



OD5000-C15T01

OD5000

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|---------------|----------|
| OD5000-C15T01 | 6063619 |

Other models and accessories → www.sick.com/OD5000



Detailed technical data

Features

| | |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Measuring range | 14 mm ... 16 mm |
| Target | Natural objects |
| Repeatability | 0.01 μm ^{1) 2)} |
| Linearity | Specular $\pm 1 \mu\text{m}$, Near side Specular $\pm 1 \mu\text{m}$, Far side Diffuse not supported |
| Response time | $\geq 12.5 \mu\text{s}$ ^{3) 4)} |
| Output time | $\geq 0.0125 \text{ ms}$ |
| 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) | $\varnothing 30 \mu\text{m}$ |
| Special task | Thickness measurement of transparent material |
| Thickness measurement of transparent material | 0.06 mm ... 0.18 mm |
| Safety-related parameters | |
| | MTTF _D 60.9 years |
| | DC _{avg} 0% |

¹⁾ Measurement on 60 % remission (ceramic, white).

²⁾ Set average: 65536, median: 31, response time: 50 μs , constant application parameters.

³⁾ At 0.0125 ms, measurement is only possible within a sub-range.

⁴⁾ Dependent on the set average or sensitivity.

⁵⁾ Visible, wavelength: 655 nm, max. power: 0.39 mW.

Interfaces

| | |
|-----------------------|-----------------------------------------------------------------------------|
| Ethernet | ✓, TCP/IP, UDP |
| Digital input | In ₁ Can be used as laser off, external teach-in, or deactivated |
| Digital output | Number 1 ... 3 ¹⁾ |
| | Type PNP/NPN, selectable |
| Analog output | Number 1 |
| | Type Current output |
| | Function Optional over evaluation unit AOD1 |
| | Current 4 mA ... 20 mA, ≤ 300 Ω |

¹⁾ Optional over evaluation unit AOD1.

Electronics

| | |
|-------------------------------------|----------------------------------------------------|
| Supply voltage U_B | DC 12 V ... 24 V, ± 10%, including residual ripple |
| Power consumption | 180 mA, at 24 V |
| Warm-up time | < 10 min |
| Indication | Status LEDs |
| Enclosure rating | IP67 |
| Protection class | III (EN 50178) |

Mechanics

| | |
|-------------------------------|-------------------------------------------------------|
| Dimensions (W x H x D) | 25.9 mm x 71.5 mm x 53.2 mm |
| Housing material | Metal (Aluminum die cast) |
| Window material | Plastic (PMMA) |
| Weight | 280 g |
| Connection type | Cable with male connector, M12, 8-pin, A-coded, 50 cm |

Ambient data

| | |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature, operation | -10 °C ... +50 °C, Operating temperature at V _S = 24 V |
| Ambient temperature, storage | -20 °C ... +60 °C |
| Relative air humidity (non-condensing) | 35 % ... 85 % |
| Temperature drift | ± 0.01 % FS/K at -10 °C ... +40 °C (FS = Full Scale = sensor measuring range) ± 0.03 % FS/K at +40 °C ... +50 °C (FS = Full Scale = sensor measuring range) |
| Typ. Ambient light immunity | Artificial light: ≤ 3,000 lx ¹⁾ Sunlight: ≤ 10,000 lx |
| Vibration resistance | EN 60068-2-6, EN 60068-2-64 |
| Shock resistance | EN 60068-2-27 |

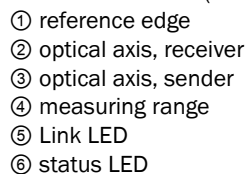
¹⁾ With constant object movement in the measuring range.

Certificates

| | |
|---------------------------------------|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |

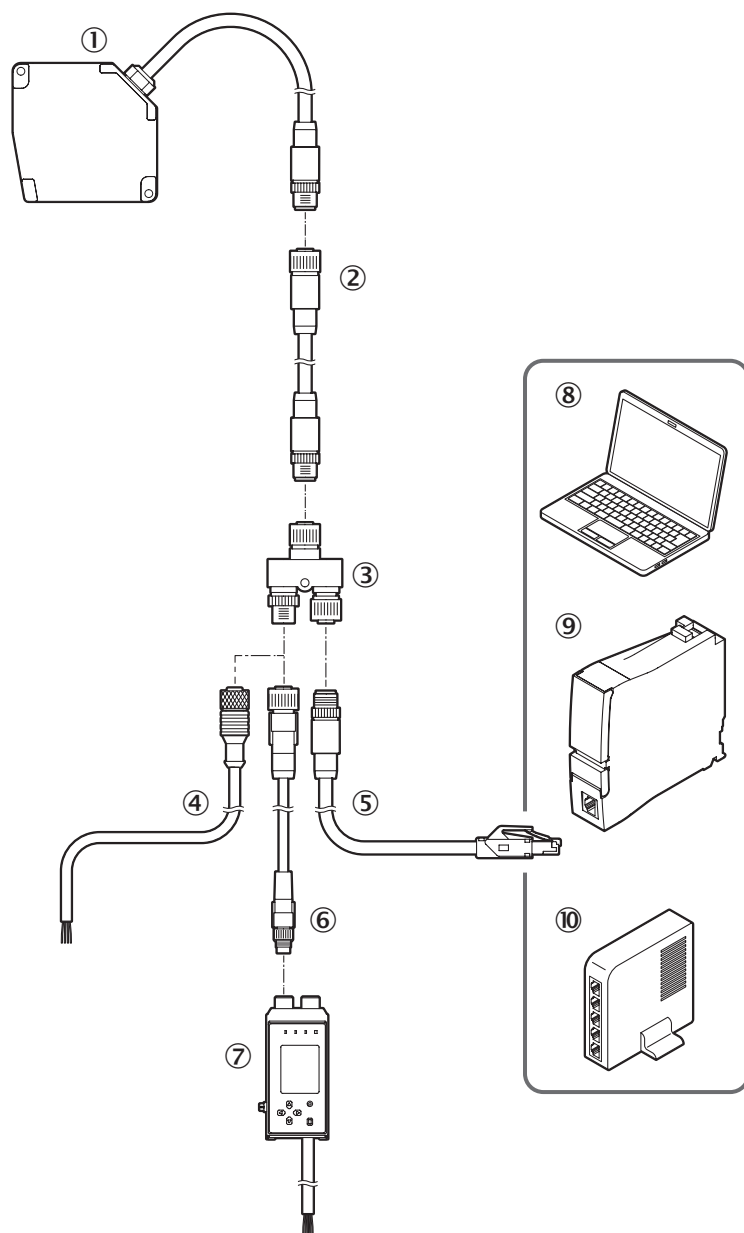
Classifications

Dimensional drawing OD5000-C15x01

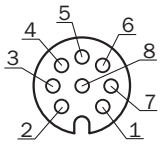


⑦ male connector M12, 8-pin

Connection diagram

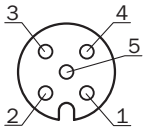


- ① OD5000
- ② Sensor head extension cable
- ③ Y-distribution (included with delivery)
- ④ Cable with open ends
- ⑤ Ethernet Connection cable
- ⑥ AOD1 connection cable, M12, 4-pin to M8, 4-pin
- ⑦ AOD1
- ⑧ PC
- ⑨ PLC
- ⑩ switch

PIN assignment

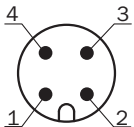
female connector M12, 8-pin, A-coded

- ① Input (MF) / RS485+
- ② 0 V
- ③ 24 V
- ④ TxD-
- ⑤ RxD+
- ⑥ TxD+
- ⑦ Input (MF) / RS485-
- ⑧ RxD-

PIN assignment

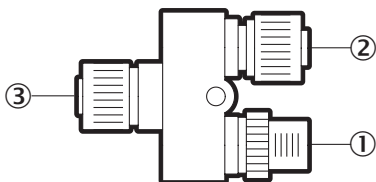
female connector M12, 5-pin, D-coded

- ① TxD+
- ② RxD+
- ③ TxD-
- ④ RxD-
- ⑤ nc

PIN assignment

Connector M12, 4-pin, A-coded

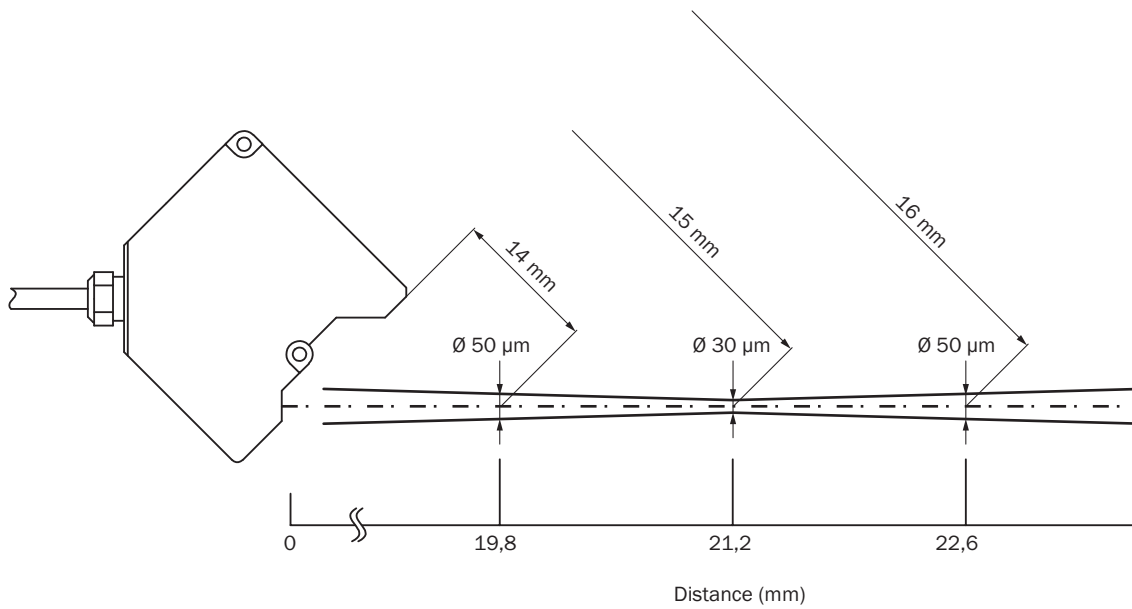
- ① 24 V
- ② Input (MF) / RS485+
- ③ 0 V
- ④ Input (MF) / RS485-

PIN assignment Y-junctions

Y-distribution connections

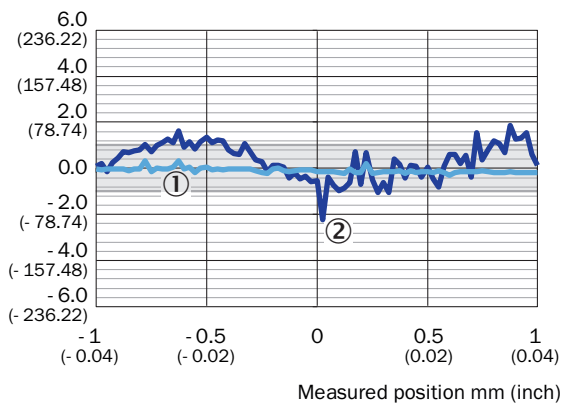
- ① M12, 4-pin, A-coded
- ② M12, 5-pin, D-coded
- ③ M12, 8-pin, A-coded

Light spot size



Linearity OD5000-C15T01 (reflective)

Linearity μm (μin)



- ① Mirror
- ② Glass

Recommended accessories

Other models and accessories → www.sick.com/OD5000

| | Brief description | Type | part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Male connector, M12, 8-pin, straight Cable: 2 m, PUR | DSC-1208-G02MA | 6064004 |
|  | <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: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-020UB3XLEAX | 2095607 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 2 m, 4-wire, PUR, halogen-free Description: Ethernet, shieldedPROFINET Application: Drag chain operation, Zones with oils and lubricants | YM2D24-020P-N1MRJA4 | 2106182 |
|  | <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: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-C60UB3XLEAX | 2145654 |
|  | <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: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-010UB3XLEAX | 2145655 |
|  | <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: 3 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-030UB3XLEAX | 2145656 |
| integration modules and adapters | | | |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, master, 1 x Q, M8 male connector, 4-pin | AOD1-MR24Q1 | 6054270 |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, slave, 1 x Q, M8 male connector, 4-pin | AOD1-SR24Q1 | 6054271 |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, master, 2 x Q, M12 male connector, 5-pin | AOD1-MR25Q2 | 6054272 |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, slave, 2 x Q, M12 male connector, 5-pin | AOD1-SR25Q2 | 6054273 |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, OD5000 and OL1, master, 3 x Q, 1 x analog, open end cable, 2 m | AOD1-MR27C4 | 6058195 |
|  | <ul style="list-style-type: none"> Description: OD Mini evaluation unit, OD5000 and OL1, slave, 3 x Q, 1 x analog, open end cable, 2 m | AOD1-SR27C4 | 6058196 |

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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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