TR10-SRU10P

TR10 Lock

SAFETY LOCKING DEVICES

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
TR10-SRU10P	6054763

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

Detailed technical data

Features

Sensor principle	RFID
Locking principle	Power to release
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 connections	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 mm²
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 [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 release

[1] During switching on, locking, or unlocking.
[2] 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 10^5 switching cycles

Ambient data

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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))
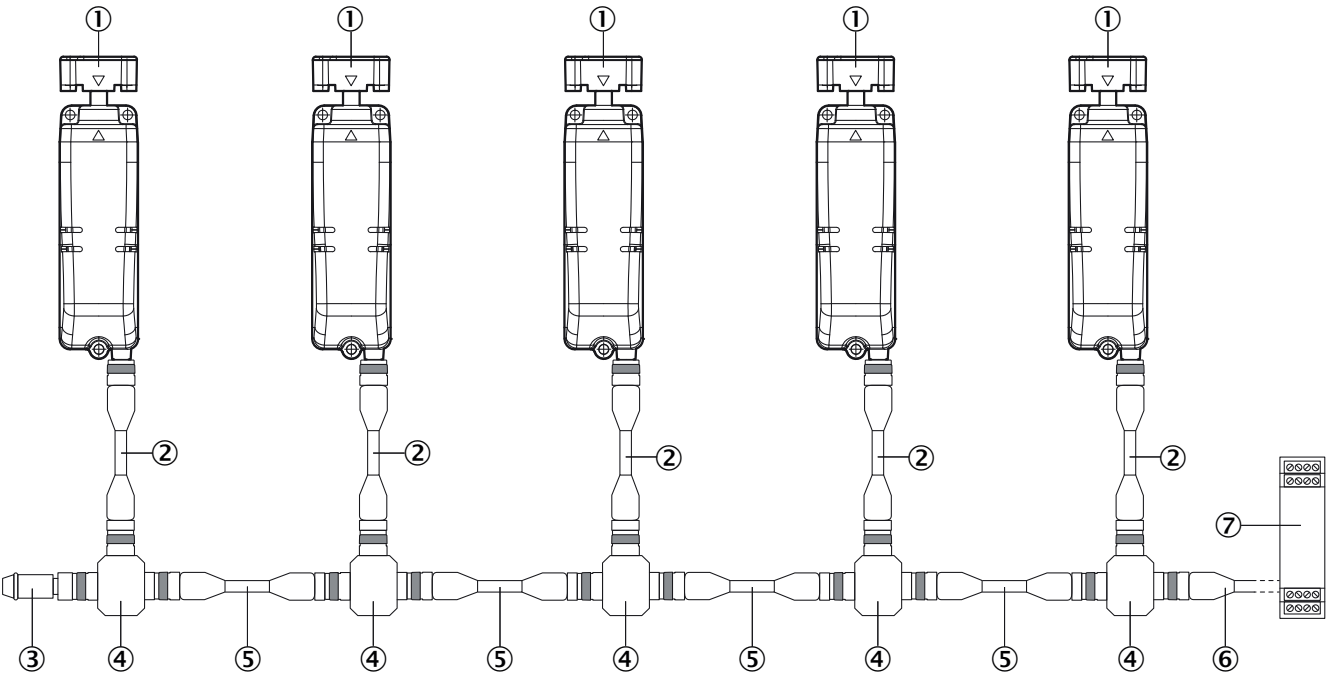
Sensor with cable
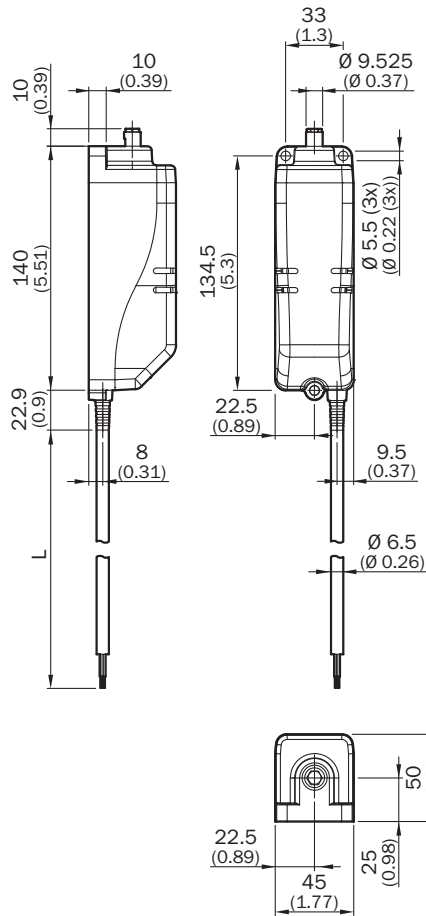
Actuator and mounting bracket
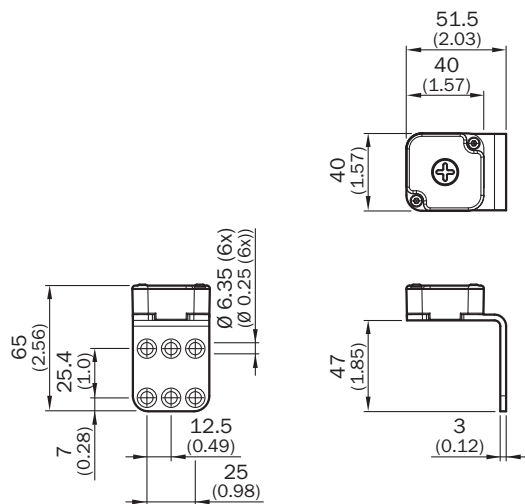
Pinouts
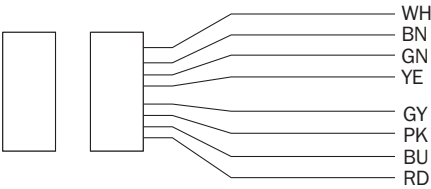
|	
White	Aux output (not safe)
Brown	Voltage supply 24 V DC
Green	Lock control
Yellow	OSSD 2 input
Gray	OSSD 1 output
Pink	OSSD 2 output
Blue	Voltage supply 0 V DC
Red	OSSD 1 input

Series connection

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

E156014/00/2016-06-09
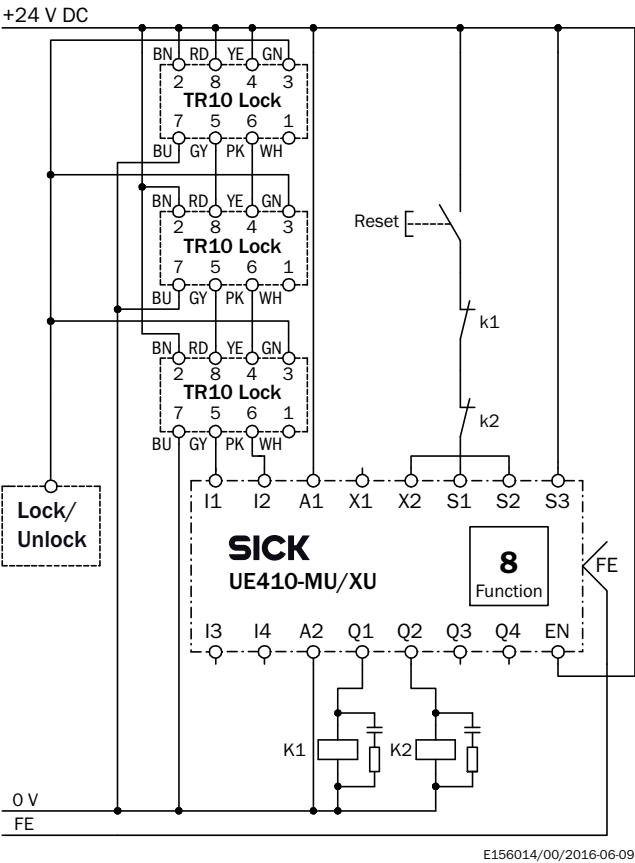
Recommended accessories

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

Brief description	Type	Part no.
Others		
• **Product family:** Assembly accessories • **Description:** Safety screws for mounting bracket of actuator • **Packing unit:** 10 pieces	Safety screws M5 x 10	5334497

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