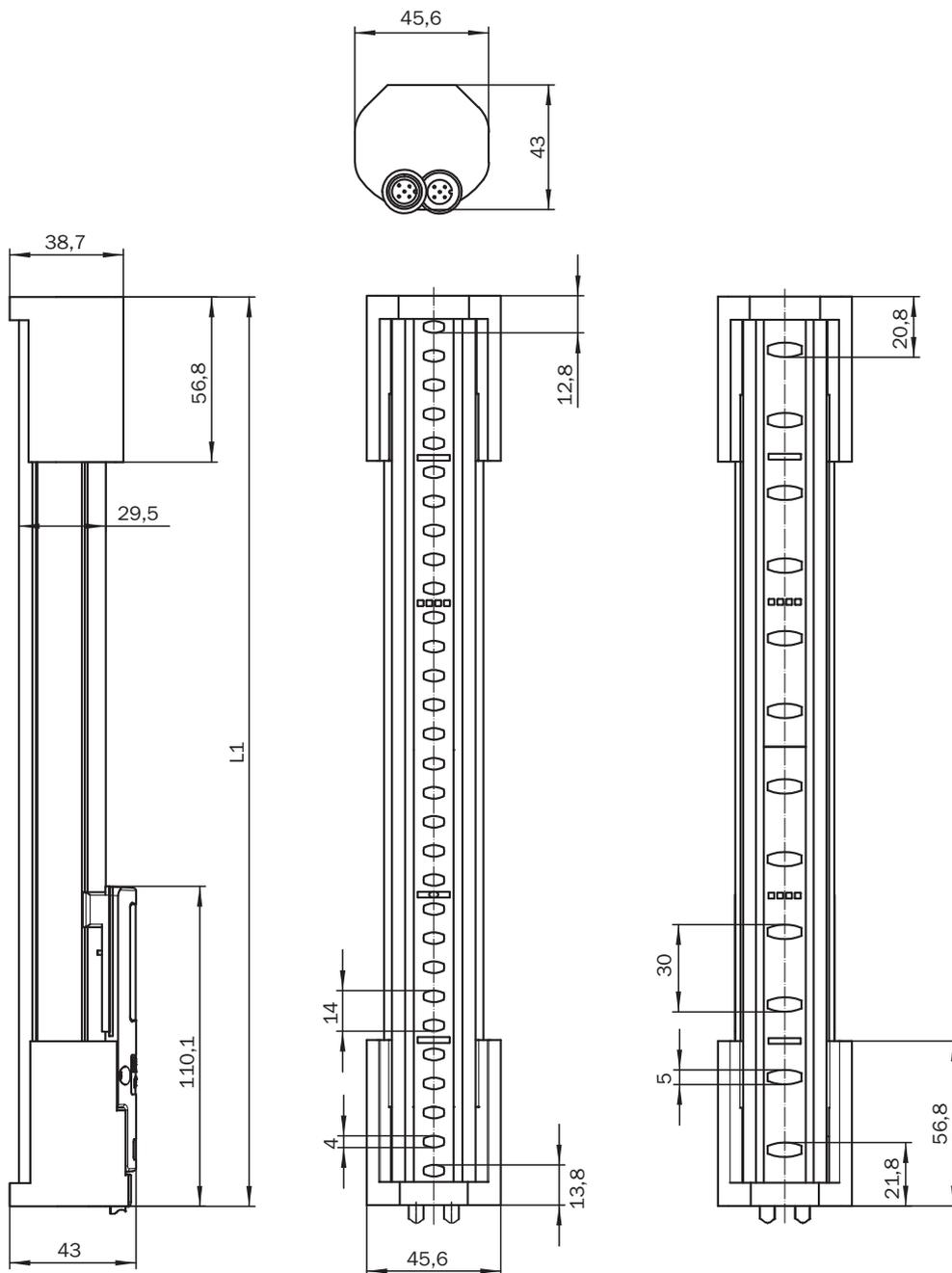
## Ambient data

<b>Enclosure rating</b>	IP65 (IEC 60529)
<b>Ambient operating temperature</b>	$0 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$
<b>Storage temperature</b>	$-30 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance</b>	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)
<b>Shock resistance</b>	10 g, 16 ms (IEC 60068-2-27)

## Classifications

<b>ECl@ss 5.0</b>	27272704
<b>ECl@ss 5.1.4</b>	27272704
<b>ECl@ss 6.0</b>	27272704
<b>ECl@ss 6.2</b>	27272704
<b>ECl@ss 7.0</b>	27272704
<b>ECl@ss 8.0</b>	27272704
<b>ECl@ss 8.1</b>	27272704
<b>ECl@ss 9.0</b>	27272704
<b>ECl@ss 10.0</b>	27272704
<b>ECl@ss 11.0</b>	27272704
<b>ETIM 5.0</b>	EC002549
<b>ETIM 6.0</b>	EC002549
<b>ETIM 7.0</b>	EC002549
<b>UNSPSC 16.0901</b>	46171620

Dimensional drawing (Dimensions in mm (inch))



Protective field height	L1
300	313
450	463
600	613
750	763
900	913
1.050	1.063
1.200	1.213
1.350	1362

Protective field height	L1
1.500	1.512
1.650	1.662
1.800	1.812
1.950	1.962
2.100	2.112

### Recommended accessories

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

	Brief description	Description	Type	Part no.
<b>Terminal and alignment brackets</b>				
	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic	BEF-1SHABPKU4	2066614
	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	BEF-3SHABPKU4	2098710
	Universal bracket for round steel arm 400 mm, for mounting sensors or reflectors	Universal bracket for round steel arm 400 mm, for mounting sensors or reflectors	Universal bracket	2044953
<b>Alignment aids</b>				
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741
<b>Reflectors</b>				
	Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting	Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
<b>Others</b>				
	deTec deTec system plug	deTec deTec system plug	1000	2076832
	deTec deTec system plug	deTec deTec system plug	1100	2076833
	deTec deTec system plug	deTec deTec system plug	1200	2076834
	deTec deTec system plug	deTec deTec system plug	1300	2076835
	deTec deTec system plug	deTec deTec system plug	2000	2093097

	Brief description	Description	Type	Part no.
			2100	2093098
			2200	2093099
			2300	2093100
	IO-Link connector	IO-Link connector	IO-Link connector	2092757
	Muting connector	Muting connector	Muting connector	2092758
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
	SIG200-0A0412200	SIG200-0A0412200	SIG200-0A0412200	1089794
	SIG200-0A0G12200	SIG200-0A0G12200	SIG200-0A0G12200	1102605
<b>Muting accessories</b>				
	Sensor bracket G6 and P250	Sensor bracket G6 and P250	BEF-2KHAAKU1	2113145
	Muting arm bracket	Muting arm bracket	Muting arm bracket	2106455
	Muting arm, long	Muting arm, long	Muting arm, long	2111923
	Muting arm, short	Muting arm, short	Muting arm, short	2111924
<b>Photoelectric sensors</b>				
			GL10-P4151	1069860
	Photoelectric sensor enclosed in a miniature housing	Photoelectric sensor enclosed in a miniature housing	GL6-P0211S49	1070568
			GTB10-P4411S01	1066852
			GTB6-P7441S56	1077541

	Brief description	Description	Type	Part no.
<b>Test and monitoring tools</b>				
	30 mm diameter	30 mm diameter	Test rod 30 mm	2022602
<b>Distributors</b>				
	Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin	Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin	DSC-1205T000025KM0	6030664
	Head A: female connector, M12, 8-pin, A-coded Head B: female connector, M12, 8-pin, A-coded 8-pin	Head A: female connector, M12, 8-pin, A-coded Head B: female connector, M12, 8-pin, A-coded 8-pin	DSC-1208T000025KM0	6058647
<b>Plug connectors and cables</b>				
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5XLEAX	2095617
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A15-050UB5XLEAX	2095618
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A15-100UB5XLEAX	2095619
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A18-020UA5XLEAX	2095652
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A18-050UA5XLEAX	2095653
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A18-100UA5XLEAX	2095654
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5M2A15	2096009
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A15-050UB5M2A15	2096010

	Brief description	Description	Type	Part no.
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A15-100UB5M2A15	2096011
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A18-020UA5M2A18	2096033
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A18-050UA5M2A18	2096034
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	Head A: female connector, M12, 8-pin, straight, A-coded Head B: male connector, M12, 8-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A18-100UA5M2A18	2096035

## 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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