

SICK Sensor Intelligence.

SAFETY LIGHT CURTAINS

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deTec4 Core Ex II 3GD

Resolution	Scanning range	Protective field height	System part	Туре	Part no.
30 mm	15 m	300 mm	Receiver	C4C- EX03030A10000	1220352

Other models and accessories

www.sick.com/deTec

Illustration may differ



Detailed technical data

Features deTec4 Core Ex II 3GD Sub product family Application Explosive areas **Ex-approvals** ATEX for gas: II 3G Ex ec op is IIC T4 Gc ATEX for dust: II 3D Ex to IIIC T135°C Dc System part Receiver **Compatible sender** 1220339 Resolution 30 mm 15 m Scanning range **Protective field height** 300 mm **Response time** 10 ms No blind zones Yes Synchronization Optical synchronisation Items supplied 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

Туре	Type 4 (IEC 61496-1)
Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (ISO 13849-1)
Performance level	PL e (ISO 13849-1)
$\ensuremath{\text{PFH}}_{D}$ (mean probability of a dangerous failure per hour)	3.7 x 10 ^{.9}

SAFETY LIGHT CURTAINS

Safe state in the event of a fault At least one OSSD is in the OFF state. Functions Image: State in the operation Image: State in the operatin the operation Image: State in the ope		
Functions Functions Protective operation / Automatic calibration of the protective field / Interfaces Male connector M12, 5 pin System connection Male connector M12, 5 pin Cable diametire 150 mm Cable diametire 43 mm Cable bend radius 512 x cable diameter Stationary position 12 x cable diameter Flexible use 15 x cable diameter Electrical data Eleos Protective class III (IEC 61140) Supply voltage Vs 10 % Ripple 10 % Power consumption typical 63 W (OC) Output signal switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage Hill 24 V DC (Vs - 2.25 V DC Vs) Orethortcarrying capacity per OSSD 300	T _M (mission time)	20 years (ISO 13849-1)
Protective operation I Automatic calibration of the protective filed width I Automatic calibration of the protective filed width I Automatic calibration of the protective filed width I Interfaces Male connector M12, 5-pin Statem connection IS0 mm Cable diameter 3.3 mm Cable beand radius > 12 x cable diameter Stationary position > 12 x cable diameter Flexible use > 15 x cable diameter Electrical data Electrical data Protection class III (IEC 61140) Stapply voltage Vs 24 V DC (19.2 V 28.8 V) Autopation signal switching devices (OSSD) 210 % ON state, switching voltage UM 2 N VDC (19.2 V 28.8 V) Autopation signal switching voltage UM 2 N VDC (19.2 V 28.8 V) ON state, switching voltage UM 2 N VDC (VS - 2.25 V DC VS) ON state, switching voltage UM 2 V DC (VS - 2.25 V DC VS) OFF state, switching voltage UM 2 V DC (VS - 2.25 V DC VS) OFF state, switching voltage UM 2 V DC (VS - 2.25 V DC VS) Output signal switching voltage UM = 30 V	Safe state in the event of a fault	At least one OSSD is in the OFF state.
Automatic adibration of the protective field width Automatic adibration of the protective field width Automatic adibration of the protective field Automatic adibration of the protective field System connection Length of cable JS on M Length of cable JS on M Length of cable JS on M Length of cable JS adio many position IS cable diameter JS cable diame	Functions	
widthIde connection (Section 2000)System connection (Length of cableMale connector M12, 5-pinCable diamete150 mmCable diamete- A mmCable diameter> 12 x cable diameterStationary position> 12 x cable diameterFlexible us> 15 x cable diameterFlexible us> 10 (Seconda 2000)Flexible us> 10 (Seconda 2000)Suppl voltage Vs> 10 %Portection classIII (IC 61140)Suppl voltage Vs> 20 VD (19.2 V 28.8 V)Power consumption typical> 10 %Ony state, switching voltage (SSB)> 20 VD (19.2 V 28.5 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (Vs - 2.25 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (Vs - 2.25 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (Vs - 2.25 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (Vs - 2.25 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (Vs - 2.25 VD c Vs)Ony state, switching voltage (SSB)> 20 VD (SSB)Ony state, switching voltage (SSB)> 20 VD (SSB)Ony state, switching voltage (SSB)> 20 VD (SSB)Ony state, switching voltage (SSB)> 20 VD (SSB)Other state, switching voltage (SSB)> 20 VD (S	Protective operation	1
System connection Male connector M12, 5-pin Length of cable 150 mm Cable diameter 4.3 mm Cable bend radius > 12 x cable diameter Stationary position > 12 x cable diameter Display elements > 15 x cable diameter Electrical data Protection class III (EC 61140) Supply voltage Vs 24 V DC (19.2 V 28.8 V) Ripple ≤ 10 % Power consumption typical 1.63 W (DC) ONy state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) ON state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HMB 24 V DC (Vs - 2.25 V DC Vs) Machanizational data 24 V DC (Vs - 2.25 V DC Vs) Machanizational datawitching data<	Automatic calibration of the protective field width	4
Length of cable150 mmCable bend radius3 mmCable bend radius> 12 x cable diameterStationary position> 15 x cable diameterFlexibio ue> 15 x cable diameterDisplay elementsLEDsElectrical dataII (IEC 61140)Protection classIII (IEC 61140)Supply voltage Vs24 V DC (19.2 V 28.8 V)Ripple< 10 %	Interfaces	
Cobe definition4.3 mmCable bend radius> 12 x cable diameterStationary position> 12 x cable diameterTelexible use> 15 x cable diameterDaplay elementsLEDsElectrical dataII (EC 61140)Protection classII (EC 61140)Supply voltage Vg4 V DC (19.2 V 28.8 V)Ripple5 10 %Power consumption typical6 10 %On state, switching voltage HM2 v ND (ND - 2.25 V DC Vs)OF state, switching voltage HM2 v ND (NC - 2.25 V DC Vs)OF state, switching voltage HM2 v ND C (Nz - 2.25 V DC Vs)OFF state, switching voltage HM2 v ND C (Nz - 2.25 V DC Vs)OFF state, switching voltage HM2 v ND C (Nz - 2.25 V DC Vs)OFF state, switching voltage HM2 v ND C (Nz - 2.25 V DC Vs)Protectionational data3 com AIt applies to the voltage range between -30 V and +30 V	System connection	Male connector M12, 5-pin
Cable bend radius Stationary position > 12 x cable diameter Flexible use > 15 x cable diameter Display elements LEDs Electrical data III (EC 61140) Supply voltage Vs 24 V DC (19.2 V 28.8 V) Ripple 610 % Power consumption typical 613 W (DC) Output signal switching devices (OSSD) 21 NP semiconductors, short-circuit protected, cross-circuit monitored ¹) ON state, switching voltage HGIE 21 ND (No (Vs - 2.25 V DC Vs) OVER the voltage range between - 30 V and +32 21 VD (Vs - 2.25 V DC Vs) OVER the voltage range between - 30 V and +32 21 VD (Vs - 2.25 V DC Vs) * 10 protected data 21 VD (Vs - 2.25 V DC Vs) * 20 DC 20 OR * 10 protected radius 20 VD (Vs - 2.25 V DC Vs) * 20 VD (Vs - 2.25 V DC Vs) 20 VD (Vs - 2.25 V DC Vs) * 10 protected radius 20 VD (Vs - 2.25 V DC Vs) * 20 VD (Vs - 2.25 V DC Vs) 20 VD (Vs - 2.25 V DC Vs) * 10 protected radius 20 VD (Vs - 2.25 V DC Vs) * 10 protected radius 20 VD (Vs - 2.25 V DC Vs) * 10 protected radius 20 VD (Vs - 2.25 V DC Vs)	Length of cable	150 mm
Stationary position > 12 x cable diameter Flexible use > 15 x cable diameter Display elements EDs Electrical data	Cable diameter	4.3 mm
Flexible ue >15 x cable diameter Display elements EDs Electrical data III (EC 61140) Protection class 04 VD C (19.2 V 28.8 V) Ripple 24 VD C (19.2 V 28.8 V) Rower consumption typical 0.30 WDC Output signal switching devices (OSSDs)	Cable bend radius	
Display elements LEDs Electrical data III (EC 61140) Protection class III (EC 61140) Supply voltage Vs 24 V DC (19.2 V 28.8 V) Ripple 10 % Power consumption typical 6.33 W (DC) Output signal switching devices (OSSD5) 2 NPN semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ ON state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) OFF state, switching voltage HG 24 V DC (Vs - 2.25 V DC Vs) Orerent-carrying capacity per OSD 20 O mA	Stationary position	> 12 x cable diameter
Electrical data Protection class III (IEC 61140) Supply voltage Vs 24 V DC (19.2 V 28.8 V) 4 V DC (19.2 V 29.5 V DC Vs) 4 V DC (19.2 V 29.5 V DC Vs) 4 V DC (19.2 V DC 4 V DC (19.2 V DC 4 V DC 4 V DC (19.2 V DC 4	Flexible use	> 15 x cable diameter
Protection classIII (IEC 61140)Supply voltage Vs24 V DC (19.2 V 28.8 V)Ripple21 0 %Power consumption typical1.63 W (DC)Output signal switching devices (OSSDs)2 NP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ ON state, switching voltage HGH24 V DC (Vs - 2.25 V DC Vs)OFF state, switching voltage LOW2 V DCOFF state, switching voltage LOW2 0 N A*** Applies to the voltage range between -30 V and +30**** Mechanical dataSee dimensional drawingDimensionsSee dimensional drawingHousing materialAuminum extruded profileConsure ratingP65 (IEC 60529)	Display elements	LEDs
Supply voltage Vs24 V DC (19.2 V 28.8 V)Ripple21 0 %Power consumption typical1.63 W (DC)Output signal switching devices (OSSDs)2 NP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ Output signal switching voltage HIGH2 NP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ ON state, switching voltage HIGH2 V DC (Vs - 2.25 V DC Vs)OFF state, switching voltage HIGH2 V DCOFF state, switching voltage HIGH2 V DCOFF state, switching voltage HIGH2 V DCOrter arrying capacity per OSSD2 ON AIndensional drataSe dimensional drawingBunensionsSe dimensional drawingHousing materialSe dimensional drawingAubient dataPi65 (EC 60529)	Electrical data	
Ripple ≤ 10 % Power consumption typical 1.63 W (DC) Output signal switching devices (OSSDs) 2 PNP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ ON state, switching voltage HIGH 24 V DC (V _S - 2.25 V DC V _S) OFF state, switching voltage LOW 2 2 V DC OFF state, switching voltage LOW ≤ 2 V DC Current-carrying capacity per OSSD ≤ 300 mA 1 ¹ Applies to the voltage range between -30 V and +30 V. See dimensional drawing Ibinensions See dimensional drawing Housing material Aluminum extruded profile Ambient data IP65 (IEC 60529)	Protection class	III (IEC 61140)
Power consumption typical 1.63 W (DC) Output signal switching devices (OSSDs) 2 PNP semiconductors, short-circuit protected, cross-circuit monitored ¹) ON state, switching voltage HIGH 24 V DC (V _S - 2.25 V DC V _S) OFF state, switching voltage LOW 2 2 V DC Current-carrying capacity per OSSD 300 mA ¹ Applies to the voltage range between -30 V and +30 300 mA ¹ Applies to the voltage range between -30 V and +30 See dimensional drawing Dimensions See dimensional drawing Housing material Aluminum extruded profile Ambient data IP65 (IEC 60529)	Supply voltage V _S	24 V DC (19.2 V 28.8 V)
Output signal switching devices (OSSDs)PropertionType of output> PNP semiconductors, short-circuit protected, cross-circuit monitored ¹)ON state, switching voltage HGH> 4 V DC (Vs - 2.25 V DC Vs)OFF state, switching voltage LGH> 2 V DCCurrent-carrying capacity per OSSD> 300 mA ¹ Applies to the voltage range between -30 V and +30> 300 mA ¹ Applies to the voltage range between -30 V and +30> Se dimensional drawingDimensionsSe dimensional drawingHousing materialAuninum extruded profileAmbient dataIP65 (IEC 60529)	Ripple	≤ 10 %
Type of output2 NP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ ON state, switching voltage HGH24 V DC (V _S - 2.25 V DC V _S)OFF state, switching voltage LOM2 V DCCurrent-carrying capacity per OSD300 mA ¹⁾ Applies to the voltage range between -30 V and +30300 mAMechanical dataSee dimensional drawingPinensionsSee dimensional drawingHousing materialAuminum extruded profileAmbient dataIP65 (IEC 60529)	Power consumption typical	1.63 W (DC)
ON state, switching voltage HIGH24 V DC (Vs - 2.25 V DC Vs)OFF state, switching voltage LOW2 V DCCurrent-carrying capacity per OSSD300 mA1) Applies to the voltage range between -30 V and +30 V300 mA1) Applies to the voltage range between -30 V and +30 VSee dimensional drawingMechanical dataSee dimensional drawingDimensionsSee dimensional drawingHousing materialAuminum extruded profileAmbient dataFe5 (IEC 60529)	Output signal switching devices (OSSDs)	
OFF state, switching voltage LOW < 2 V DC	Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾
Current-carrying capacity per OSSD < 300 mA	ON state, switching voltage HIGH	24 V DC (V _S - 2.25 V DC V _S)
¹⁾ Applies to the voltage range between -30 V and +30 V. Mechanical data Dimensions See dimensional drawing Housing material Aluminum extruded profile Ambient data IP65 (IEC 60529)	OFF state, switching voltage LOW	≤ 2 V DC
Mechanical data Dimensions See dimensional drawing Housing material Aluminum extruded profile Ambient data IP65 (IEC 60529)	Current-carrying capacity per OSSD	≤ 300 mA
Mechanical data Dimensions See dimensional drawing Housing material Aluminum extruded profile Ambient data IP65 (IEC 60529)	¹⁾ Applies to the voltage range between -30 V and $+30$ V	
Dimensions See dimensional drawing Housing material Aluminum extruded profile Ambient data P65 (IEC 60529)		
Ambient data Enclosure rating IP65 (IEC 60529)		See dimensional drawing
Enclosure rating IP65 (IEC 60529)	Housing material	Aluminum extruded profile
	Ambient data	
	Enclosure rating	
Ambient operating temperature0 °C +55 °C	Ambient operating temperature	0 °C +55 °C
Storage temperature-30 °C +70 °C	Storage temperature	-30 °C +70 °C
Air humidity 15 % 95 %, Non-condensing	Air humidity	15 % 95 %, Non-condensing
Vibration resistance 5 g, 10 Hz 55 Hz (IEC 60068-2-6)	Vibration resistance	5 g, 10 Hz 55 Hz (IEC 60068-2-6)

Shock resistance

Classifications

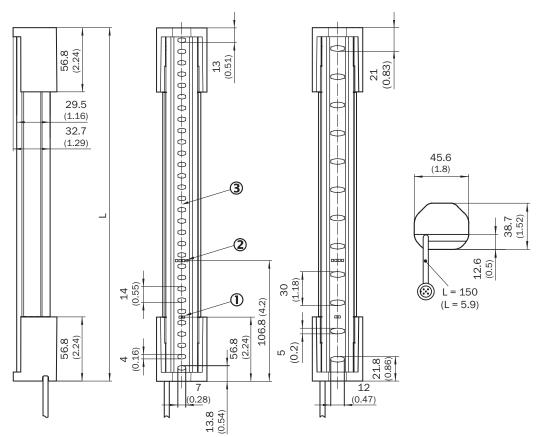
ECLASS 5.0	27272704
ECLASS 5.1.4	27272704
ECLASS 6.0	27272704
ECLASS 6.2	27272704

10 g, 16 ms (IEC 60068-2-27)

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ECLASS 7.0	27272704
ECLASS 8.0	27272704
ECLASS 8.1	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
UNSPSC 16.0901	46171620

Dimensional drawing (Dimensions in mm (inch))



① Operating indicator

2 Alignment indicator3 Optical axis

	L			
300	313			
450	463			
600	613			

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	L
750	763
900	913
1,050	1,063
1,200	1,213
1,350	1,362
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

	Brief description	Туре	Part no.	
Test and monitoring tools				
	30 mm diameter, 250 mm length	Test rod 30 mm	2022602	
Terminal and a	alignment brackets			
Red Contraction	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned \pm 15°, including M5 screw, plastic	BEF-1SHABPKU4	2066614	
	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	BEF-3SHABPKU4	2098710	
Others				
ð.	 Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head C: Female connector, M12, 5-pin, A-coded Description: T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver Note: 5-pin 	DSC- 1205T000025KM0	6030664	
10 × 0	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 020UB5M2A15	2096009	
N O	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 020UB5XLEAX	2095617	

SAFETY LIGHT CURTAINS

	Brief description	Туре	Part no.
1000	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 050UB5M2A15	2096010
1	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 050UB5XLEAX	2095618
10 Kg	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 100UB5M2A15	2096011
1	 Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15- 100UB5XLEAX	2095619
Safety switchi	ng amplifier		
	 Applications: Evaluation unit Compatible sensor types: Safety sensors with OSSDs Connection type: Front connector with spring terminals Restart interlock: yes External device monitoring (EDM): Integrated Outputs: 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) Housing width: 18 mm 	RLY3-OSSD200	1085344
	 Applications: Evaluation unit Compatible sensor types: Safety sensors with OSSDs Connection type: Front connector with spring terminals Restart interlock: yes External device monitoring (EDM): Integrated Outputs: 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) Housing width: 18 mm 	RLY3-OSSD300	1099969

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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Online data sheet

