



M25S-03140C112, M25E-03140C112

M2000 Standard in IP69K Housing

MULTIPLE LIGHT BEAM SAFETY DEVICES

SICK
Sensor Intelligence.



Ordering information

System part	Type	Part no.
Sender	M25S-03140C112	1024210
Receiver	M25E-03140C112	1024211

1.) Concerns installation as a replacement part for previous type 2 device in machine: Regarding Machinery Directive 2006/42/EC, Article 1, Paragraph (2a) this type 2 device may only be used as a replacement part for identical PL d / SIL2 devices within the EU if the machine was put into circulation before 2015-05-10. Keep this note with your machine documentation. If the machine is sold on, this note and the information it contains must be passed on to every subsequent buyer. 2.) Concerns installation on new machines: Due to the amendment to the EN/IEC 61496-1 standard, this type 2 device may only be installed on new machines up to PL c / SIL1 as of 2015-05-10.

Other models and accessories → www.sick.com/M2000_Standard_in_IP69K_Housing



Detailed technical data

Features

Scanning range	0 m ... 19 m, configurable
Number of beams	3
Beam separation	400 mm
Response time	8 ms
Synchronization	Optical synchronisation

Safety-related parameters

Type	Type 2 (IEC 61496)
Safety integrity level	SIL1 (IEC 61508) SILCL1 (EN 62061)
Category	Category 2 (EN ISO 13849)
Test rate (internal test)	13 /s (EN ISO 13849) ¹⁾
Maximum demand rate	≤ 8 min ⁻¹ (EN ISO 13849) ²⁾
Performance level	PL c (EN ISO 13849)
PFH_D (mean probability of a dangerous failure per hour)	6.6 x 10 ⁻⁹ (EN ISO 13849)
T_M (mission time)	20 years (EN ISO 13849)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

¹⁾ Internal test. The test rate may not be exceeded if an external test is performed.

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

Functions

	Functions	Delivery status
External device monitoring (EDM)	✓	
Beam coding	✓	Uncoded

Interfaces

System connection		
Connection type	PVC cable, 8-pin	
Cable length	15 m	
Conductor cross-section	0.25 mm ²	
Configuration method		Hard wired
Display elements		LEDs 7-segment display
Fieldbus, industrial network		
Integration via Flexi Soft safety controller	CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET ¹⁾	

¹⁾ For additional information on Flexi Soft -> www.sick.com/Flexi_Soft.

Electrical data

	Sender	Receiver
Protection class	III (EN 50178)	
Supply voltage V_S	24 V DC (19.2 V DC ... 28.8 V DC) ¹⁾	
Power consumption	≤ 3.7 W (DC)	≤ 5 W (DC)
Safety outputs (OSSD)		
Type of output		2 PNP semiconductors, short-circuit protected, cross-circuit monitored ²⁾
Switching voltage HIGH		24 V DC ($V_S - 2.25$ V DC ... V_S)
Switching voltage LOW		≤ 1 V DC
Switching current		≤ 500 mA

¹⁾ The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

²⁾ Applies to the voltage range between -30 V and +30 V.

Mechanical data

Housing diameter	50 mm
Material	
End caps	Stainless steel
Plastic tube	PMMA
Compensating element (membrane)	PA 6
PG connector	PA 6

Ambient data

Enclosure rating	IP69K, IP67, IP66, IP65 (EN 60529)
Ambient operating temperature	0 °C ... +55 °C
Storage temperature	-25 °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 60068-2-29)

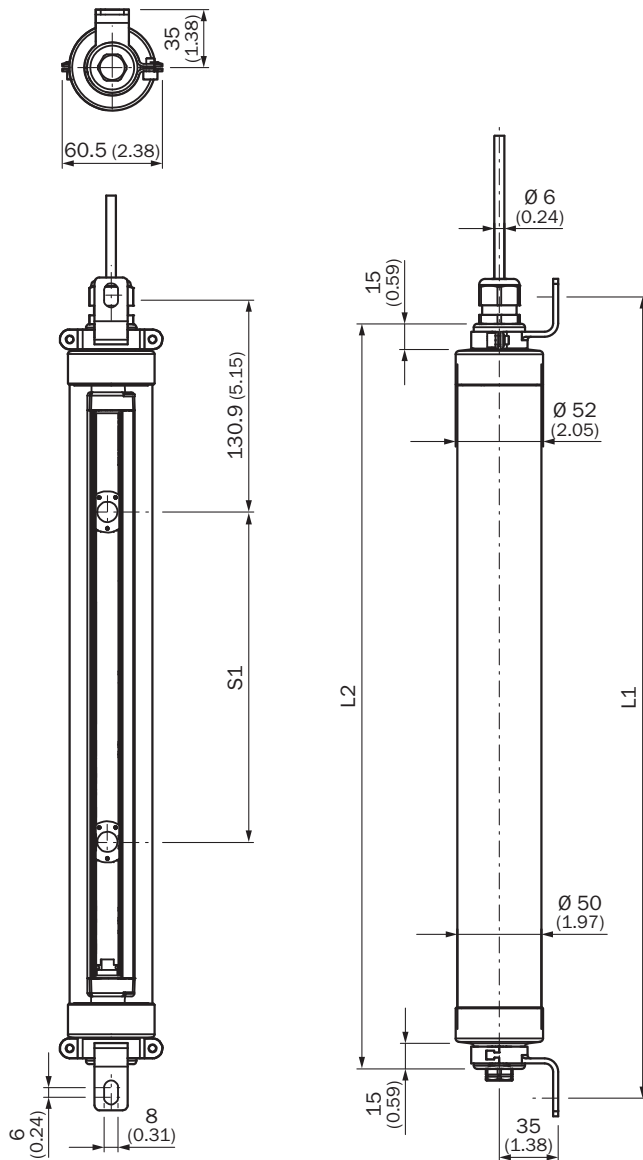
Other information

Wave length	950 nm
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Dimensional drawing (Dimensions in mm (inch))



Number of beams	Beam separation	L1	L2
2	500 (19.69)	777 (30.59)	744 (29.29)
3	400 (15.75)	1,078 (42.44)	1,045 (41.14)
4	300 (11.81)	1,228 (48.35)	1,195 (47.05)

Recommended accessories

Other models and accessories → www.sick.com/M2000_Standard_in_IP69K_Housing

	Brief description	Type	Part no.
Device protection (mechanical)			
	Bidirectional ventilation membrane made from Gore-Tex	Bidirectional ventilation membrane	5309082
Other mounting accessories			
	1 piece, Mounting tool for M12 cable socket, small housing	Installation wrench	4034690
Terminal and alignment brackets			
	2 pieces, Stainless steel support bracket, Stainless steel	BEF-2AAAADES2	2026849
	4 pieces, Stainless steel bracket, rotatable, Stainless steel	BEF-2SMMEAES4	2023708
	4 pieces, Reinforced stainless steel bracket, rotatable, Stainless steel	BEF-2SMMVAES4	2026850

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