



TR10-SLM10P

TR10 Lock

SAFETY LOCKING DEVICES

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|-------------|----------|
| TR10-SLM10P | 6054760 |

Other models and accessories → www.sick.com/TR10_Lock



Detailed technical data

Features

| | |
|---|------------------------|
| Sensor principle | RFID |
| Locking principle | Power to lock |
| Number of safe outputs | 2 |
| Coding | Universally coded |
| Locking force F_{max} | 1,690 N (EN ISO 14119) |
| Locking force F_{Zh} | 1,300 N (EN ISO 14119) |
| Retaining force | 0 N |
| Actuation directions | 4 |
| Approach speed | ≥ 2 mm/s |

Safety-related parameters

| | |
|---|--|
| 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) | 9.1×10^{-10} |
| T_M (mission time) | 20 years (EN ISO 13849) |
| Type | Type 4 (EN ISO 14119) |
| Actuator coding level | Low coding level (EN ISO 14119) |
| Safe state in the event of a fault | At least one safety-related semiconductor output (OSSD) is in the OFF state. |

Functions

| | |
|--|---------------------------------------|
| Switching behavior of the OSSDs | Locking monitoring |
| Safe series connection | In control cabinet (with diagnostics) |

Interfaces

| | |
|------------------------|-------|
| Connection type | Cable |
|------------------------|-------|

| | |
|---------------------------------------|-----------------------|
| Length of cable | 10 m |
| Long connecting cable | ≤ 200 m |
| Cable diameter | 6.5 mm |
| Conductor cross section | 0.25 mm ² |
| Bend radius (with fixed installation) | > 7 x cable diameter |
| Bend radius (with moving cable) | > 14 x cable diameter |
| Cable material | PVC |
| Conductor material | Copper |
| Coupling nut material | Stainless steel |
| Display elements | LEDs |
| Diagnostics indicator | ✓ |
| Status display | ✓ |

Electrical data

| | |
|--|---|
| Protection class | II (IEC 61140) |
| Contamination rating | 3 |
| Classification according to cULus | Class 2 |
| Usage category | DC-13 (IEC 60947-5-1) |
| Rated operating current (voltage) | 200 mA (24 V DC) |
| Rated insulation voltage U_i | 75 V |
| Rated impulse withstand voltage U_{imp} | 1,000 V |
| Supply voltage V_s | 24 V DC (20.4 V DC ... 26.4 V DC) |
| Type of output | Self-monitoring semiconductor outputs (OSSDs) |
| Output current | ≤ 200 mA |
| Peak current | 400 mA, 100 ms ¹⁾ |
| Power consumption | 2.5 W |
| Response time | 100 ms for the first switch, 50 ms for each subsequent switch ²⁾ |
| Release time | 600 ms |
| Risk time | 100 ms |
| Switch-on time | 7 s |
| Locking principle | Power to lock |

¹⁾ During switching on, locking, or unlocking.

²⁾ Time until the outputs are switched off.

Mechanical data

| | |
|------------------------------|--------------------------------------|
| Weight | 0.4 kg |
| Housing material | ABS |
| Locking bolt material | Stainless steel 304 |
| Mechanical life | 5 x 10 ⁵ switching cycles |

Ambient data

| | |
|--------------------------------------|---|
| Enclosure rating | IP66, IP67, IP69K (IEC 60529, IEC 60529, IEC 60529) |
| Ambient operating temperature | 0 °C ... +55 °C |
| Storage temperature | -25 °C ... +75 °C |

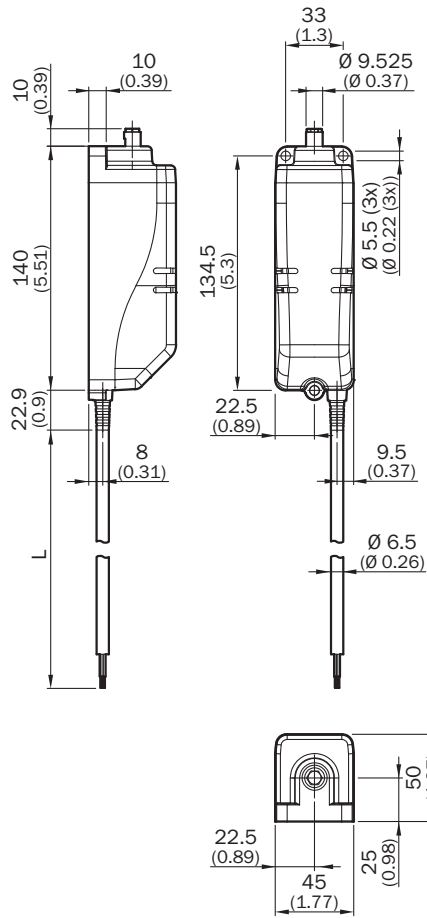
| | |
|-----------------------------|---------------------------------|
| Vibration resistance | 10 Hz ... 55 Hz (IEC 60068-2-6) |
| Shock resistance | 30 g, 11 ms (EN 60068-2-27) |
| EMC | IEC 60947-5-3 |

Classifications

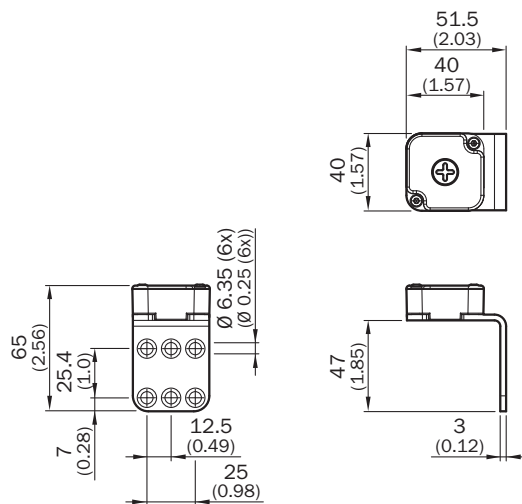
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27272603 |
| ECLASS 5.1.4 | 27272603 |
| ECLASS 6.0 | 27272603 |
| ECLASS 6.2 | 27272603 |
| ECLASS 7.0 | 27272603 |
| ECLASS 8.0 | 27272603 |
| ECLASS 8.1 | 27272603 |
| ECLASS 9.0 | 27272603 |
| ECLASS 10.0 | 27272603 |
| ECLASS 11.0 | 27272603 |
| ECLASS 12.0 | 27272603 |
| ETIM 5.0 | EC002593 |
| ETIM 6.0 | EC002593 |
| ETIM 7.0 | EC002593 |
| ETIM 8.0 | EC002593 |
| UNSPSC 16.0901 | 39122205 |

Dimensional drawing (Dimensions in mm (inch))

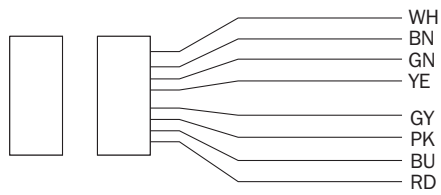
Sensor with cable



Actuator and mounting bracket



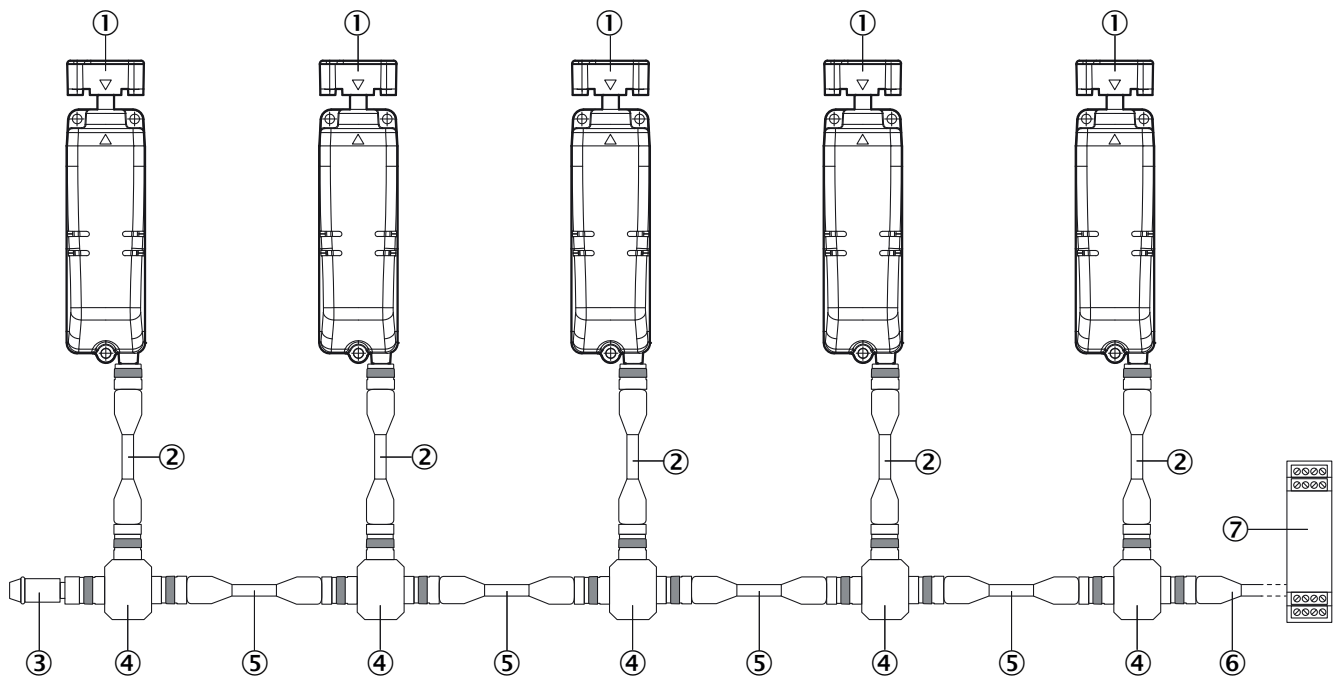
Pin assignment



| | |
|--------|------------------------|
| White | Aux output (not safe) |
| Brown | Voltage supply 24 V DC |
| Green | Lock control |
| Yellow | OSSD 2 input |
| Gray | OSSD 1 output |
| Pink | OSSD 2 output |
| Blue | Voltage supply 0 V DC |
| Red | OSSD 1 input |

Series connection

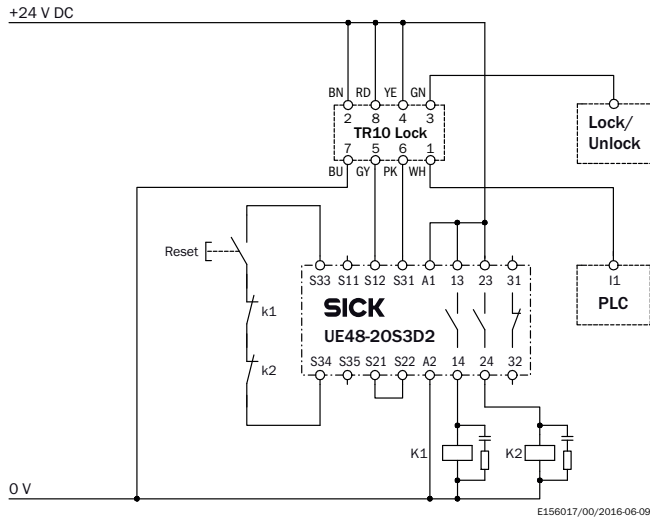
Series connection with T-piece (without diagnostics)



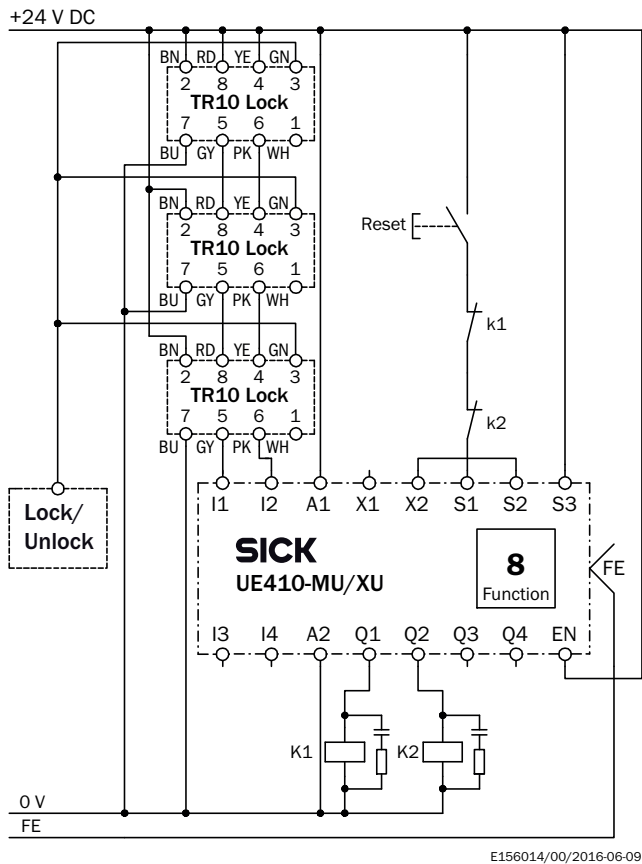
- ① TR10 Lock safety locking device
- ② Connection cable with 8-pin, M12 male connector and 8-pin, M12 female connector (e.g., DSL-1208-xxxx)
- ③ MLP1-XXT end connector
- ④ STR1-XXA T-connector
- ⑤ Connection cable with 5-pin, M12 male connector and 5-pin, M12 female connector (e.g., DSL-1205-xxxx)
- ⑥ Connecting cable with M12 female connector, 5-pin and flying leads (e.g., DOL-1205-xxxx)
- ⑦ Safe evaluation unit

Connection diagram

TR10 Lock safety locking device to UE48-20S safety relay



Series connection of three TR10 Lock safety locking devices to a Flexi Classic safety controller



Recommended accessories

Other models and accessories → www.sick.com/TR10_Lock

| Brief description | Type | Part no. |
|---|-----------------------|----------|
| Nuts and screws | | |
| 10 pieces, Safety screws for mounting bracket of actuator | Safety screws M5 x 10 | 5334497 |

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