



M40Z-025000TT0, PSD01-2501

M4000 Standard A/P

SAFETY MULTIBEAM SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

System part	Type	part no.
Active unit	M40Z-02500TT0	1200150
Passive unit	PSD01-2501	1027907

Other models and accessories → www.sick.com/M4000_Standard_A_P

Detailed technical data

Features

Specialty	With extension connection Reset
Functional principle	Active/passive
System part	Pair
Type of diversion	Fibre-optic deflection
Scanning range	0.5 m ... 4.5 m
Number of beams	2
Beam separation	500 mm
Response time	10 ms

Safety-related parameters

Type	Type 4 (IEC 61496-1)
Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (EN ISO 13849)
Performance level	PL e (EN ISO 13849)
PFH_D (mean probability of a dangerous failure per hour)	6.6×10^{-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.

Functions

	Functions	Delivery status
Beam coding	✓	Uncoded
Restart interlock	✓	Internal
External device monitoring (EDM)	✓	Activated
Configurable application diagnostic output	✓	Contamination (OWS)

Interfaces

System connection	Male connector M12, 8-pin
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¹⁾ Depending on load, power supply and wire cross-section. The technical specifications must be observed.

Permitted cable length	15 m ¹⁾
Permitted cross-section	≥ 0.25 mm ²
Reset connection	Female connector M12, 5-pin
Configuration method	Configuration buttons
Display elements	LEDs 7-segment display

¹⁾ Depending on load, power supply and wire cross-section. The technical specifications must be observed.

Electronics

Protection class	III (IEC 61140)
Supply voltage V_S	24 V DC (19.2 V DC ... 28.8 V DC) ¹⁾
Residual ripple	≤ 10 % ²⁾
Power consumption	≤ 0.6 A ³⁾
Output signal switching devices (OSSDs)	2 PNP semiconductors, short-circuit protected, cross-circuit monitored ⁴⁾
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

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⁾ Within the limits of V_S .

³⁾ Without load.

⁴⁾ Applies to the voltage range between -30 V and +30 V.

Mechanics

Dimensions	See dimensional drawing
Housing cross-section	52 mm x 55.5 mm
Material	
Housing	Aluminum alloy ALMGSI 0.5, powder coated
Front screen	Polycarbonate, scratch-resistant coating

Ambient data

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

Other information

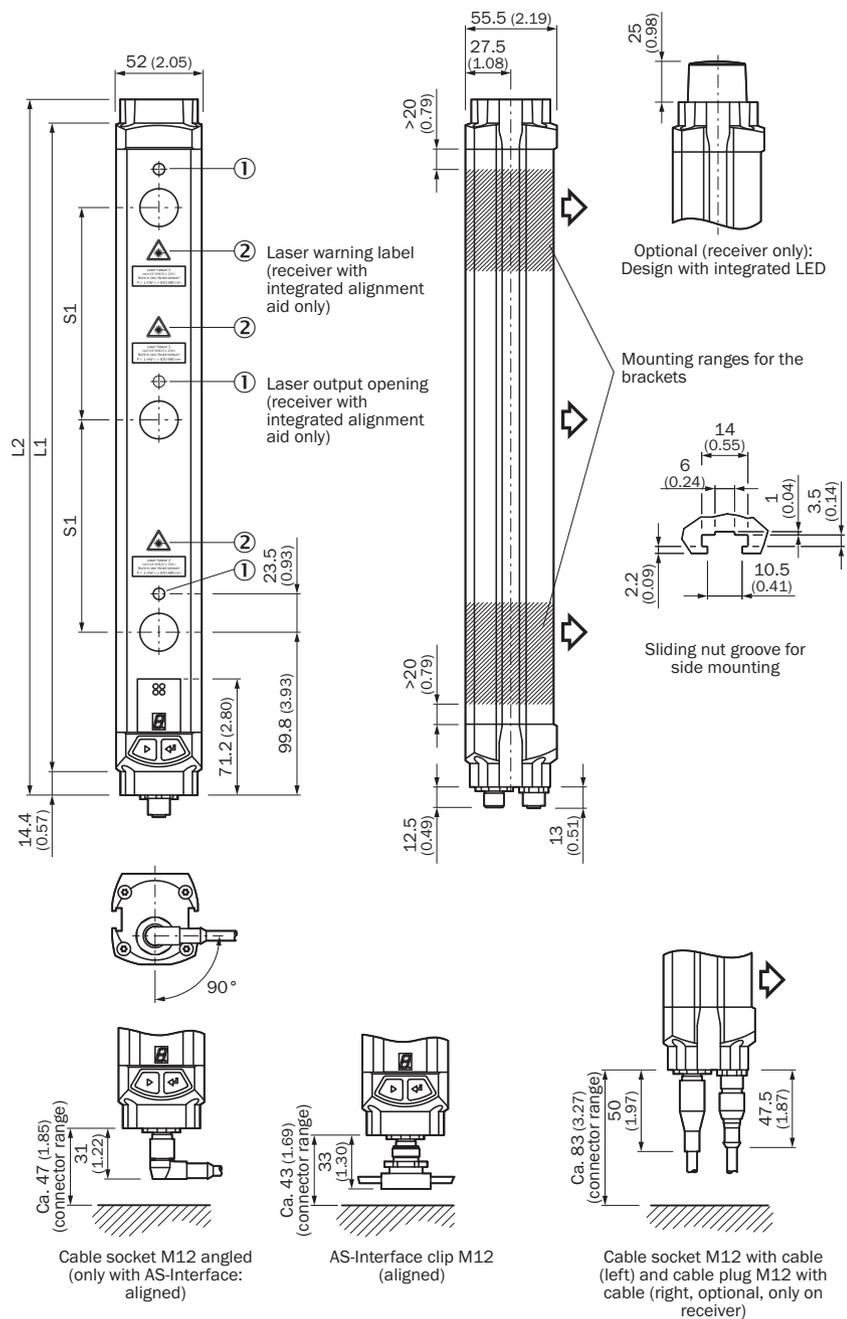
Wave length	850 nm
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Classifications

ECLASS 5.0	27272703
ECLASS 5.1.4	27272703
ECLASS 6.0	27272703
ECLASS 6.2	27272703

ECLASS 7.0	27272703
ECLASS 8.0	27272703
ECLASS 8.1	27272703
ECLASS 9.0	27272703
ECLASS 10.0	27272703
ECLASS 11.0	27272703
ECLASS 12.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832
UNSPSC 16.0901	46171620

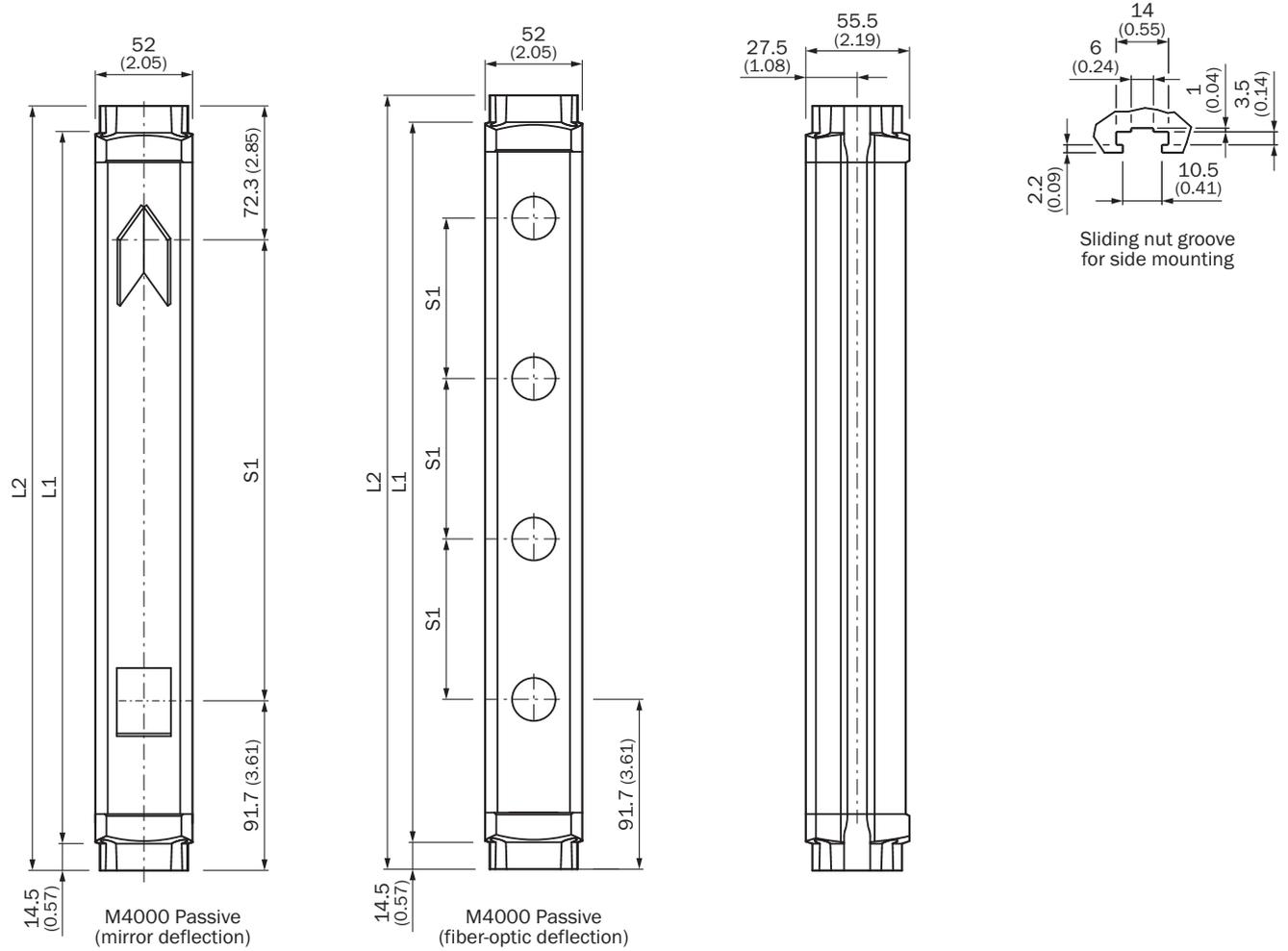
Dimensional drawing Active unit



Dimensions in mm (inch)
Sender/receiver in one housing

		L1	L2
2	500	643	672
4	300	1,043	1,072

Dimensional drawing Passive unit



Dimensions in mm (inch)
deflector unit

		L1	L2
2	500	643	672
4	300	1,043	1,072

Recommended accessories

Other models and accessories → www.sick.com/M4000_Standard_A_P

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting kit 12, rotatable, swivel mount Packing unit: 4 pieces Suitable for: All protective field heights 	BEF-2SMGEAKU4	2030510
	<ul style="list-style-type: none"> Description: Mounting kit 1, mounting bracket, rigid, L-shaped, including fixing screws and washers Packing unit: 4 pieces Suitable for: All protective field heights 	BEF-3WNGBAST4	7021352
	<ul style="list-style-type: none"> Description: Mounting kit 6, side bracket, rotatable Material: Zinc diecast Details: Zinc diecast Packing unit: 4 pieces Suitable for: All protective field heights 	BEF-1SHABAZN4	2019506
Commissioning aids and test equipment			
	<ul style="list-style-type: none"> Product: Alignment aids Dimensions (W x H x L): 19 mm 67.3 mm 66.9 mm Description: Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam! 	AR60	1015741
	<ul style="list-style-type: none"> Product: Alignment aids Description: Adapter AR60 for M4000 and M4000 Curtain 	AR60 adapter, M4000	4040006

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