



TR10-SLU03P

TR10 Lock

SAFETY LOCKING DEVICES

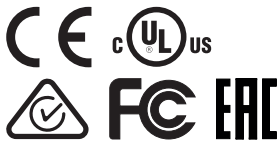
SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|-------------|----------|
| TR10-SLU03P | 6054766 |

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 | Uniquely 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 | High 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 | 3 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 |

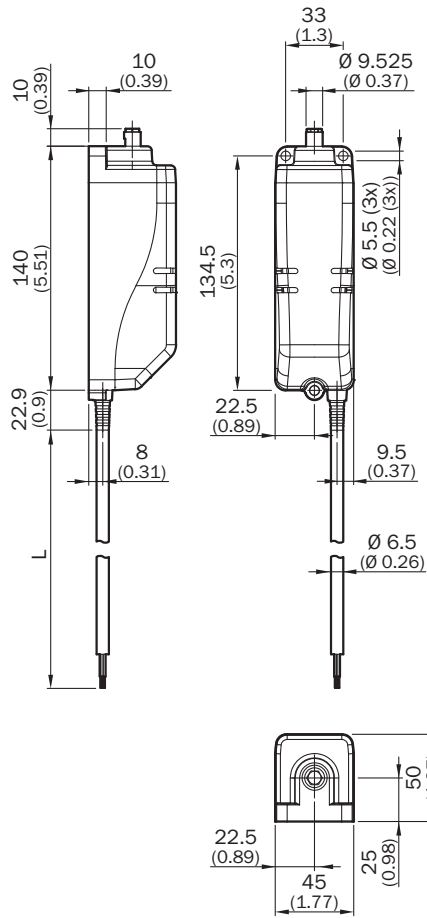
| | |
|-----------------------------|---------------------------------|
| Vibration resistance | 10 Hz ... 55 Hz (IEC 60068-2-6) |
| Shock resistance | 30 g, 11 ms (EN 60068-2-27) |
| EMC | IEC 60947-5-3 |

Classifications

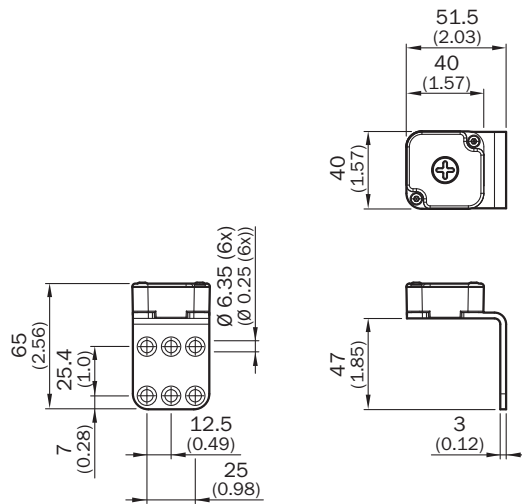
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27272603 |
| ECLASS 5.1.4 | 27272603 |
| ECLASS 6.0 | 27272603 |
| ECLASS 6.2 | 27272603 |
| ECLASS 7.0 | 27272603 |
| ECLASS 8.0 | 27272603 |
| ECLASS 8.1 | 27272603 |
| ECLASS 9.0 | 27272603 |
| ECLASS 10.0 | 27272603 |
| ECLASS 11.0 | 27272603 |
| 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))

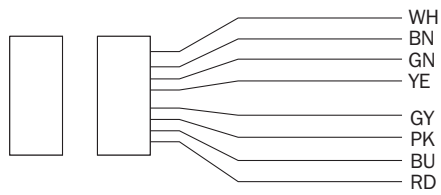
Sensor with cable



Actuator and mounting bracket



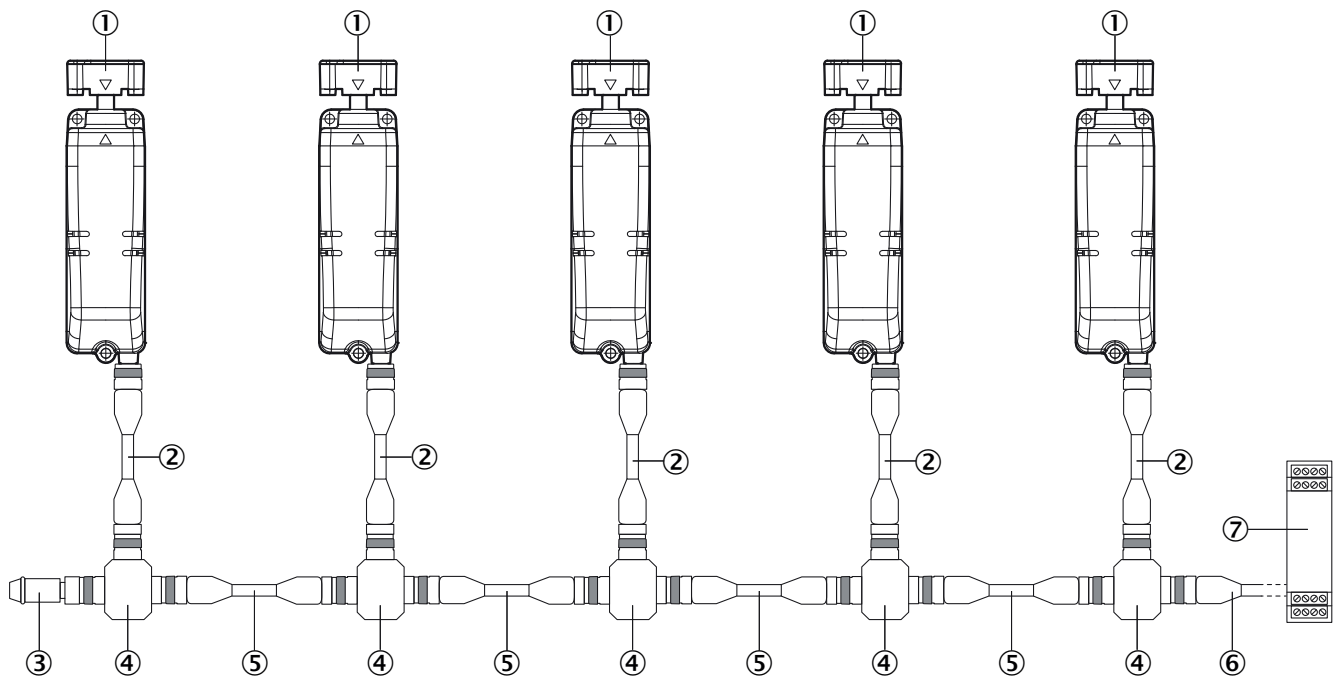
Pin assignment



| | |
|--------|------------------------|
| 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

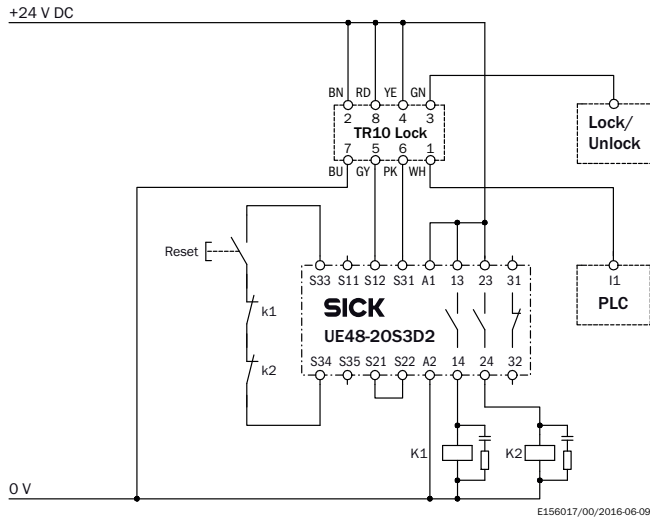
Series connection with T-piece (without diagnostics)



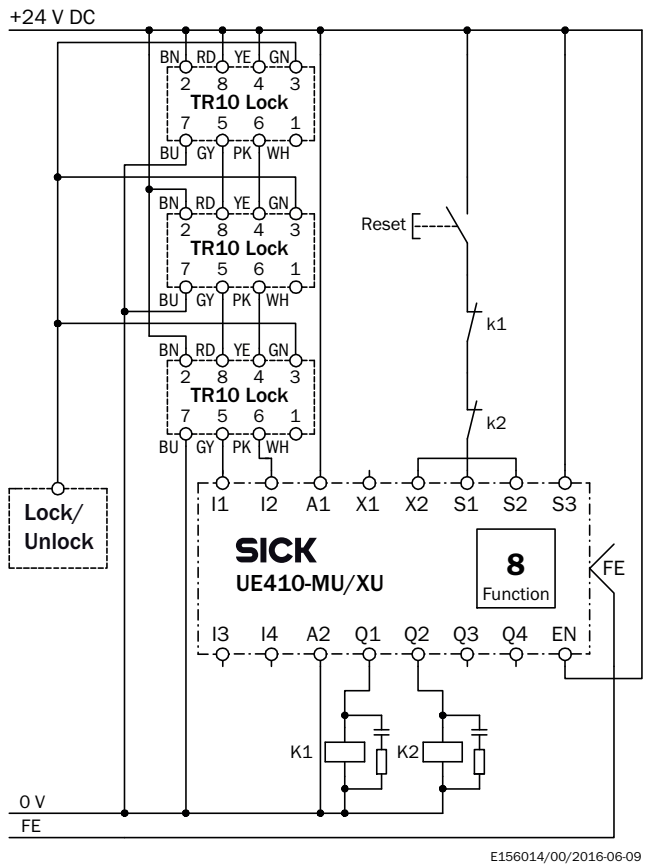
- ① TR10 Lock safety locking device
- ② Connection cable with 8-pin, M12 male connector and 8-pin, M12 female connector (e.g., DSL-1208-xxxx)
- ③ MLP1-XXT end connector
- ④ STR1-XXA T-connector
- ⑤ Connection cable with 5-pin, M12 male connector and 5-pin, M12 female connector (e.g., DSL-1205-xxxx)
- 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 |

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com