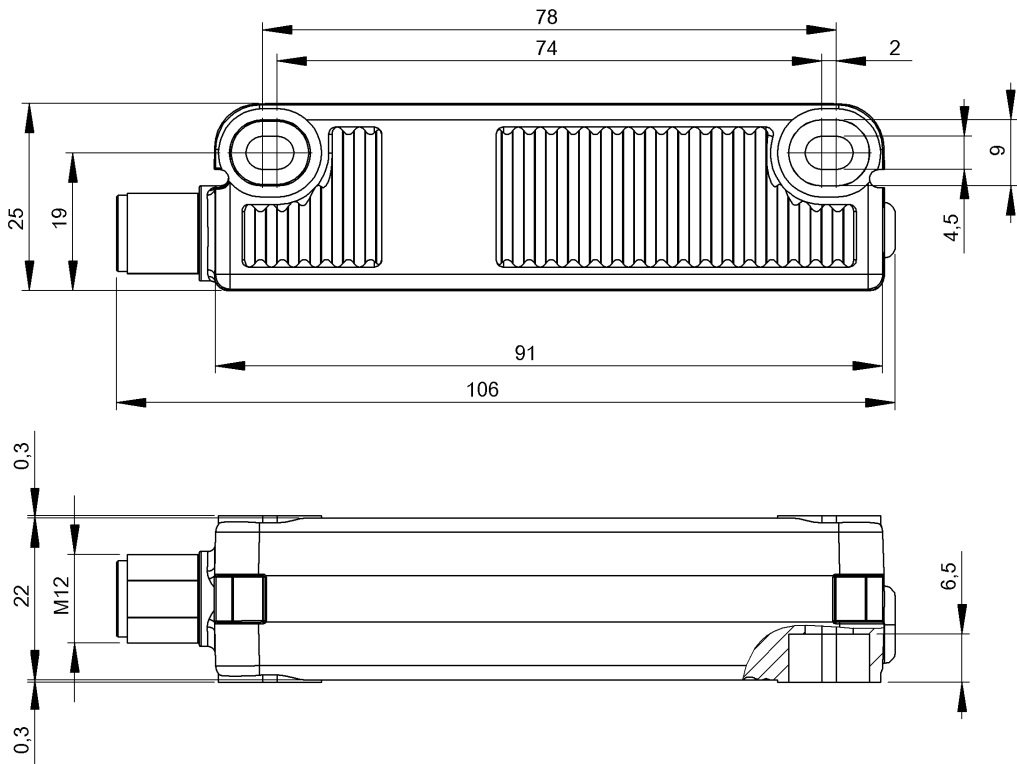




Basic features

Additional features	expanded diagnostic function: blink codes red/yellow LED
Approval/Conformity	CE cULus TÜV Ecolab WEEE
Guard locking, principle	no
Operating principle	non-contact (RFID)
Principle of operation	RFID safety sensor
Scope of delivery	1 pc.
Series	BID R03K
Use	Interlock which prevents execution of hazardous machine functions under specified conditions.
Version	Interlocking device

Electrical connection

Connection	M12x1, Straight, 5-pin, A-coded
Number of safe outputs	2
Short-circuit protection	yes

Safety Sensors
BID R03K-4R100-O20ZZ0-S92
Order Code: BID000C

BALLUFF

Electrical data

Current draw max.	600 mA
Min. operating current I_m	0.5 mA
No-load current I_o max. at U_e	35 mA
Operating voltage U_b	20.4...26.4 VDC
Protection class	III
Rated insulation voltage U_i	32 V DC
Rated operating current I_e	600 mA
Rated operating voltage U_e DC	24 V
Rated short circuit current	100 A
Rated surge voltage U_{imp}	800 V
Ready delay t_v max.	2 s
Residual current I_r max.	500 μ A
Switching current	250 mA
Switching frequency	1 Hz
Test pulse duration t_i max.	0.3 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 U_d max. at I_e	1 V

Environmental conditions

Ambient temperature	-25...70 °C
Contamination scale	3
EN 60068-2-27, Shock	30 g, 11 ms
EN 60068-2-6, Vibration	10...55 Hz, amplitude 1 mm
IP rating	IP65, IP67, IP69
Storage temperature	-25...85 °C

Functional safety

Coding level (EN ISO 14119)	low
Device type (VDMA 66413)	1
Mission Time	20 a
Overvoltage category	III
PFD (IEC 61508)	2.1 E-5 1/h
PFH (IEC 61508)	2.7 E-10 1/h
PFHd (EN 62061)	2.7 E-10 1/h
Performance Level	e
Risk time	200 ms
SIL (IEC 61508)	3
SIL CL (EN 62061)	3
Safety category (EN ISO 13849-1)	4
Type (EN ISO 14119)	4

Material

Housing material	Thermoplastic, glass-fiber reinforced
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Mechanical data

Actuator retention force	0 N
Approach direction	any to sensing surface
Dimension	106 x 25 x 22 mm
Installation	for flush mounting
Mounting holes, number	2
Mounting part	Screw M4
Sensing surface	lateral
Tightening torque	2.2...2.5 Nm
Weight	72 g

Output/Interface

Switching output	2x PNP OSSD
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Range/Distance

Assured operating distance S_{ao}	10 mm
Assured switch off distance S_{ar}	20 mm
Response time max.	100 ms

Remarks

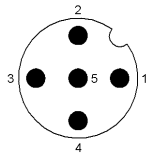
To install the sensors/actuators and lateral approach direction M4x25 mm screws are generally sufficient. For upright installed actuator and/or when using the gasket set 30 mm long screws are recommended.

Axial offset: The long side allows for a maximum height misalignment (x) of sensor and actuator of 8 mm (e.g. mounting tolerance or due to guard door sagging). The axial misalignment (y) is max. ± 18 mm. see drawing: Operating principle

Minimum separation between two sensor systems or another system having the same frequency (125 kHz) ≥ 100 mm for lateral approach.

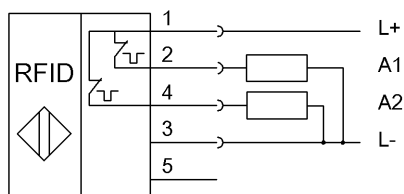
The system is suitable as a door stop for up to 5 kg at 0.25 mm/s.

Connector Drawings



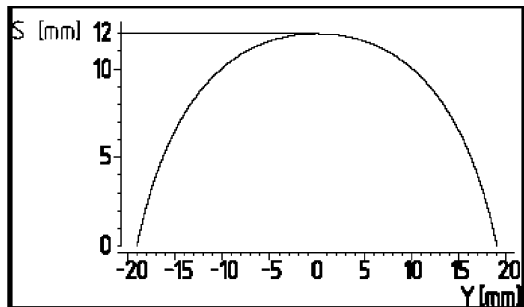
PIN 1: +UB
 PIN 2: Output 1 OSSD
 PIN 3: 0V
 PIN 4: Output 2 OSSD
 PIN 5: n.c.

Wiring Diagrams

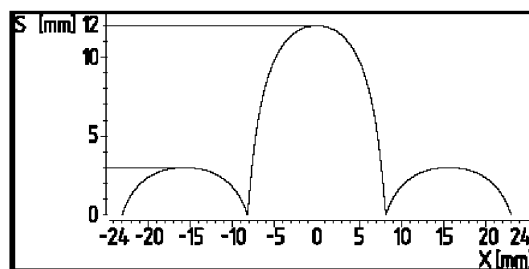


Shown in damped state

Technical Drawings



Distance characteristic



Distance characteristic