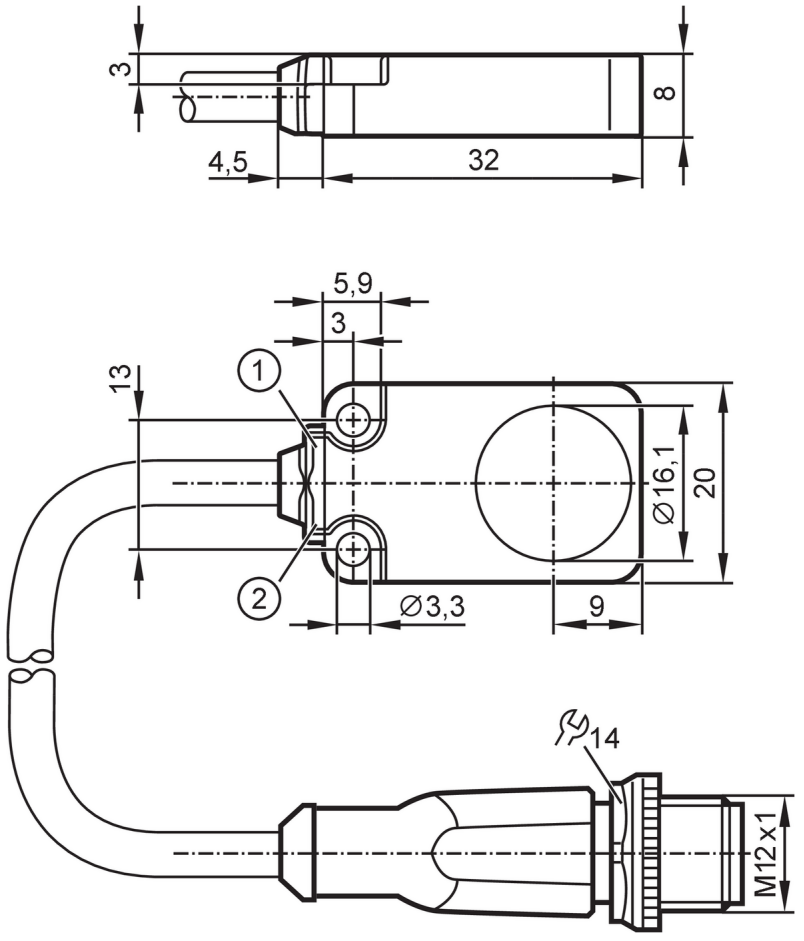
MQ2004

Magnetic sensor

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

phase-out article

Alternative articles: IQW201
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		
Application		Use in welding applications; ferrous only
Electrical data		
Operating voltage	[V]	10...30 DC
Rated insulation voltage	[V]	60
Current consumption	[mA]	< 30

MQ2004

Magnetic sensor

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

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
Notes on switching frequency	[Hz]	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...20
Repeatability	[% of Sr]	10
Software / programming		
Parameter setting options		hysteresis / window; switch-off delay; weld-field immunity; switch-on operations; Auto-teach
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
IO-Link process data (cyclical)		**function**
		bit length
		process value
		16
		device status
		4
		binary switching information
		4

MQ2004

Magnetic sensor

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

IO-Link functions (acyclical)		application specific tag; operating hours counter; switching cycles counter	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	829
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
		voltage supply	Limited Voltage/Current
		UL approval no.	C010
		File number UL	E174191
Mechanical data			
Weight	[g]	45	
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.	

MQ2004

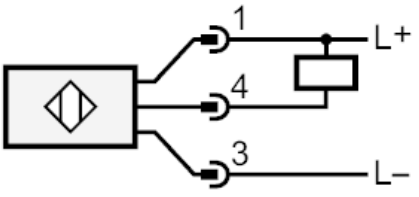
Magnetic sensor

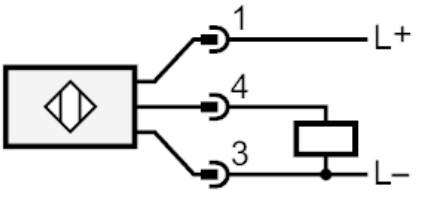
MQ23005BFRKG/B/AM/IO/WFI/0,3M/ZH/US

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; Contacts: 3; Locking: knurled nut, rotatable

