



KTM-LN557A2P

KTM

CONTRAST SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|--------------|----------|
| KTM-LN557A2P | 1105834 |

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

Illustration may differ



Detailed technical data

Features

| | |
|-----------------------------------|---|
| Dimensions (W x H x D) | 12 mm x 31.5 mm x 21 mm |
| Sensing distance | ≤ 250 mm |
| Sensing distance tolerance | ± 30 mm |
| Housing design | Small |
| Light source | Laser, red ¹⁾ |
| Laser class | I |
| Wave length | 680 nm |
| Light emission | Long side of housing |
| Light spot size | Ø 1.8 mm (250 mm) |
| Light spot direction | Round |
| Receiving filters | None |
| Max. web speed | 10 m/s ²⁾ |
| Adjustment | Teach-in button, Teach-in button |
| Teach-in mode | 2-point teach-in static/dynamic + proximity to mark |

¹⁾ Average service life: 100,000 h at $T_U = +25^\circ\text{C}$.

²⁾ At mark size = 1.5 mm.

Interfaces

| | |
|------------------------|--------------------|
| IO-Link | ✓, V1.1 |
| Data transmission rate | 38,4 kbit/s (COM2) |
| Cycle time | 2.3 ms |

| | | |
|--------------------------|---------------------|--|
| Process data structure A | Process data length | 16 Bit |
| | | Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 = switching signal Q_{Int1} Bit 3 ... 5 = empty Bit 6 ... 15 = measuring value |
| Process data structure B | | Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 = switching signal Q_{Int1} Bit 3 ... 15 = empty |
| Digital output | Number | Q_1, Q_2 |

Electronics

| | |
|----------------------------|---|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | $\leq 5 V_{pp}$ ¹⁾ |
| Current consumption | < 35 mA ²⁾ |
| Switching frequency | 1.5 kHz ³⁾ |
| Response time | 333 μ s ⁴⁾ |
| Jitter | 122 μ s |
| Accuracy | 0.15 mm |
| Switching output | NPN |
| Switching output (voltage) | NPN: HIGH = approx. U_V / LOW ≤ 2 V |
| Switching mode | Light/dark switching |
| Output current $I_{max.}$ | 100 mA ⁵⁾ |
| Retention time (ET) | 250 ms |
| Time delay | Switch-off delay, 520 ms (via IO-Link) |
| Protection class | III |
| Circuit protection | U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Enclosure rating | IP67 |

¹⁾ May not fall below or exceed U_V tolerances.²⁾ Without load.³⁾ With light/dark ratio 1:1.⁴⁾ Signal transit time with resistive load.⁵⁾ At supply voltage > 24 V, $I_{max.} = 50$ mA. $I_{max.}$ is consumption count of all Q_n .

Mechanics

| | |
|------------------|---|
| Housing material | ABS |
| Display | LED indicator green: power on LED indicator, yellow: Status switching output Q |
| Optics material | PMMA |
| Connection type | Cable with M12 male connector, 4-pin, 0.3 m |
| Weight | Approx. 24 g |

Ambient data

| | |
|-------------------------------|-------------------|
| Ambient operating temperature | -20 °C ... +50 °C |
|-------------------------------|-------------------|

| | |
|-------------------------------------|------------------------|
| Ambient temperature, storage | -40 °C ... +70 °C |
| Shock load | According to IEC 60068 |
| UL File No. | E181493 |

Connection type/pinouts

| | |
|------------------------|---|
| Connection type | Cable with M12 male connector, 4-pin, 0.3 m |
| Pinouts | |
| BN 1 | + (L+) |
| WH 2 | Q |
| BU 3 | - (M) |
| BK 4 | Q/C |

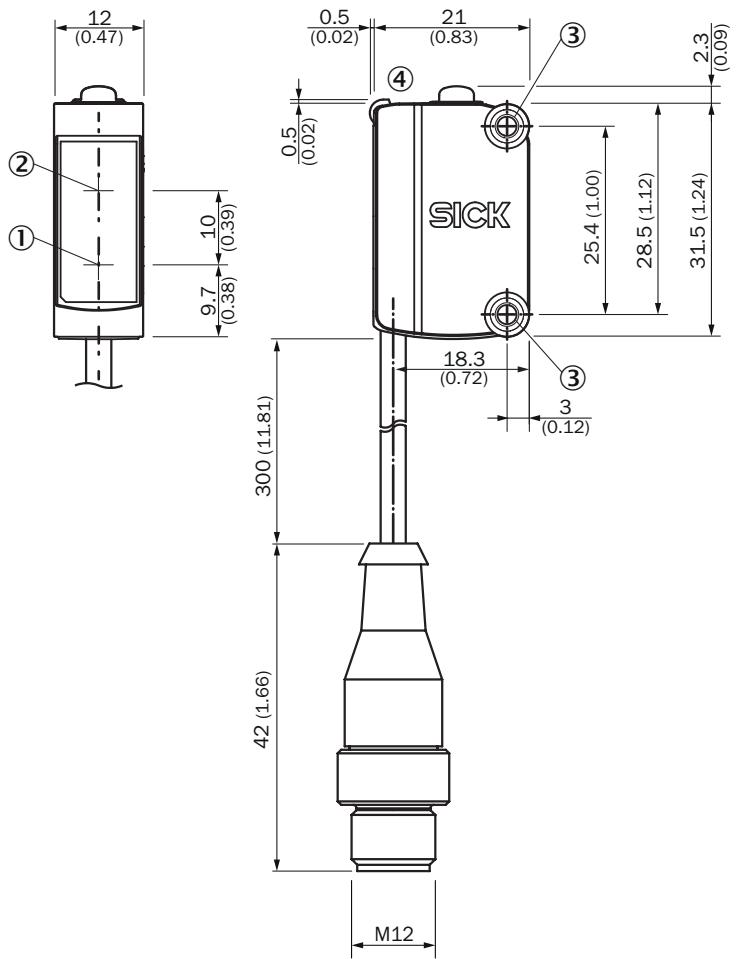
Certificates

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link | ✓ |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270906 |
| ECLASS 5.1.4 | 27270906 |
| ECLASS 6.0 | 27270906 |
| ECLASS 6.2 | 27270906 |
| ECLASS 7.0 | 27270906 |
| ECLASS 8.0 | 27270906 |
| ECLASS 8.1 | 27270906 |
| ECLASS 9.0 | 27270906 |
| ECLASS 10.0 | 27270906 |
| ECLASS 11.0 | 27270906 |
| ECLASS 12.0 | 27270906 |
| ETIM 5.0 | EC001820 |
| ETIM 6.0 | EC001820 |
| ETIM 7.0 | EC001820 |
| ETIM 8.0 | EC001820 |
| UNSPSC 16.0901 | 39121528 |

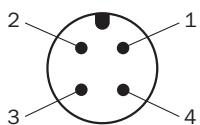
Dimensional drawing KTM-Lxxxx2P



Dimensions in mm (inch)

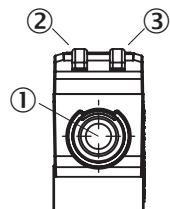
- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting holes M3
- ④ display and adjustment elements

Pinouts, see table Technical data: **Connection type/pinouts**



M12 male connector, 4-pin, A-coding

display and adjustment elements

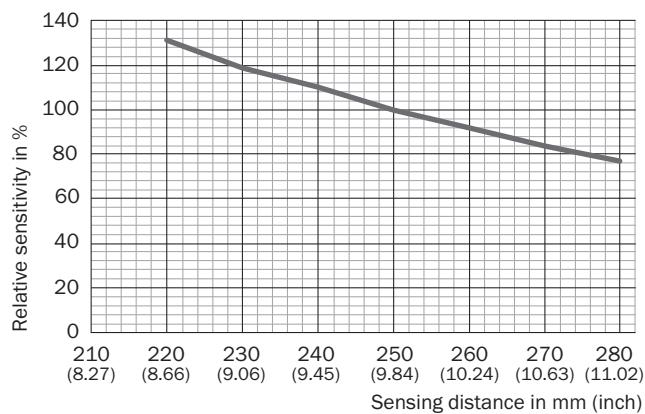


① Teach-in button

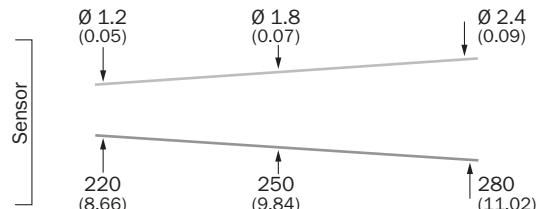
② LED yellow

③ LED green

Sensing distance



Light spot size KTM-Lxx5xxxx



Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|--------------------|-----------------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Male connector, M12, 4-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones | YF2A14-050VB3M2A14 | 2096600 |
|  | <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: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones | YF2A14-050VB3XLEAX | 2096235 |

SICK AT A GLANCE

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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.

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