



L28S-3D2431

L28

SAFETY SINGLE-BEAM SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
L28S-3D2431	2044515

Other models and accessories → www.sick.com/L28

Detailed technical data

Features

Light source	LED
Type of light	Visible red light
Scanning range	18 m
Number of beams	1
Response time	0.68 ms
Response time	0.68 ms + Test device response time

Safety-related parameters

Type	Type 2 (IEC 61496-1) ¹⁾
Safety integrity level	SIL 1 (IEC 61508) ¹⁾
Category	Category 2 (EN ISO 13849) ¹⁾
Test rate (external test)	100 /s (EN ISO 13849) ²⁾
Maximum demand rate	60 min ⁻¹ (EN ISO 13849) ³⁾
Performance level	PL c (EN ISO 13849) ¹⁾
PFH_D (mean probability of a dangerous failure per hour)	1.0 x 10 ⁻⁶ (EN ISO 13849) ¹⁾
T_M (mission time)	20 years (EN ISO 13849)

¹⁾ Only in combination with an appropriate test device, e.g., Flexi Classic or Flexi Soft.

²⁾ The test rate shall not be exceeded.

³⁾ Between two requirements on a safety-related response of the device, at least 100 internal or external tests must be carried out.

Interfaces

Connection type	Male connector M12, 4-pin, straight
Display elements	LED

Electronics

Protection class	II (IEC 61140)
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¹⁾ The test input has a pull-up resistor to activate the sender (sender on) even when not connected. Therefore, an active-switched LOW signal is required to activate the cyclic test with test gap (sender off).

²⁾ Signal propagation time for resistive load, for test signal application (sender) and output signal reaction (receiver).

Supply voltage V_s	24 V DC (16.8 V DC ... 28.8 V DC)
Power consumption	≤ 35 mA
Test input voltage	> 15 V or not connected (Sender on) ¹⁾ < 5 V (Sender off) ¹⁾
Test input response time	≤ 2.6 ms ²⁾

¹⁾ The test input has a pull-up resistor to activate the sender (sender on) even when not connected. Therefore, an active-switched LOW signal is required to activate the cyclic test with test gap (sender off).

²⁾ Signal propagation time for resistive load, for test signal application (sender) and output signal reaction (receiver).

Mechanics

Design	Rectangular
Dimensions (W x H x D)	17.6 mm x 87.5 mm x 33.5 mm
Housing material	ABS (plastic)
Weight	Approx. 40 g

Ambient data

Enclosure rating	IP67 (EN 60529)
Ambient operating temperature	-40 °C ... +60 °C
Storage temperature	-40 °C ... +75 °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)

Other information

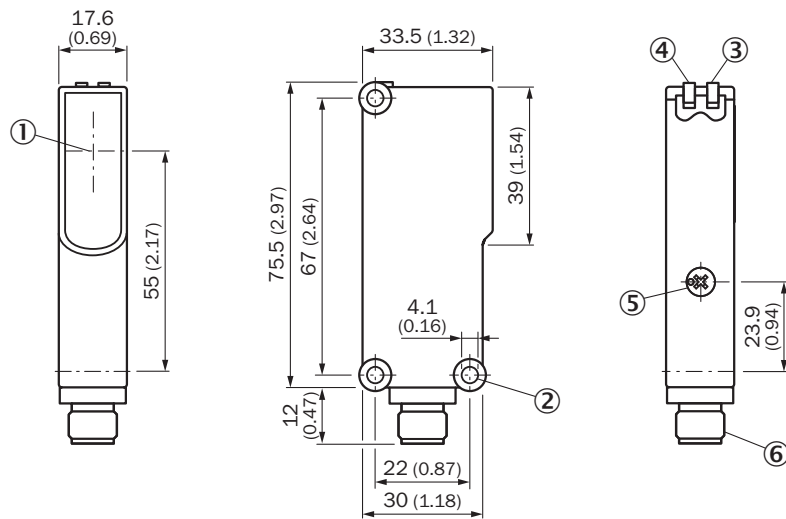
Light source	LED
Type of light	Visible red light
Wave length	660 nm
Light spot diameter (distance)	300 mm (10 m)
Aperture angle/receiving angle	$\pm 5^\circ / \pm 5^\circ$

Classifications

ECLASS 5.0	27272701
ECLASS 5.1.4	27272701
ECLASS 6.0	27272701
ECLASS 6.2	27272701
ECLASS 7.0	27272701
ECLASS 8.0	27272701
ECLASS 8.1	27272701
ECLASS 9.0	27272701
ECLASS 10.0	27272701
ECLASS 11.0	27272701
ECLASS 12.0	27272701
ETIM 5.0	EC001831
ETIM 6.0	EC001831
ETIM 7.0	EC001831

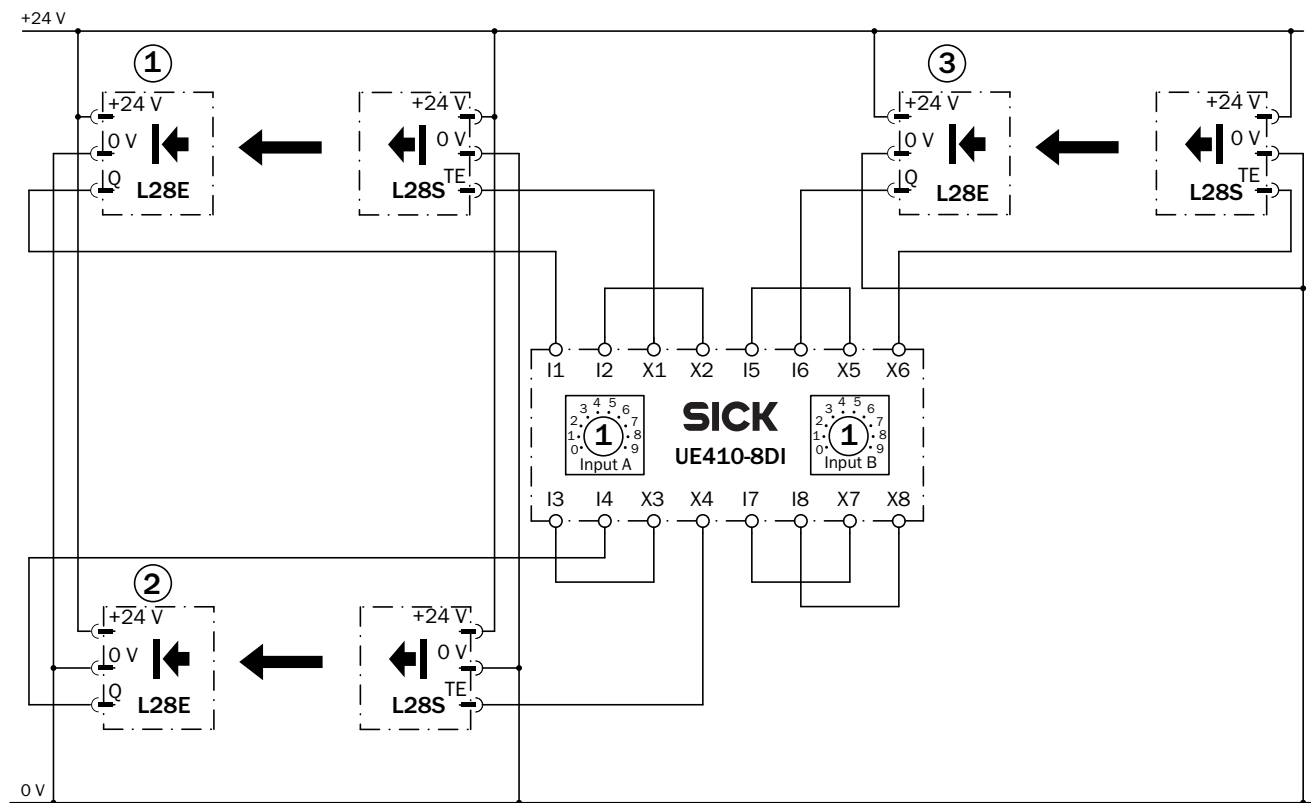
ETIM 8.0	EC001831
UNSPSC 16.0901	46171620

Dimensional drawing



Dimensions in mm (inch)





Connection diagram 3 x L28 with a Flexi Classic UE410-8DI input expansion unit



E117084/00/2014-06-02

Recommended accessories

Other models and accessories → www.sick.com/L28

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-G	6007302
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A14-050VB3XLEAX	2095897
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket with hinged arm Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W14-2, W18-3 	BEF-WN-W18	2009317

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:

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