



# TR10-SLM01C

TR10 Lock

SAFETY LOCKING DEVICES

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
TR10-SLM01C	6054761

Other models and accessories → [www.sick.com/TR10\\_Lock](http://www.sick.com/TR10_Lock)

### Detailed technical data

#### Features

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

#### Safety-related parameters

<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (EN 62061)
<b>Category</b>	Category 4 (EN ISO 13849)
<b>Performance level</b>	PL e (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$9.1 \times 10^{-10}$ (EN ISO 13849)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Type</b>	Type 4 (EN ISO 14119)
<b>Actuator coding level</b>	Low coding level (EN ISO 14119)
<b>Safe state in the event of a fault</b>	At least one safety-related semiconductor output (OSSD) is in the OFF state.

#### Functions

<b>Safe series connection</b>	With T-connector (without diagnostics) With Flexi Loop (with diagnostics)
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#### Interfaces

<b>Connection type</b>	Cable with plug M12, 8-pin
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Length of cable	0.2 m
Cable material	PVC
Long connecting cable	≤ 200 m
<b>Diagnostics indicator</b>	✓
<b>Status display</b>	✓

#### Electrical data

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

<sup>1)</sup> During switching on, locking, or unlocking.

<sup>2)</sup> Time until the outputs are switched off.

#### Mechanical data

<b>Weight</b>	+ 0.4 kg
<b>Housing material</b>	ABS
<b>Locking bolt material</b>	Stainless steel 304
<b>Mechanical life</b>	5 x 10 <sup>5</sup> switching cycles

#### Ambient data

<b>Enclosure rating</b>	IP66 (IEC 60529) IP67 (IEC 60529) IP69K (IEC 60529)
<b>Ambient operating temperature</b>	0 °C ... +55 °C
<b>Storage temperature</b>	-25 °C ... +75 °C
<b>Vibration resistance</b>	10 Hz ... 55 Hz (IEC 60068-2-6)
<b>Shock resistance</b>	30 g, 11 ms (EN 60068-2-27)
<b>EMC</b>	IEC 60947-5-3

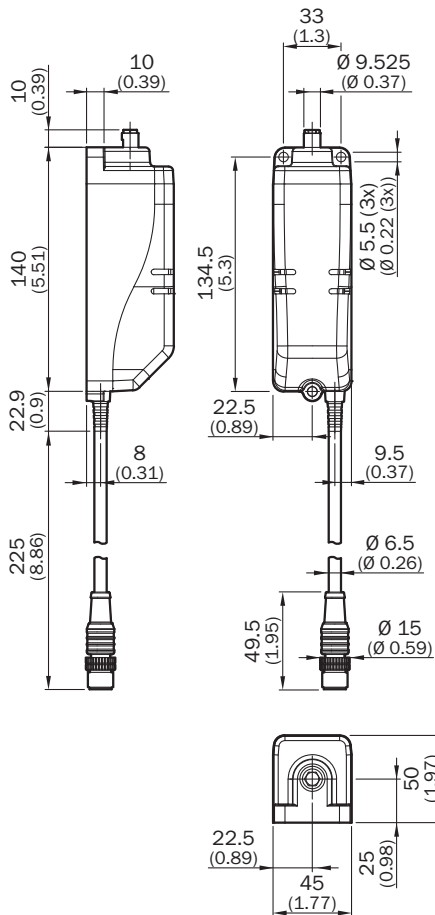
#### Classifications

<b>ECl@ss 5.0</b>	27272603
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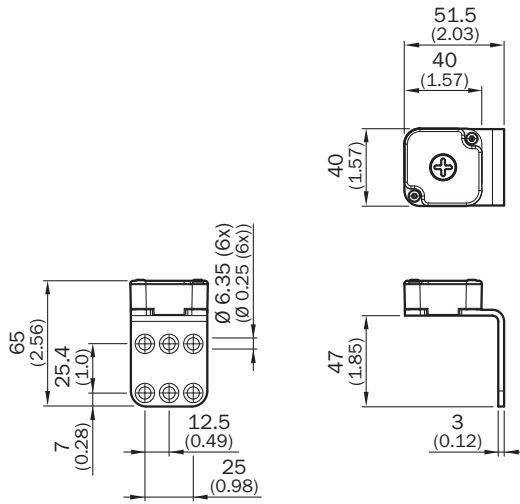
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<b>ECl@ss 8.0</b>	27272603
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<b>ECl@ss 9.0</b>	27272603
<b>ECl@ss 10.0</b>	27272603
<b>ECl@ss 11.0</b>	27272603
<b>ETIM 5.0</b>	EC002593
<b>ETIM 6.0</b>	EC002593
<b>ETIM 7.0</b>	EC002593
<b>ETIM 8.0</b>	EC002593
<b>UNSPSC 16.0901</b>	39122205

### Dimensional drawing (Dimensions in mm (inch))

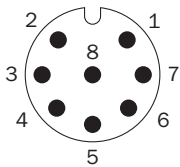
Sensor with cable and male connector



Actuator and mounting bracket



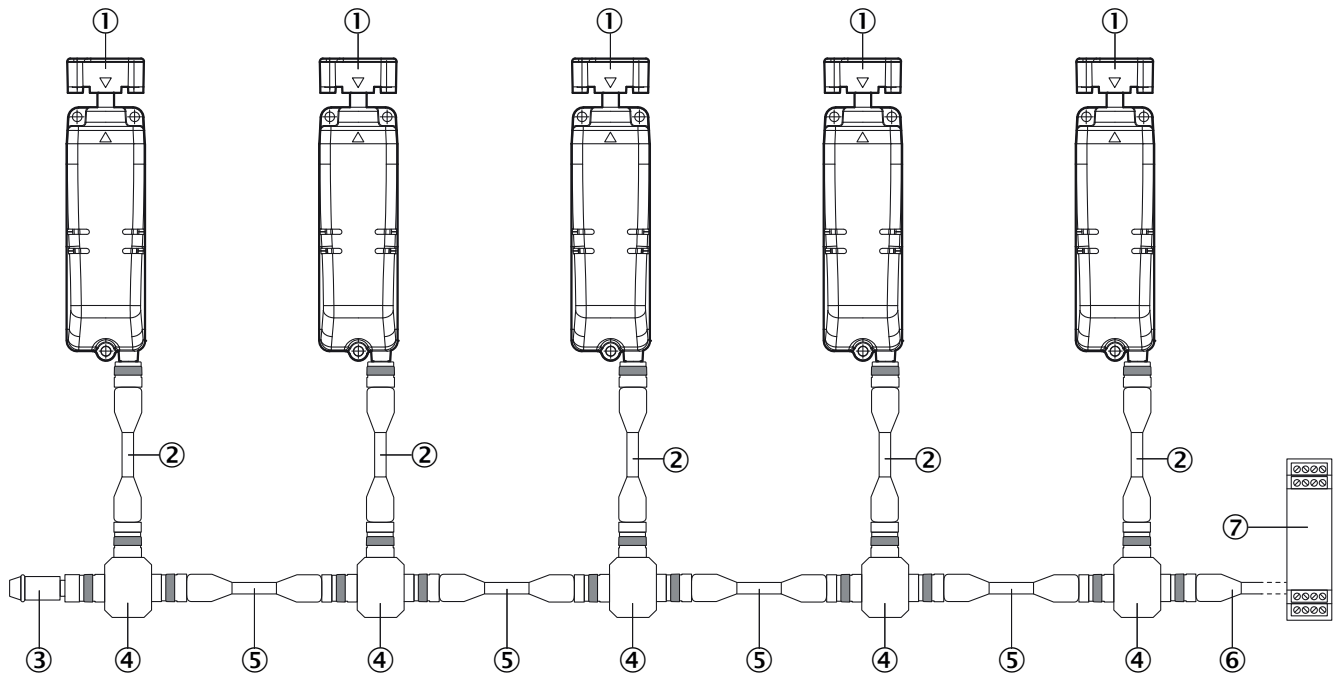
Connection diagram



1	Aux output (not safe)
2	Voltage supply 24 V DC
3	Lock control
4	OSSD 2 input
5	OSSD 1 output
6	OSSD 2 output
7	Voltage supply 0 V DC
8	OSSD 1 input

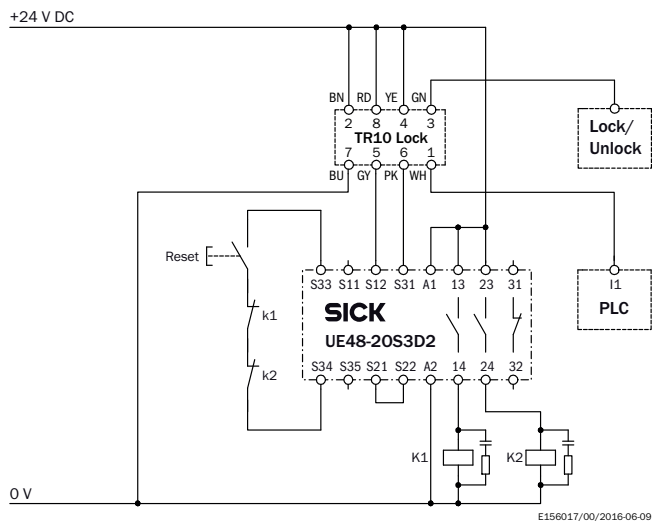
### Series connection

Series connection with T-piece (without diagnostics)

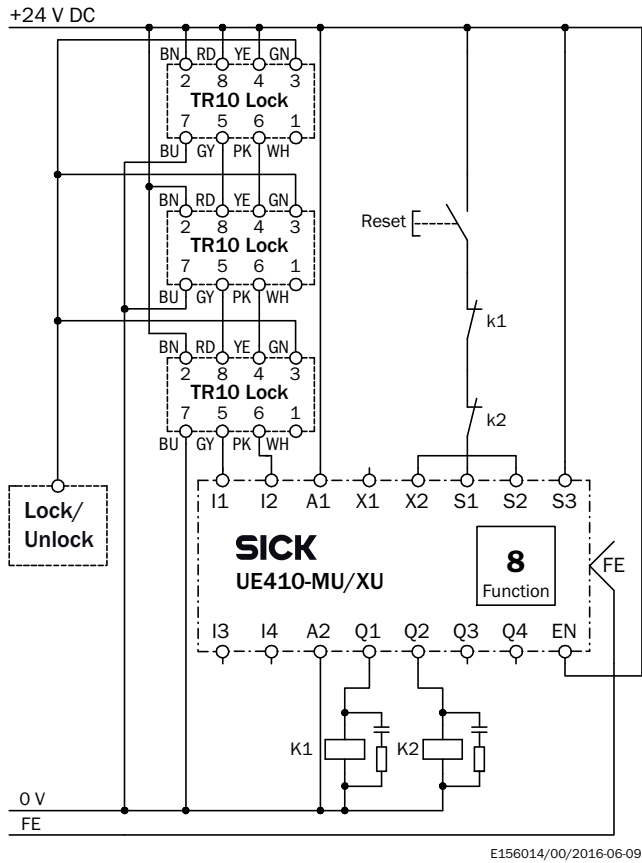


- ① TR10 Lock safety locking device
- ② Connection cable with 8-pin, M12 male connector and 8-pin, M12 female connector (e.g., DSL-1208-xxxx)
- ③ MLP1-XXT end connector
- ④ STR1-XXA T-connector
- ⑤ Connection cable with 5-pin, M12 male connector and 5-pin, M12 female connector (e.g., DSL-1205-xxxx)
-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

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](http://www.sick.com/TR10_Lock)

	Brief description	Type	Part no.
Nuts and screws			
	<ul style="list-style-type: none"> <li><b>Description:</b> Safety screws for mounting bracket of actuator</li> <li><b>Packing unit:</b> 10 pieces</li> </ul>	Safety screws M5 x 10	5334497
Plug connectors and cables			
		DOL-1208-G2M5C	6058863
		YF2A18-050UA5XLEAX	2095653
		YF2A18-100UA5XLEAX	2095654
		YF2A18-200UA5XLEAX	2095680

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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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)