



# M45Z-043000FLO, PSI02-2302

M4000 Standard A/P in IP69K Housing

**MULTIPLE LIGHT BEAM SAFETY DEVICES**

**SICK**  
Sensor Intelligence.



### Ordering information

System part	Type	Part no.
Sender/receiver in one housing	M45Z-043000FLO	1057667
Deflector unit	PSI02-2302	1057668

Other models and accessories → [www.sick.com/M4000\\_Standard\\_A\\_P\\_in\\_IP69K\\_Housing](http://www.sick.com/M4000_Standard_A_P_in_IP69K_Housing)



### Detailed technical data

#### Features

<b>Scanning range</b>	0.5 m ... 4 m
<b>Number of beams</b>	4
<b>Beam separation</b>	300 mm
<b>Response time</b>	10 ms
<b>Synchronization</b>	Optical synchronisation

#### Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496)
<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (EN 62061)
<b>Category</b>	Category 4 (EN ISO 13849)
<b>Performance level</b>	PL e (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	6.6 x 10 <sup>-9</sup> (EN ISO 13849)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

#### Functions

	Functions	Delivery status
<b>Beam coding</b>	✓	Code 1
<b>Configurable application diagnostic output</b>	✓	Contamination (OWS)

#### Interfaces

<b>System connection</b>	
Connection type	PVC cable, 8-pin

<sup>1)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

Cable length	15 m
Conductor cross-section	0.25 mm <sup>2</sup>
<b>Configuration method</b>	None
Specialty	The devices are sealed in the IP69K Housing from the factory and cannot be re-configured.
<b>Display elements</b>	LEDs 7-segment display
<b>Fieldbus, industrial network</b>	
Integration via Flexi Soft safety controller	CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET <sup>1)</sup>

<sup>1)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

### Electrical data

<b>Protection class</b>	III (EN 50178)
<b>Supply voltage V<sub>S</sub></b>	24 V DC (19.2 V DC ... 28.8 V DC) <sup>1)</sup>
<b>Residual ripple</b>	≤ 10 % <sup>2)</sup>
<b>Power consumption</b>	≤ 0.6 A <sup>3)</sup>
<b>Safety outputs (OSSD)</b>	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>4)</sup>
Switching voltage HIGH	24 V DC (V <sub>S</sub> - 2.25 V DC ... V <sub>S</sub> )
Switching voltage LOW	≤ 2 V DC
Switching current	≤ 500 mA
<b>Diagnostic outputs</b>	
Type of output	PNP semiconductor, short-circuit protected
Switching voltage HIGH	24 V DC (V <sub>S</sub> - 4.2 V DC ... V <sub>S</sub> )
Switching voltage LOW	High resistance
Switching current	≤ 100 mA

<sup>1)</sup> 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.

<sup>2)</sup> Within the limits of V<sub>S</sub>.

<sup>3)</sup> Without load.

<sup>4)</sup> Applies to the voltage range between -30 V and +30 V.

### Mechanical data

<b>Housing diameter</b>	80 mm
<b>Material</b>	
End caps	Stainless steel
Plastic tube	PMMA
Compensating element (membrane)	PA 6
PG connector	PA 6

### Ambient data

<b>Enclosure rating</b>	IP69K, IP67, IP66, IP65 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +55 °C
<b>Storage temperature</b>	-30 °C ... +70 °C
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance</b>	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)

<b>Shock resistance</b>	10 g, 16 ms (IEC 60068-2-29)
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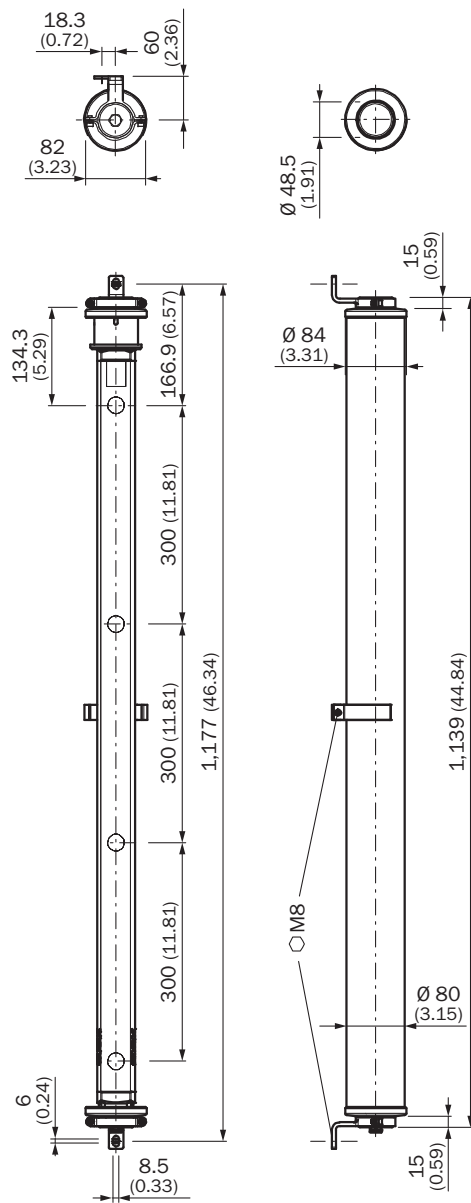
Other information

<b>Wave length</b>	850 nm
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Classifications


<b>ECl@ss 5.0</b>	27272703
<b>ECl@ss 5.1.4</b>	27272703
<b>ECl@ss 6.0</b>	27272703
<b>ECl@ss 6.2</b>	27272703
<b>ECl@ss 7.0</b>	27272703
<b>ECl@ss 8.0</b>	27272703
<b>ECl@ss 8.1</b>	27272703
<b>ECl@ss 9.0</b>	27272703
<b>ETIM 5.0</b>	EC001832
<b>ETIM 6.0</b>	EC001832
<b>UNSPSC 16.0901</b>	46171620




### Dimensional drawing (Dimensions in mm (inch))



### Recommended accessories

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	Brief description	Type	Part no.
Device protection (mechanical)			
	Bidirectional ventilation membrane made from Gore-Tex	Bidirectional ventilation membrane	5309082

	Brief description	Type	Part no.
Other mounting accessories			
	1 piece, Mounting tool for M12 cable socket, large housing	Installation wrench	4067618
Terminal and alignment brackets			
	2 pieces, Stainless steel support bracket, Stainless steel	BEF-2AAAAOES2	2060164
	4 pieces, Reinforced stainless steel bracket, rotatable, Stainless steel	BEF-2SMGVAES4	2060165

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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](http://www.sick.com)