



WSO16P-243ZZ1A0ZZZZZLLZZZZZZZZ1,
WEO16P-2416R500A00ZLLZZZZZZZZ1
L25

SAFETY SINGLE-BEAM SENSORS

SICK
Sensor Intelligence.

SAFETY SINGLE-BEAM SENSORS



Ordering information

System part	Type	Part no.
Sender	WS016P-243ZZ1A0ZZZZLLZZZZZZZZ1	2113101
Receiver	WE016P-2416R500A00ZLLZZZZZZZZ1	2113102

Other models and accessories → www.sick.com/L25



Detailed technical data

Features

Smart Sensor	Diagnosis Efficient communication Smart Task
Light source	PinPoint LED
Type of light	Red light, visible
Scanning range	20 m
Number of beams	1
Detection capability	30 mm ¹⁾
Response time	0.5 ms
Response time	0.5 ms + Test device response time
Cascading	Cascading allows up to 4 single-beam photoelectric safety switches to be connected in series. You can find response times and connection diagrams for cascading in the operating instructions.

¹⁾ A test rod with a diameter of at least 30 mm is required for thorough check. Suitable test rods are available as accessories from SICK.

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)
Maximum demand rate	60 min ⁻¹ (EN ISO 13849) ²⁾
Performance level	PL c (EN ISO 13849) ¹⁾

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

²⁾ Between two requirements on a safety-related response of the device, at least 100 external tests must be carried out.

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

Interfaces

Connection type	Male connector M12, 4-pin, connector 270° rotatable
Configuration method	Via IO-Link
Display elements	LEDs
Alignment aid	Alignment quality via diagnostic LEDs Easy and quick sensor alignment using BluePilot
Application diagnostic output (ADO)	✓
IO-Link	✓
Data exchange via IO-Link	Device information Quality of reception
Configuration via IO-Link	Switching output Application diagnostic output (ADO)
IO-Link master	SiLink2 Master IOLA2US-01101
Configuration software	SOPAS ET

Electronics

Protection class	III (IEC 61140)
Supply voltage V_S	24 V DC (19.2 V DC ... 28.8 V DC)
Residual ripple	≤ 5 V
Power consumption	≤ 30 mA
Test input voltage	≤ 3 V (Sender off) ¹⁾ ≥ U _V - 4 V (Sender on) ¹⁾
Test input response time	≤ 1.1 ms
Switching outputs	Push-pull ²⁾
Current loading	≤ 100 mA

¹⁾ The test input may not be operated when not connected. 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⁾ Switching output for controlling the downstream test device, no OSSD according to IEC 61496-1. Output short-circuit protected.

Mechanics

Design	Rectangular
Dimensions (W x H x D)	20 mm x 42 mm x 55.4 mm
Housing material	VISTAL®

Ambient data

Enclosure rating	IP66 (IEC 60529) IP67 (IEC 60529) IP69K (ISO 20653)
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)

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Shock resistance	10 g, 16 ms (IEC 60068-2-27)
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Other information

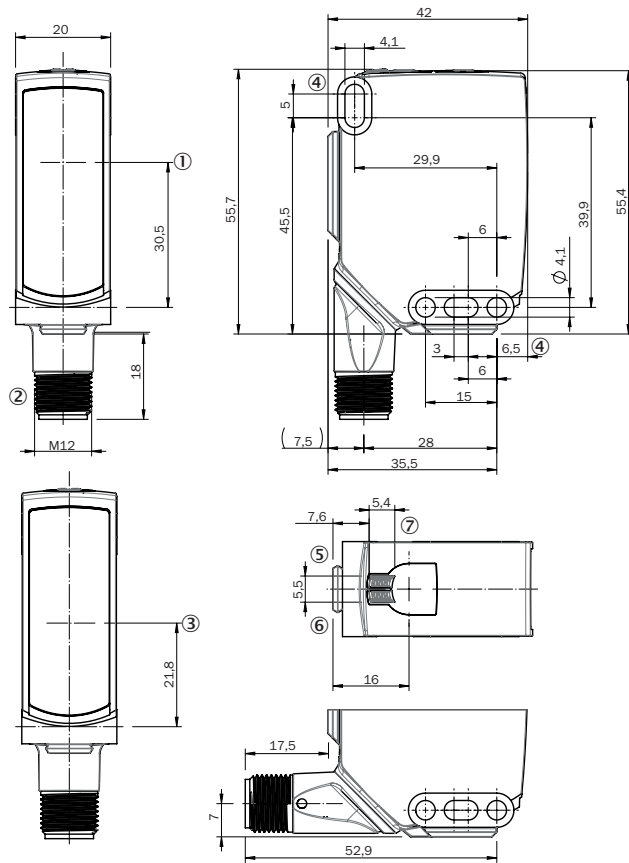
Light source	PinPoint LED
Type of light	Red light, visible
Wave length	635 nm
Light spot diameter (distance)	90 mm (8 m)

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))

L25

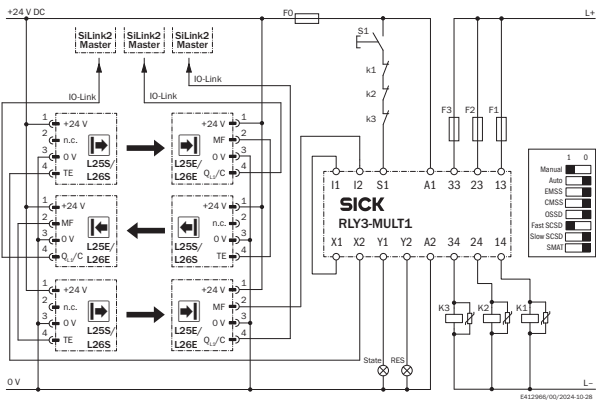


- ① Center of optical axis, sender
- ② Connection
- ③ Center of optical axis, receiver
- ④ Mounting holes
- ⑤ Green operating LED: Supply voltage active
- ⑥ Yellow status LED: Light receiver indication
- ⑦ Alignment aid (BluePilot): Blue alignment quality LEDs

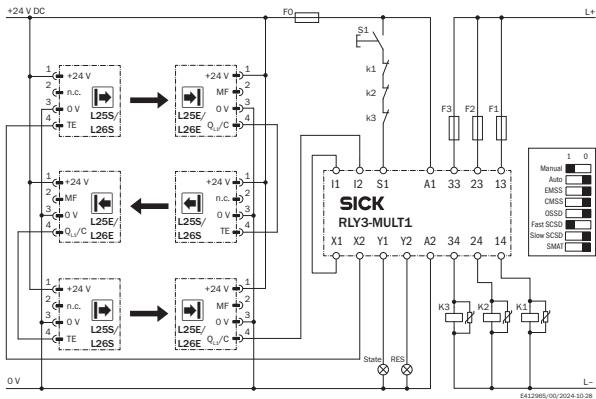
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Connection diagram

3 x L25/L26 to RLY3-MULT1 an IO-Link, with restart interlock and external device monitoring





The specifications in the operating instructions for the devices used must be followed.
3 x L25/L26 to RLY3-MULT1, with restart interlock and external device monitoring



The specifications in the operating instructions for the devices used must be followed.


Recommended accessories

Other models and accessories → www.sick.com/L25

	Brief description	Type	Part no.
Connection modules			
	<ul style="list-style-type: none">• Description: IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A• Logic editor: no	IOLA2US-01101 (SiLink2 Master)	1061790
Mounting brackets and plates			
	<ul style="list-style-type: none">• Description: Mounting bracket, large• Material: Stainless steel• Details: Stainless steel• Items supplied: Mounting hardware included• Suitable for: W11-2, W12-3, W16	BEF-WG-W12	2013942

	Brief description	Type	Part no.
 	<ul style="list-style-type: none"> Description: Mounting bracket, small Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W11-2, W12-3, W16 	BEF-WK-W12	2012938
	<ul style="list-style-type: none"> Description: Mounting bracket with articulated arm Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W16, W26, W11, W12, W23, W27, Dx50, W280, G10 	BEF-WN-MULTI2	2093945
Terminal and alignment brackets			
	<ul style="list-style-type: none"> Description: Double clamp bracket for dovetail mounting Material: Aluminum Details: Aluminum (anodised) Items supplied: Mounting hardware included Suitable for: W11-2, W12-3 	BEF-DKH-W12	2013947
	<ul style="list-style-type: none"> Description: Clamping block for dovetail mounting Material: Aluminum Details: Aluminum (anodised) Items supplied: Mounting hardware included Suitable for: W11-2, W12-3 	BEF-KH-W12	2013285
Universal bar clamp systems			
	<ul style="list-style-type: none"> Description: Plate N02 for universal clamp bracket Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: W4S-3 Glass, W10, W4SLG-3, W4S-3 Inox, W4S-3 Inox Glass, W9, W11-2, W12-3, W12-2 Laser, W12G, W12 Teflon, W16, W250, W250-2, PowerProx, W11G-2, TranspaTect, WTT12, UC12, P250, G6 Inox, W4S, W4SL-3V, W4SLG-3V, W4SL-3H 	BEF-KHS-N02	2051608
	<ul style="list-style-type: none"> Description: Plate N03 for universal clamp bracket, zinc coated Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: UC12, W14-2, W18-2, W18-3, W11-2, W12-3, W12-2 Laser, W12G, W12 Teflon, W16, W24-2 Ex, PowerProx, W11G-2, TranspaTect, W18-3 Ex, W24-2, PL50A, PL80A, PL40A, P250 	BEF-KHS-N03	2051609
	<ul style="list-style-type: none"> Description: Plate N04 for universal clamp, steel Material: Steel, zinc diecast Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket) Items supplied: Universal clamp (5322626), mounting hardware Usable for: Dx50, UC12, W12G, W14-2, W18-2, W23, W280, W11-2, W12-3, W12-2 Laser, W12 Teflon, W16, W18-3, W23-2, W24-2, W24-2 Ex, W26, W27-2 Laser, W27-2, W27-3, W34, W260, W280-2, PowerProx, Reflex Array, W11G-2, W18-3 Ex, W27-3 Ex 	BEF-KHS-N04	2051610
	<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"> Product family: Protective housing Description: Protective housing for universal clamp Material: Steel, zinc diecast Items supplied: Universal clamp, mounting hardware Suitable for: W16 	BEF-SG-W16	2096146

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	Brief description	Type	Part no.
Sensor Integration Gateway			
	<ul style="list-style-type: none">• Further functions: Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions• Connection CONFIG: 1 x M8, 4-pin female connector, USB 2.0 (USB-A)• Logic editor: yes• Communication interface: IO-Link, USB, Ethernet, PROFINET, REST API, USB, Ethernet, PROFINET• Product category: IO-Link Master	SIG200-0A0412200	1089794
	<ul style="list-style-type: none">• Further functions: Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions• Connection CONFIG: 1 x M8, 4-pin female connector, USB 2.0 (USB-A)• Logic editor: yes• Communication interface: IO-Link, USB, Ethernet, REST API, USB, Ethernet, REST API• Product category: IO-Link Master	SIG200-0A0G12200	1102605

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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