Product data sheet

EXE-12D6813A020

deTec

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Note	Resolution	Scanning range	Protective field height	System part	Type	Part no.
Sensor pre-assembled in explo-sion-proof enclosure including connecting cable (30 m, 8-wire, fly-ing leads). Depending on national regulations and require-ments, a cable gland may have to be installed. The cable gland is avail-able as an accessory.	30 mm	25.2 m	1,500 mm	Receiver	EXE-12D6813A020	1097713

Sensor pre-assembled in explosion-proof enclosure including connecting cable (30 m, 8-wire, flying leads). Depending on national regulations and requirements, a cable gland may have to be installed. The cable gland is available as an accessory.

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

Detailed technical data

Features

Sub product family	deTec4 Ex
Application	Explosive areas
Ex-approvals	ATEX for gas: II 2 G Ex db IIB T6 ATEX for dust: II 2 D Ex tb IIIC T56 °C Db IP6X NFPA 70/NEC 500 Class I, Div. 1, Groups C and D NFPA 70/NEC 500 Class II, Div. 1, Groups E, F and G NFPA 70/NEC 500 Class III, Div. 1
System part	Receiver
Resolution	30 mm
Scanning range	25.2 m
Protective field height	1,500 mm
Response time	13 ms (Uncoded) 22 ms (code 1 or code 2)
Synchronization	Optical synchronisation
Items supplied	Receiver in explosion-proof enclosure with connecting cable, 30 m 2 handles including screws Test rod with diameter corresponding to the resolution of the safety light curtain

	Safety instruction Mounting instructions Operating instructions on CD-ROM

Safety-related parameters

Type	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)
PFH_D (mean probability of a dangerous failure per hour)	15.3×10^{-9}
T_M (mission time)	20 years (ISO 13849-1)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

Functions

Protective operation	✓
Automatic calibration of the protective field width	✓
Beam coding	✓
Restart interlock	✓
External device monitoring (EDM)	✓

Interfaces

System connection	Connecting cable, 30 m, flying lead, 8-wire
Cable diameter	5.8 mm
Conductor cross section	0.25 mm²
Extension connection	–
Configuration method	DIP switch on system plug
Display elements	LEDs
Display of the synchronization status of the upper and lower beams	✓
Application diagnostic output (ADO)	✓

Electrical data

Protection class	III (IEC 61140)
Supply voltage V_S	24 V DC (19.2 V ... 28.8 V)
Ripple	≤ 10 %
Power consumption typical	3.76 W (DC)
Output signal switching devices (OSSDs)	
Type of output	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 V DC
Current-carrying capacity per OSSD	≤ 500 mA
Application diagnostic output (ADO)	
Type of output	PNP semiconductor, short-circuit protected [1]

[1] Applies to the voltage range between –30 V and +30 V.

Output voltage HIGH (active)	≥ V_S – 3 V
Output voltage LOW (deactivated)	High resistance
Output current HIGH (active)	≤ 100 mA

[1] Applies to the voltage range between –30 V and +30 V.

Mechanical data

Dimensions	See dimensional drawing
Housing cross-section	161.8 mm x 142.1 mm
Housing material	Aluminum cast/AlSi7Mg0.6

Ambient data

Enclosure rating	IP65 (IEC 60529) IP66 (IEC 60529)
Ambient operating temperature	–20 °C ... +55 °C
Storage temperature	–30 °C ... +70 °C
Air humidity	15 % ... 95 %, Non-condensing
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)
Shock resistance	10 g, 16 ms (IEC 60068-2-27)

Classifications

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

Recommended accessories

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

	Brief description	Type	Part no.
Alignment aids			
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!, 19 mm x 67.3 mm x 66.9 mm	AR60	1015741
Test and monitoring tools			
	30 mm diameter, 250 mm length	Test rod 30 mm	2022602
Terminal and alignment brackets			
	2 pieces, alignment bracket for explosion-proof enclosure	BEF-1SHABRST2	2072525
Safety switching amplifier			
	• **Applications:** Output expansion module for OSSDs • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** no • **External device monitoring (EDM):** Via path • **Outputs:** 2 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe) • **Housing width:** 18 mm	RLY3-OSSD100	1085343
	• **Applications:** Output expansion module for OSSDs • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** no • **External device monitoring (EDM):** Via path • **Outputs:** 4 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe), 1 signaling current path (not safe) • **Housing width:** 28 mm	RLY3-OSSD400	1099971

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