



KTM-LN227A2P

KTM

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| KTM-LN227A2P | 1109744 |

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

Detailed technical data

Features

| | |
|-----------------------------------|---|
| Dimensions (W x H x D) | 12 mm x 31.5 mm x 21 mm |
| Sensing distance | ≤ 50 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 1.7 mm (50 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 °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 length | 16 Bit |
| Process data structure A | 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 | Q_1, Q_2 |
| Number | 2 |

Electronics

| | |
|--|---|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | $\leq 5 V_{pp}$ ¹⁾ |
| Current consumption | $< 35 \text{ mA}$ ²⁾ |
| Switching frequency | 4 kHz ³⁾ |
| Response time | 125 μs ⁴⁾ |
| Jitter | 57 μs |
| Accuracy | 0.08 mm |
| Switching output | NPN |
| Switching output (voltage) | NPN: HIGH = approx. U_V / LOW $\leq 2 \text{ V}$ |
| 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 |

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 $> 24 \text{ V}$, $I_{max} = 50 \text{ mA}$. 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 | $-20 \text{ }^\circ\text{C} \dots +45 \text{ }^\circ\text{C}$ |
| Ambient temperature, storage | $-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$ |

| | |
|-------------------------|------------------------|
| Shock load | According to IEC 60068 |
| Enclosure rating | IP67 |
| 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 |

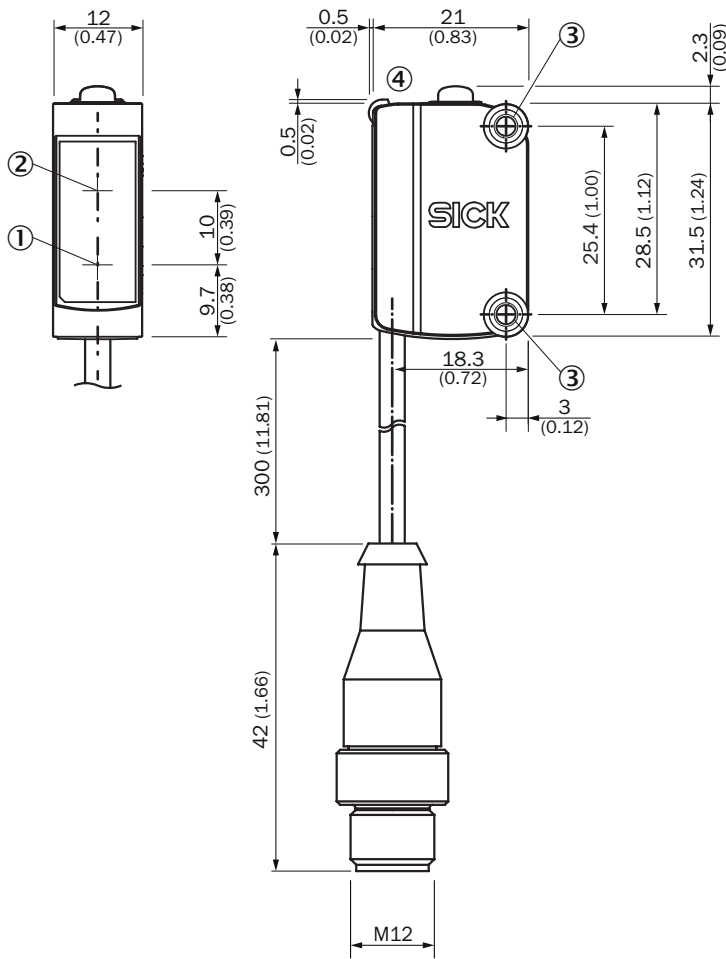
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

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 |

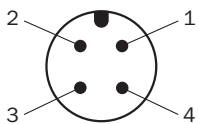
Dimensional drawing KTM-Lxxxx2P



Dimensions in mm (inch)

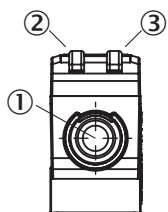
- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting holes M3
- ④ display and adjustment elements

Pinouts, see table [Technical data: Connection type/pinouts](#)



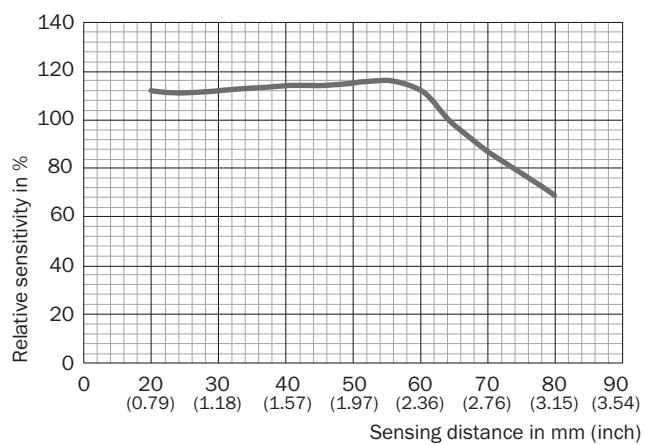
M12 male connector, 4-pin, A-coding

display and adjustment elements

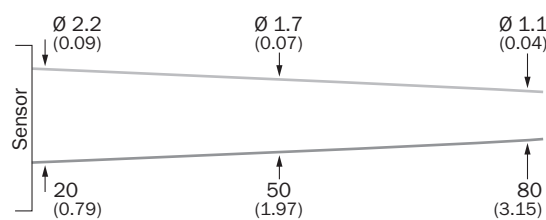


- ① Teach-in button
- ② LED yellow
- ③ LED green

Sensing distance





Light spot size KTM-Lxx2xxx



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 |

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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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