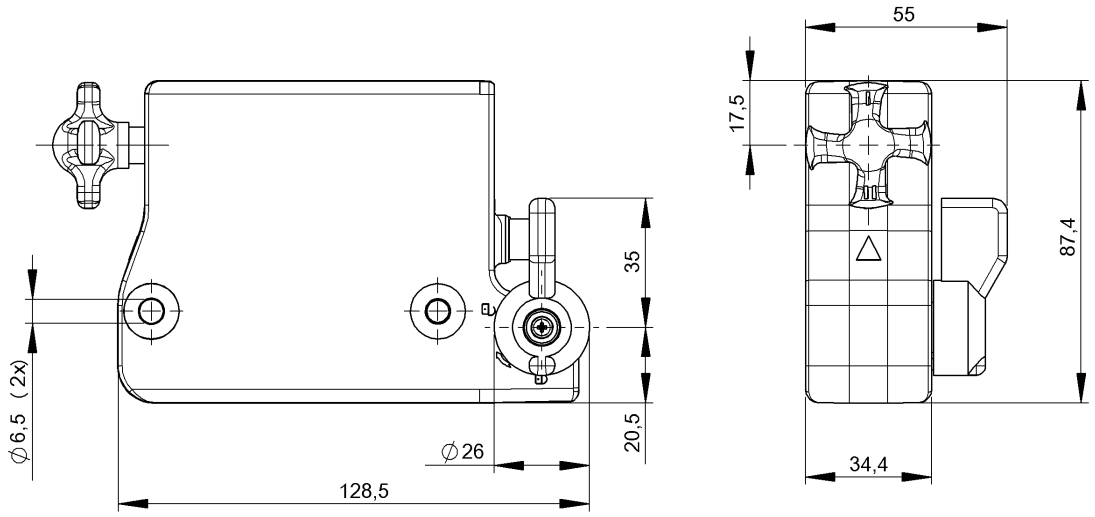
Safety Guard Locking Devices

BID Z01K-4R3M3R-O02KZ0-S115
Order Code: BID0013



Basic features

Additional features	expanded diagnostic function: blink codes red/yellow LED
Approval/Conformity	CE cULus TÜV Ecolab WEEE
Guard locking, principle	yes, spring force (power to unlock)
Operating principle	non-contact (RFID)
Principle of operation	RFID safety sensor
Scope of delivery	1 pc.
Series	BID Z01K
Use	Locking mechanism with interlock which prevents execution of hazardous machine functions under specified conditions and holds a separating protection device in the closed position while hazardous machine functions are being performed.
Version	Guard locking device

Electrical connection

Connection	M12x1, Straight, 8-pin, A-coded
Connector configuration	Straight
Number of safe inputs	2
Number of safe outputs	2
Short-circuit protection	yes

Electrical data

Current draw max.	800 mA
Duty cycle solenoid	100 %
Min. operating current Im	0.5 mA
No-load current Io max. at Ue	100 mA
Operating voltage Ub	20.4...26.4 VDC
Protection class	III
Rated insulation voltage Ui	32 V DC
Rated operating current Ie	800 mA
Rated operating voltage Ue DC	24 V
Rated short circuit current	100 A
Rated surge voltage Uimp	800 V
Ready delay tv max.	5 s
Residual current Ir max.	500 µA
Switching current	250 mA
Switching frequency	0.5 Hz
Test pulse duration ti max.	0.5 ms
Test pulse interval T	1 s
Utilization category	DC-12: 24 V/0.25 A DC-13: 24 V/0.25 A
Voltage drop Ud max. at Ie	4 V

Environmental conditions

Ambient temperature	0...60 °C
Contamination scale	3
EN 60068-2-27, Shock	30 g, 11 ms
EN 60068-2-6, Vibration	10…150 Hz, amplitude 0.35 mm
IP rating	IP69, IP67, IP66
Storage temperature	-10...90 °C

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Functional safety

Axillary release	Triangular Key
Coding level (EN ISO 14119)	high
Device type (VDMA 66413)	1
Escape release	yes
Mission Time	20 a
No of contacts (guard locking)	2x PNP OSSD
No of contacts (safety guard)	PNP normally closed (NC)
Overvoltage category	III
PFD (IEC 61508)	4.5 E-5 1/h (for locking function) 1.8 E-4 1/h (for retention function)
PFH (IEC 61508)	5.2 E-10 1/h (for locking function) 2.0 E-9 1/h (for retention function)
PFHd (EN 62061)	5.2 E-10 1/h (for locking function) 2.0 E-9 1/h (for retention function)
Performance Level	e (for locking function) d (for retention function)
Risk time	200 ms
SIL (IEC 61508)	3 (for locking function) 2 (for retention function)
SIL CL (EN 62061)	3 (for locking function) 2 (for retention function)
Safety category (EN ISO 13849-1)	4 (for locking function) 2 (for retention function)
Type (EN ISO 14119)	4

Material

Housing material	Thermoplastic, glass-fiber reinforced

Mechanical data

Actuator retention force	25 N 50 N
Approach direction	lateral
Approach speed	30 m/min at door weight ≤ 5 kg
Dimension	87.5 x 129 x 35 mm
Holding force F1 max.	1300 N
Holding force FZH	1000 N
Insertion depth min.	13 mm
Insertion tolerances	± 3.5 mm
Installation	any
Life expectancy mechanical	1 mil. switching operations
Mounting	Screw M6
Mounting holes, number	2
Sensing surface	lateral
Tightening torque	6…7 Nm
Weight	575 g
Weight	575 g

Output/Interface

Switching output	2x PNP OSSD PNP NC

Range/Distance

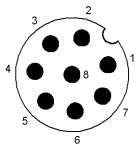
Assured operating distance Sao	1 mm
Assured switch off distance Sar	20 mm
Response time max.	100 ms

Remarks

The system may be operated only if the angle between holder and actuator is maintained at ≤ 2°.
Minimum separation between two sensor systems or another system having the same frequency (125 kHz) ≥ 70 mm or 250 mm depending on how they are arranged to each other.

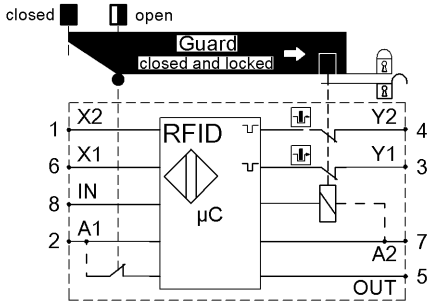
The system is suitable as a door stop for up to 5 kg at 0.5 mm/s.

Connector Drawings



PIN 1: Safety IN2
PIN 2: +UB
PIN 3: Safety OUT1
PIN 4: Safety OUT2
PIN 5: OUT3 (DIA)
PIN 6: Safety IN1
PIN 7: 0V
PIN 8: IN3 (Magnet)

Wiring Diagrams



Door closed and locked