

# MQ2003



## Magnetic sensor

MQ23005BFRKG/B/AM/IO/WFI/ZH



- 1 LED green
- 2 LED yellow



### Product characteristics

Electrical design	PNP/NPN; (parameterisable)
Output function	normally open / normally closed; (parameterisable)
Sensing range [mm]	5
Communication interface	IO-Link
Housing	rectangular
Dimensions [mm]	20 x 8 x 32

### Application

Special feature	anti-spatter
Media	ferrous only

### Electrical data

Operating voltage [V]	10...30 DC
Rated insulation voltage [V]	60
Current consumption [mA]	< 30
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.3

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Outputs		
Electrical design	PNP/NPN; (parameterisable)	
Output function	normally open / normally closed; (parameterisable)	
Max. voltage drop switching output DC [V]	2.5	
Max. leakage current [mA]	0.1	
Permanent current rating of switching output DC [mA]	100	
Short-time current rating of switching output [mA]	100	
Switching frequency DC [Hz]	300	
Notes on switching frequency	suppression of extraneous fields: 10	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
Overload protection	yes	
Detection zone		
Sensing range [mm]	5	
Real sensing range Sr [mm]	5 ± 10 %	
Operating distance [mm]	0...4.05	
Accuracy / deviations		
Correction factor	steel: 1	
Hysteresis [% of Sr]	< 10	
Switch point drift [% of Sr]	10	
Repeatability [% of Sr]	10	
Software / programming		
Parameter setting options	hysteresis / window; switch-off delay; Switch-on and switch-off delay; switch-on operations; Teach function	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9 CDV	
Profiles	Smart Sensor: Identification and diagnosis; Multi-channel, two setpoint switching sensor, type 0 Generic Profiled Sensor; Teach Channel	
SIO mode	yes	
Required master port type	A	
Min. process cycle time [ms]	9.6	
IO-Link functions (cyclical)	function	bit length
	process value	16
	device status	4
	binary switching information	4
IO-Link functions (acyclical)	application specific tag; operating hours counter; switching cycles counter	
Supported DeviceIDs	Type of operation	IO-Link device ID
	Default	829d / 00033Dh
Note	For further information please see the IODD PDF file at "Downloads"	

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Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-30...85
Protection		IP 65; IP 67
Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	10 V
	EN 55011	class B
Vibration resistance	EN 60068-2-6 Fc	20 g (10...3000 Hz) / 50 sweep cycles per frequency; 1 octave per minute in 3 axes
Shock resistance	EN 60068-2-27 Ea	100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes
Continuous shock resistance	EN 60068-2-27	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes
MTTF	[years]	1976
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL Approval no.	C011
	File number UL	E174191
Mechanical data		
Weight	[g]	81.7
Housing		rectangular
Mounting		flush mountable
Dimensions	[mm]	20 x 8 x 32
Materials		diecast zinc anti-spatter; LED window: TPU; potting: PUR
Displays / operating elements		
Display	Display operation	1 x LED, green
	switching status	1 x LED, yellow
Remarks		
Pack quantity		1 pcs.

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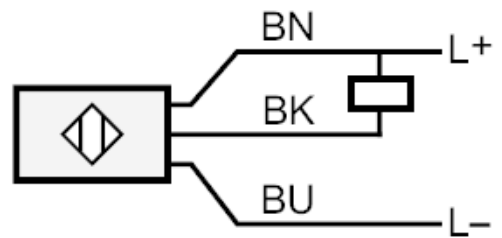
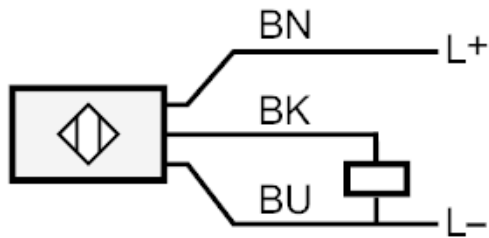
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### Electrical connection

Cable: 2 m, PUR, Ø 4.9 mm; flame-retardant (IEC 60332-2, UL: FT2); 3 x 0.34 mm<sup>2</sup>

### Connection



#### Core colours

BK	black OUT / IO-Link
BN	brown
BU	blue