



DATA SHEET

# TR10-SLM10P

TR10 Lock  
Safety locking devices

## SAFETY LOCKING DEVICES

## TR10-SLM10P

## ORDERING INFORMATION

Type	part no.
TR10-SLM10P	6054760

Further device versions and accessories at [www.sick.com/TR10\\_Lock](http://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	$\geq 2$ 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 <sub>d</sub> (mean probability of a dangerous failure per hour)	$9,1 \times 10^{-10}$
$T_m$ (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 <sup>2</sup>
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	✓

**ELECTRONICS**

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 <sup>1)</sup>
Power consumption	2.5 W
Response time	100 ms for the first switch, 50 ms for each subsequent switch <sup>2)</sup>
Release time	600 ms
Risk time	100 ms
Switch-on time	7 s
Locking principle	Power to lock

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

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

**MECHANICS**

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

**AMBIENT DATA**

Enclosure rating	IP66, IP67, IP69K (IEC 60529, IEC 60529, IEC 60529)
Ambient operating temperature	0 °C ... +55 °C

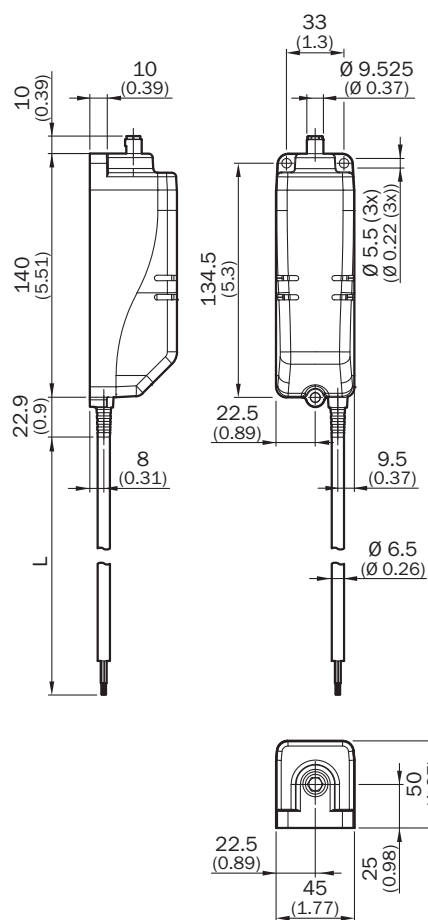
# SAFETY LOCKING DEVICES - TR10-SLM10P

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

## CERTIFICATES

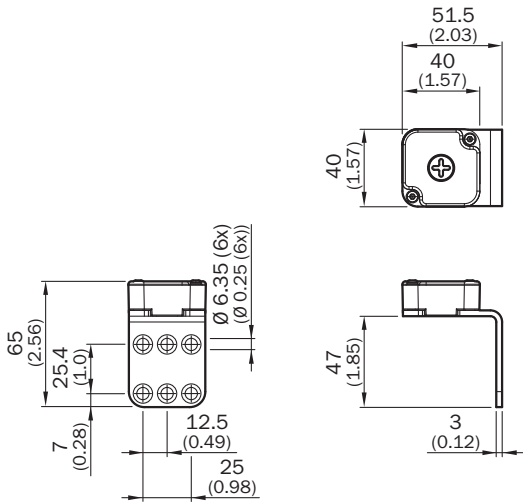
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Third party certificate	✓

## DIMENSIONAL DRAWING SENSOR WITH CABLE



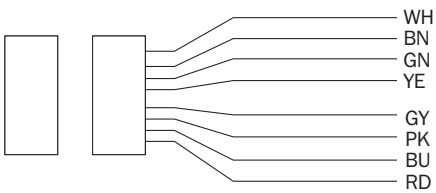
Dimensions in mm (inch)

**DIMENSIONAL DRAWING ACTUATOR AND MOUNTING BRACKET**



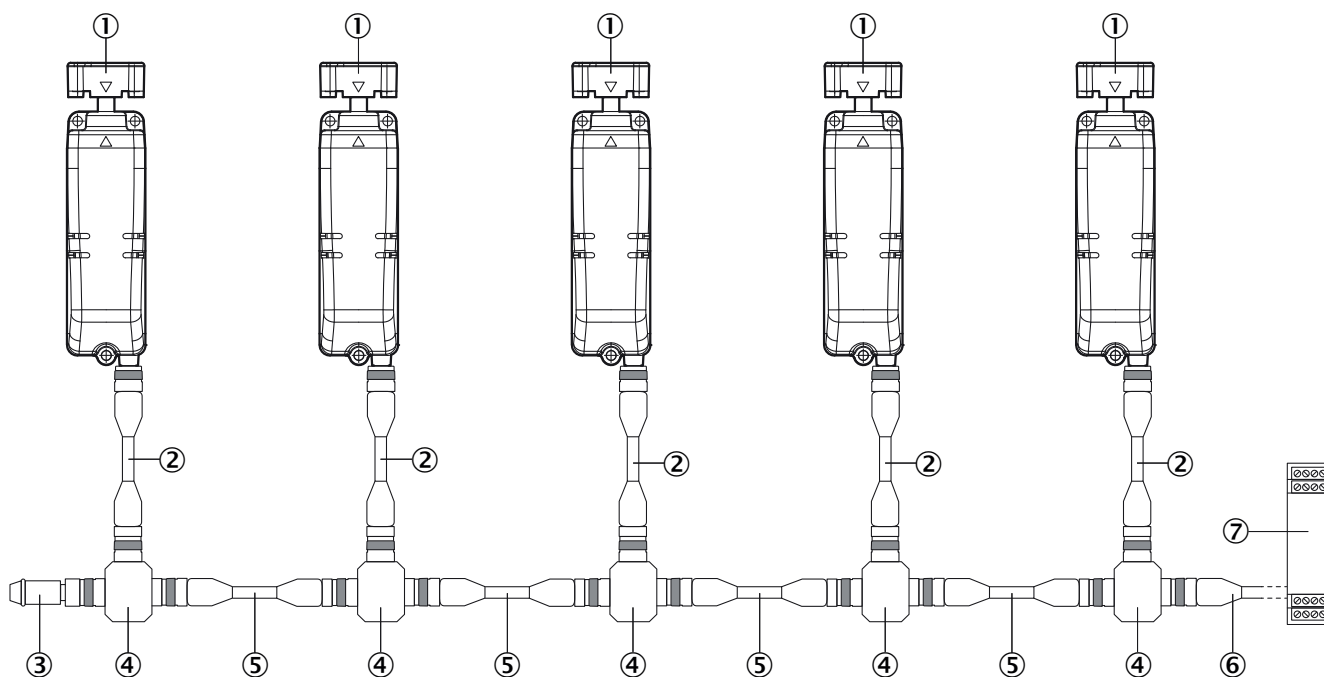
Dimensions in mm (inch)

**PINOUTS**



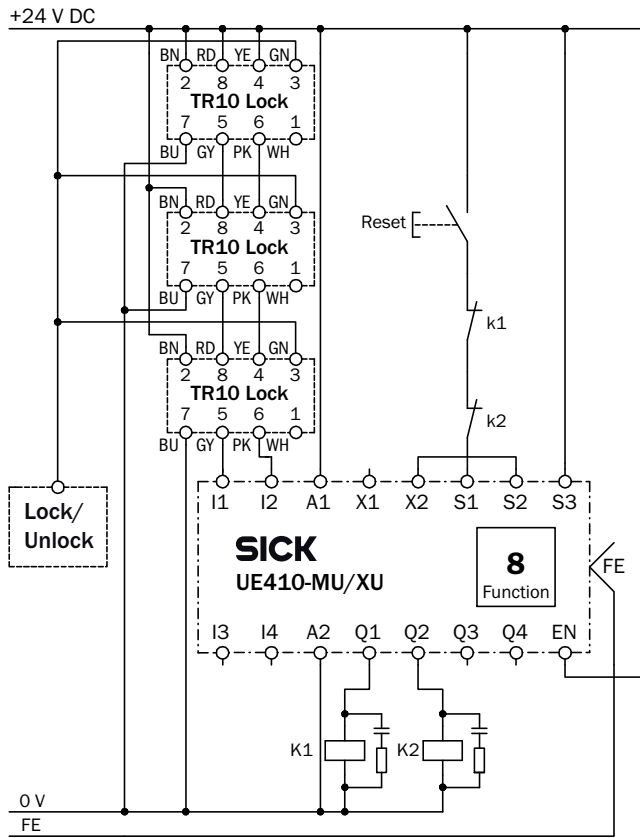
White	Aux output (not safe)
Brown	Voltage supply 24 V DC
Green	Lock control
Yellow	OSSD 2 input
Gray	OSSD 1 output
Pink	OSSD 2 output
Blue	Voltage supply 0 V DC
Red	OSSD 1 input

**SERIES CONNECTION 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-xxxxx)
- 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-xxxxx)
- ⑥ connecting cable with M12 female connector, 5-pin and flying leads (e.g., DOL-1205-xxxxx)
- ⑦ Safe evaluation unit

**CONNECTION DIAGRAM SERIES CONNECTION OF THREE TR10 LOCK SAFETY LOCKING DEVICES TO A FLEXI CLASSIC SAFETY CONTROLLER**



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Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6054760](http://www.sick.com/6054760)



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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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Sensor Intelligence