SICK.COM

DATA SHEET

TR10-SLU01C

TR10 Lock
Safety locking devices

SICK Sensor Intelligence

SAFETY LOCKING DEVICES

TR10-SLU01C

ORDERING INFORMATION

Type	part no.
TR10-SLU01C	6054768

Further device versions and accessories at 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	With T-connector (without diagnostics) With Flexi Loop (with diagnostics)

INTERFACES

Connection type	Cable with plug M12, 8-pin
Length of cable	0.2 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 lock

[1] During switching on, locking, or unlocking.

[2] Time until the outputs are switched off.

MECHANICS

Weight	+ 0.4 kg
Material	
Housing	ABS
Locking bolt	Stainless steel 304
Mechanical life	5 x 10^5 switching cycles

AMBIENT DATA

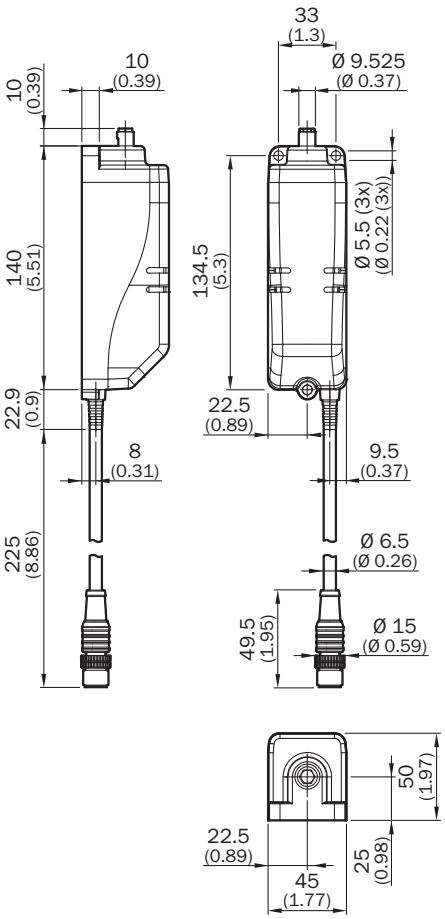
Enclosure rating	IP66 (IEC 60529) IP67 (IEC 60529) IP69K (IEC 60529)
Ambient operating temperature	0 °C ... +55 °C
Storage temperature	–25 °C ... +75 °C
Vibration resistance	10 Hz ... 55 Hz (IEC 60068-2-6)
Shock resistance	30 g, 11 ms (EN 60068-2-27)

EMC	IEC 60947-5-3

CERTIFICATES

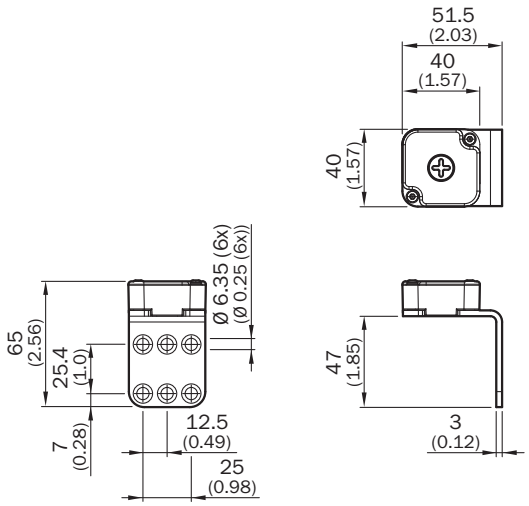
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Third party certificate	✓

DIMENSIONAL DRAWING SENSOR WITH CABLE AND MALE CONNECTOR



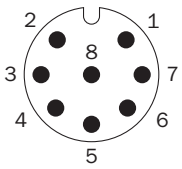
Dimensions in mm (inch)

DIMENSIONAL DRAWING ACTUATOR AND MOUNTING BRACKET



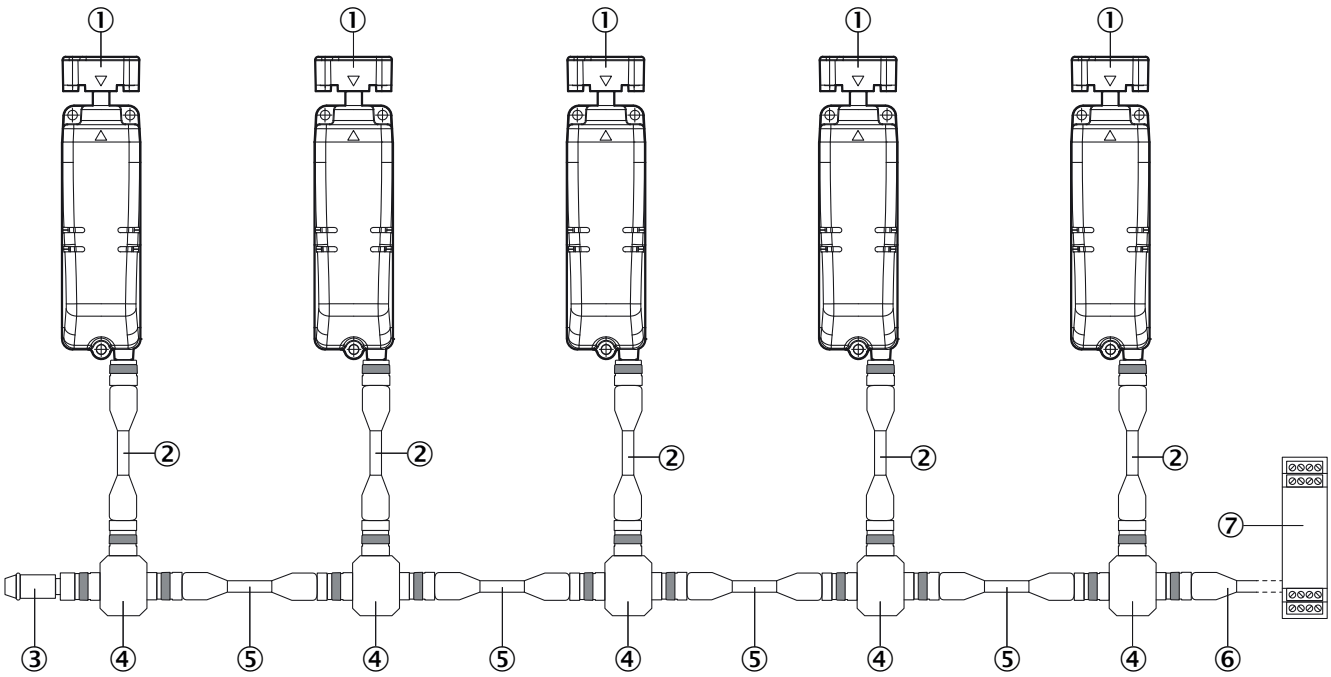
Dimensions in mm (inch)

PINOUTS



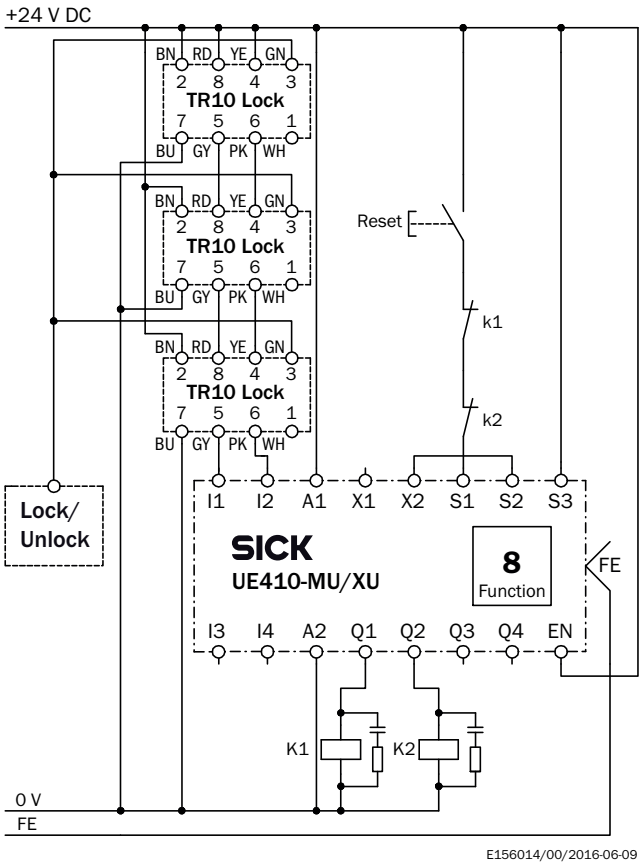
1	Aux output (not safe)
2	Voltage supply 24 V DC
3	Lock control
4	OSSD 2 input
5	OSSD 1 output
6	OSSD 2 output
7	Voltage supply 0 V DC
8	OSSD 1 input

SERIES CONNECTION 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



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/6054768

SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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

SICK

Sensor Intelligence