

MQ2005



Magnetic sensor

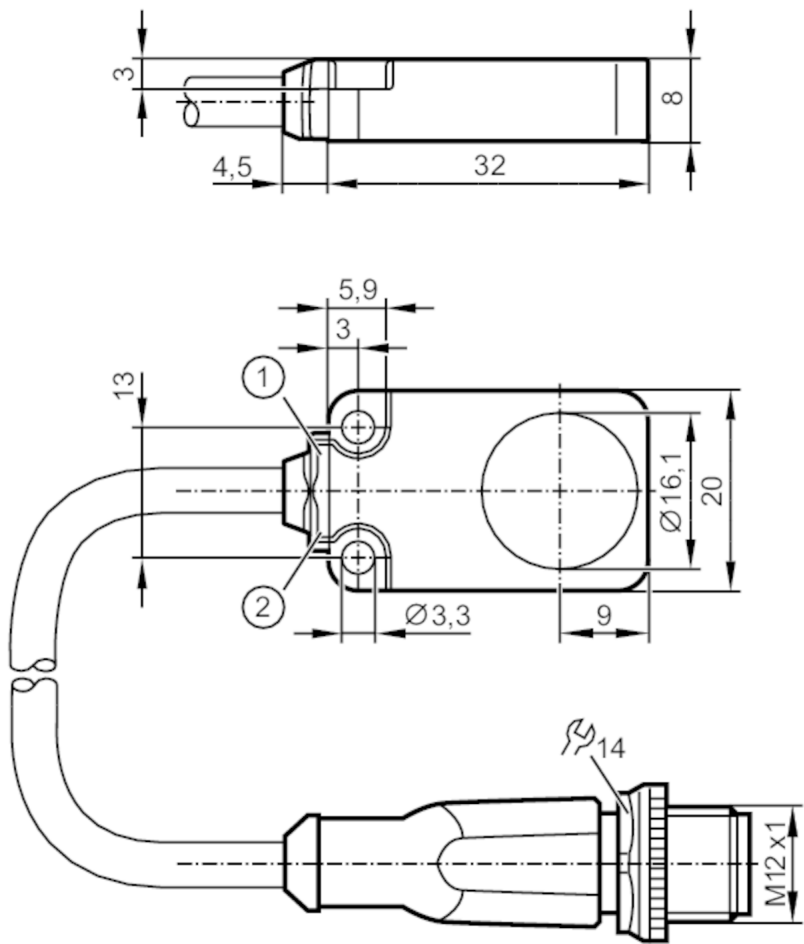
MQ23005BFRKG/B/AM/IO/0,3M/ZH/US

phase-out article

Discontinuation date: 03/31/2025

Alternative articles: IQ2012

When selecting an alternative article and accessories please note that technical data may differ!



- 1 LED yellow
- 2 LED green



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

Media	ferrous only
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Electrical data

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

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]	200
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...20
Repeatability	[% of Sr]	10

Software / programming

Parameter setting options		hysteresis / window; switch-off delay; switch-on operations; Auto-teach
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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 - SSP 0	Generic Profiled Sensor
	Common - I&D	Identification and Diagnosis
	Function	Multiple switching signal
	Function	Teach channel
SIO mode		yes
Required master port type		A
Min. process cycle time	[ms]	9.6

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IO-Link process data (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	DeviceID
	default	830
Note	For further information please see the IODD PDF file under "Downloads"	

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, 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
	power supply	Limited Voltage/Current
	UL approval no.	C010
	File number UL	E174191

Mechanical data		
Weight	[g]	44.9
Housing		rectangular
Mounting		flush mountable
Dimensions	[mm]	20 x 8 x 32
Materials		diecast zinc; 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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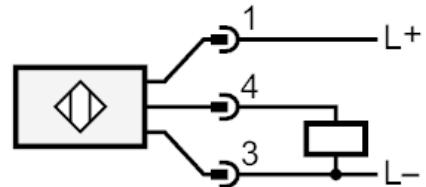
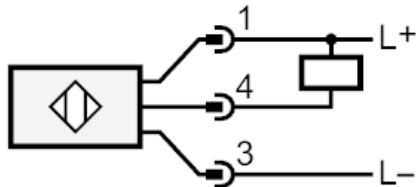
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Electrical connection

Cable: 0.3 m, PUR, Ø 4.9 mm; flame-retardant (IEC 60332-2, UL: FT2)

Connection



4 OUT / IO-Link

Connector: 1 x M12; coding: A; Locking: knurled nut, rotatable

