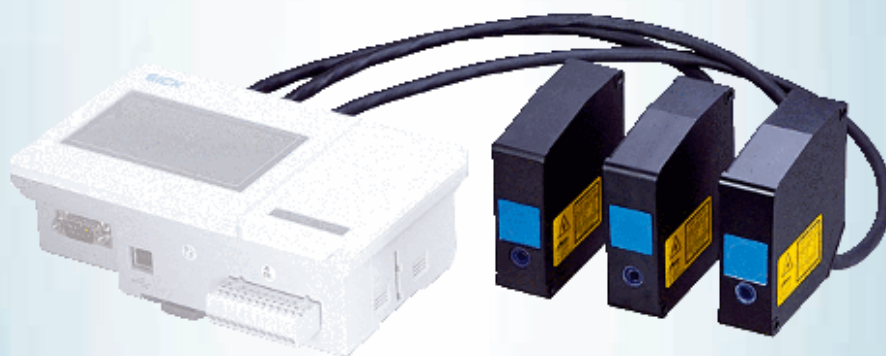




OD5-25T01

OD Precision

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
OD5-25T01	6035975

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



Detailed technical data

Features

System part	Sensor head
Measuring range	24 mm ... 26 mm ¹⁾
Target	Natural objects
Repeatability	0.02 µm ²⁾
Linearity	± 1.6 µm ²⁾
Response time	≥ 0.1 ms ^{3) 4)}
Output time	≥ 0.1 ms
Light source	Laser, redvisible red light
Type of light	Visible red light
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014) ⁵⁾
Typ. light spot size (distance)	25 µm x 35 µm (25 mm)
Special task	Thickness measurement of transparent material
Additional function	Mean-value setting 1 ... 4,096x Selectable measuring frequency (automatic / 0.1 ms ... 3.2 ms) Automatic sensitivity adjustment Manual sensitivity adjustment Mutual interference Glass thickness measurement
Thickness measurement of transparent material	0.2 mm ... 2 mm
General notes	
Note on use	OD Precision sensor head can be used in combination with AOD5-P/N1 or stand-alone via RS-422
Safety-related parameters	
MTTF _D	101 years
DC _{avg}	0%

¹⁾ 6 % ... 90 % remission; at default settings.

²⁾ Measurement at 90% remission (ceramic, white), or mirror for OD5-25x; averaging set to: 256 or 4096 for OD5-25x; constant ambient conditions.

³⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 µs (10kHz) this is ≤ 2ms.

⁴⁾ Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, or 1.25 kHz, all others = 0.1 ms/10 kHz.

⁵⁾ Wavelength: 650 nm, max. output: 390 µW.

Interfaces

Serial		✓, RS-422
	Remark	RS-232 optional via external evaluation unit AOD5
Digital output		
	Number	5 ¹⁾
	Type	PNP / NPN
	Maximum output current I _A	≤ 100 mA
Analog output		
	Number	3 ^{1) 2)}
	Type	Current output / voltage output
	Current	4 mA ... 20 mA, ≤ 300 Ω
	Voltage	0 V ... 10 V ³⁾
Laser-off input		1 x laser-off

¹⁾ Optional over evaluation unit AOD5.

²⁾ A maximum of three current and three voltage outputs are possible via the AOD5 evaluation unit.

³⁾ Output resistance 100 Ω, min. load 10 k Ω.

Electronics

Supply voltage U_B	DC 12 V ... 24 V ¹⁾
Warm-up time	≤ 5 min
Indication	LEDs, 4" color display on optional evaluation unit
Enclosure rating	IP67
Protection class	III

¹⁾ DC 12 V (−5 %) ... DC 24 V (+10 %).

Mechanics

Dimensions (W x H x D)	29 mm x 78 mm x 75 mm
Housing material	Metal (Aluminum)
Window material	Glass
Weight	250 g ¹⁾
Connection type	0.5 m cable with connector ²⁾

¹⁾ Includes 0.5 m cable.

²⁾ Can be extended to up to 50 m with extension cable.

Ambient data

Ambient temperature, operation	−10 °C ... +50 °C
Ambient temperature, storage	−20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 85 %
Temperature drift	± 0.01 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
Vibration resistance	10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each)
Shock resistance	50 G (x, y, z axis 3 times each)

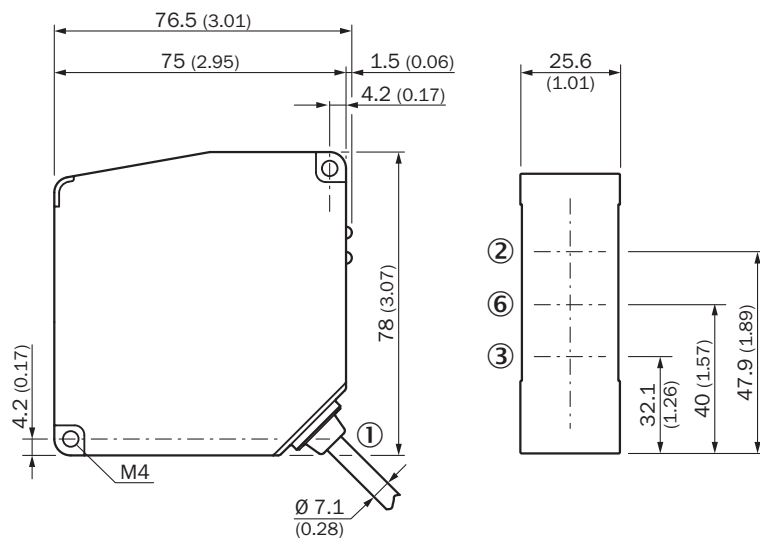
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓

Classifications

ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing OD5-25xxx

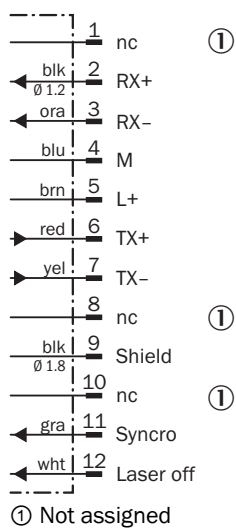


- ② optical axis, receiver
- ③ optical axis, sender
- ⑥ Optical axis, light spot (at 25 mm due to V-Optics with 17.5°)

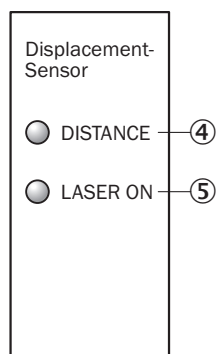
Connection type Hirose 12-pin male connector for sensor head



Connection diagram

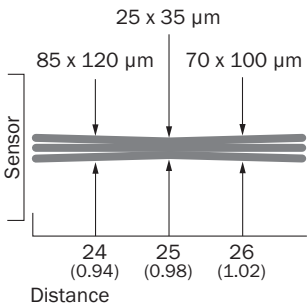


Adjustment possible



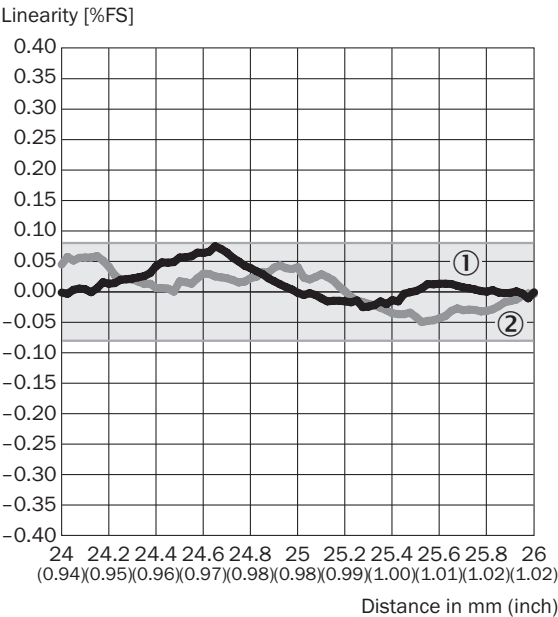
- ④ Distance indicator
- ⑤ Status indicator laser (laser on)

Light spot size OD5-25T01



All dimensions in mm (inch)

Linearity OD5-25T01



- ① Mirror
- ② Stone, ceramic, glass

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	Connection type head A: Female connector, M12, 12-pin, straight Connection type head B: Male connector, M12, 12-pin, straight Signal type: RS-422 Cable: 2 m, 12-wire, twisted pair, PVC Description: RS-422, shielded Note: OD Precision specific	YFHRSB-020XXXMRSE	6035986
	Connection type head A: Female connector, M12, 12-pin, straight Connection type head B: Flying leads Cable: 5 m, 12-wire, PVC Description: Shielded Note: For stand-alone operation	DOL-1212-G05M	6035988
	Connection type head A: Female connector, M12, 12-pin, straight Connection type head B: Male connector, M12, 12-pin, straight Signal type: RS-422 Cable: 5 m, 12-wire, twisted pair, PVC Description: RS-422, shielded Note: OD Precision specific	YFHRSB-050XXXMRSE	6035987
	Connection type head A: Male connector, 50-pin, straight Connection type head B: Flying leads Cable: 3 m, 50-wire, PVC Description: Shielded Connection systems: Flying leads Note: In- and output expansion cable for AOD5-P/N1 (OD Precision)	IO-EXP-AOD5	6035990
	Connection type head A: Male connector, 12-pin Connection type head B: Terminal connector, 12-pin Description: Unshielded Connection systems: Spring terminal Note: Terminal strip for AOD5-P/N1 (OD Precision)	TERM.-AOD5	6035989
integration modules and adapters			
	Description: Evaluation unit: OD Precision, 5 x PNP	AOD5-P1	6035985
	Description: Evaluation unit: OD Precision, 5 x NPN	AOD5-N1	6035984

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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