

Датчики магнитного поля

Технические характеристики

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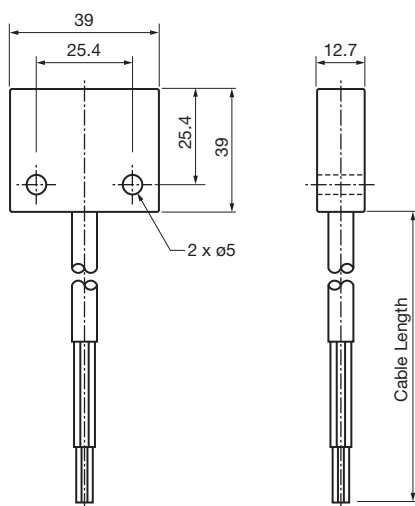


Magnetic field sensor 50FY41-V4A-6

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC



Dimensions



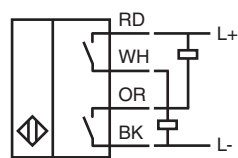
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire
Nominal ratings		
Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA
Compliance with standards and directives		
Standard conformity		

Technical Data

Standards		IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008
Approvals and certificates		
CE conformity		2014/30/EU
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cable PVC , 1.8 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection



Accessories

	52FY31-V4A	Magnetic actuator
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Magnetic field sensor

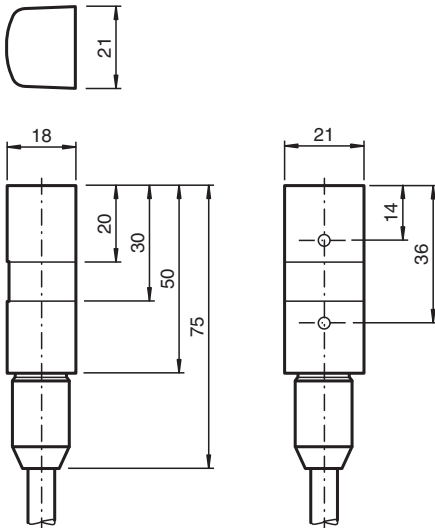
MB-F32-A2



- For mounting on a hydraulic cylinder
- Detects the piston position through the cylinder wall
- Suitable for magnetic, hydraulic cylinders made of steel



Dimensions



Technical Data

General specifications

Switching function	complementary	
Output type		PNP
Connection	Switching output 1 : black Switching output 2 : white	
Installation		on the cylinder
Output polarity		DC
Switching range	s_b	typ. 50 mm
Output type		4-wire

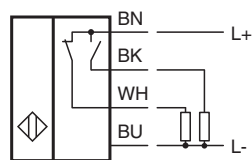
Nominal ratings

Operating voltage	U_B	10 ... 30 V DC
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 1.5 V
Operating current	I_L	0 ... 100 mA
No-load supply current	I_0	≤ 30 mA

Technical Data

Functional safety related parameters		
MTTF _d		739 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
LED indication		red: switching state output 1 yellow: switching state output 2
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		cablе PVC , 2 m
Core cross section		0.5 mm ²
Housing material		Polyamide (PA)
Sensing face		Polyamide (PA)
Degree of protection		IP67
Cable		
Cable diameter		6.2 mm ± 0.2 mm
Bending radius		> 10 x cable diameter
Dimensions		
Height		21 mm
Width		18 mm
Length		50 mm

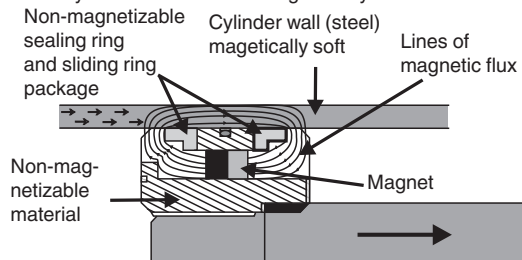
Connection



Additional Information

Magnetic System

Primary Construction of the Magnetic System



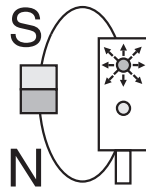
For this sensor principle it is not sufficient to simply mount the permanent magnet onto the piston. A magnetic system has to be constructed which conducts the magnetic flux of the permanent magnets directly into the cylinder wall in order to achieve the strongest possible magnetization. For further details regarding the construction of magnetic systems, refer to the manual. A field trial is generally recommended before practical operation!

Magnets

The magnets are axially magnetized. It must be ensured that all magnets are mounted with the same polarity!

Definition of polarity

An approaching permanent magnet with the north pole pointing towards the cable connection of the sensor causes output 1 to respond and the red LED to light.



Antivalent output

By means of the sensor's antivalent output stage the appropriate output can be chosen depending on the polarity of the magnetic system or the mounting location of the sensor.

Mounting

The sensor is mounted directly on the surface towards the cylinder axis. For this purpose, pressure bands, tightening straps, or hose band clamps can be used.

Magnetic field sensor

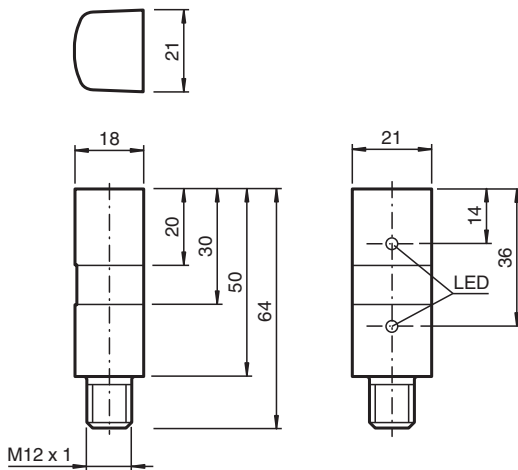
MB-F32-A2-V1



- For mounting on a hydraulic cylinder
- Detects the piston position through the cylinder wall
- Suitable for magnetic, hydraulic cylinders made of steel



Dimensions



Technical Data

General specifications

Switching function		complementary
Output type		PNP
Connection		Switching output 1 : pin 4 Switching output 2 : pin 2
Installation		on the cylinder
Output polarity		DC
Switching range	s_b	typ. 50 mm
Output type		4-wire

Nominal ratings

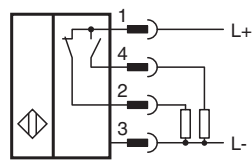
Operating voltage	U_B	10 ... 30 V DC
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 1.5 V
Operating current	I_L	0 ... 100 mA
No-load supply current	I_0	≤ 30 mA

Functional safety related parameters

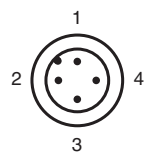
Technical Data

MTTF _d	739 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
LED indication	red: switching state output 1 yellow: switching state output 2
Compliance with standards and directives	
Standard conformity	
Standards	EN IEC 60947-5-2
Approvals and certificates	
CCC approval	CCC approval / marking not required for products rated ≤36 V
Ambient conditions	
Ambient temperature	-25 ... 85 °C (-13 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	Connector plug M12 x 1 , 4-pin
Housing material	Polyamide (PA)
Sensing face	Polyamide (PA)
Degree of protection	IP67
Dimensions	
Height	21 mm
Width	18 mm
Length	50 mm

Connection



Connection Assignment



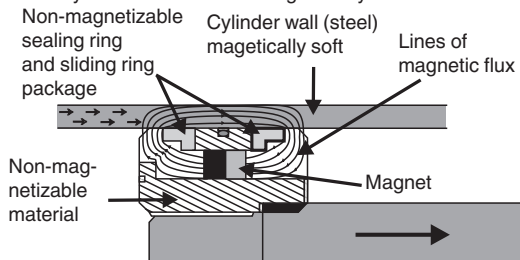
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Additional Information

Magnetic System

Primary Construction of the Magnetic System



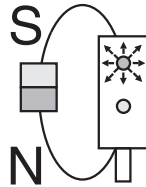
For this sensor principle it is not sufficient to simply mount the permanent magnet onto the piston. A magnetic system has to be constructed which conducts the magnetic flux of the permanent magnets directly into the cylinder wall in order to achieve the strongest possible magnetization. For further details regarding the construction of magnetic systems, refer to the manual. A field trial is generally recommended before practical operation!

Magnets

The magnets are axially magnetized. It must be ensured that all magnets are mounted with the same polarity!

Definition of polarity

An approaching permanent magnet with the north pole pointing towards the cable connection of the sensor causes output 1 to respond and the red LED to light.



Antivalent output

By means of the sensor's antivalent output stage the appropriate output can be chosen depending on the polarity of the magnetic system or the mounting location of the sensor

Mounting

The sensor is mounted directly on the surface towards the cylinder axis. For this purpose, pressure bands, tightening straps, or hose band clamps can be used.

Magnetic field sensor

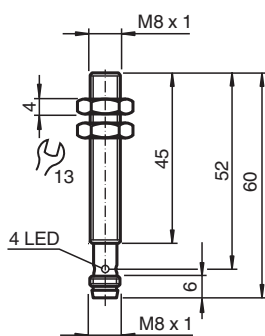
MB60-8GM50-E2-V3



- Sensing range 60 mm based on DM60-31-15 magnet



Dimensions



Technical Data

General specifications

Switching function	Normally open (NO)	
Output type		PNP
Rated operating distance	s_n	60 mm
Installation		flush in non-magnetic metal
Output polarity		DC
Assured operating distance	s_a	10 ... 48.6 mm
Output type	3-wire	

Nominal ratings

Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V
Operating current	I_L	0 ... 200 mA
No-load supply current	I_0	≤ 10 mA
Switching state indicator	Multihole-LED, yellow	

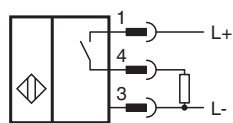
Functional safety related parameters

MTTF _d	3909 a	
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Technical Data

Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %
Compliance with standards and directives	
Standard conformity	
Standards	EN IEC 60947-5-2
Approvals and certificates	
Protection class	III
UL approval	cULus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤36 V
Ambient conditions	
Ambient temperature	-25 ... 75 °C (-13 ... 167 °F)
Mechanical specifications	
Connection type	Connector plug
Housing material	Stainless steel 1.4404 / AISI 316L
Sensing face	PBT
Degree of protection	IP67
Connector	
Threading	M8 x 1
Number of pins	3
Dimensions	
Length	60 mm
Diameter	8 mm

Connection



Connection Assignment

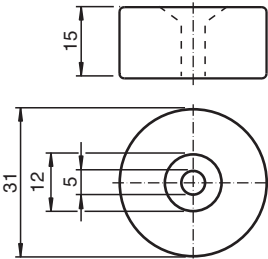


Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Additional Information

Magnet DM 60-31-15



Magnetic field sensor

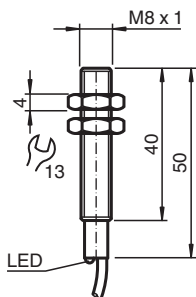
MB60-8GM50-E2



- Sensing range 60 mm based on DM60-31-15 magnet



Dimensions



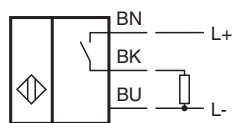
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	s_n	60 mm
Installation		flush in non-magnetic metal
Output polarity		DC
Assured operating distance	s_a	10 ... 48.6 mm
Output type		3-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V
Operating current	I_L	0 ... 200 mA
No-load supply current	I_0	≤ 10 mA
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		3909 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Technical Data

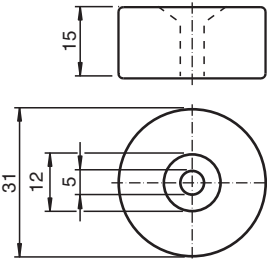
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
Protection class		III
UL approval		cULus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 75 °C (-13 ... 167 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4404 / AISI 316L
Sensing face		PBT
Degree of protection		IP67
Cable		
Material		PUR
Core cross section		0.14 mm²
Length	L	2 m
Dimensions		
Length		50 mm
Diameter		8 mm

Connection



Additional Information

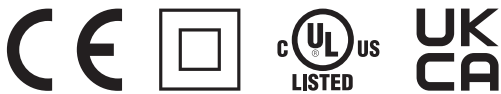
Magnet DM 60-31-15



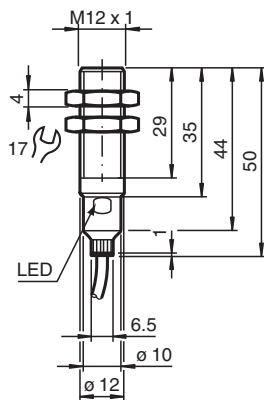
Magnetic field sensor

MB60-12GM50-E2

- Sensing range 60 mm based on DM60-31-15 magnet



Dimensions



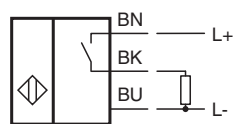
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	s_n	60 mm
Installation		flush in non-magnetic metal
Output polarity		DC
Assured operating distance	s_a	10 ... 48.6 mm
Output type		3-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V
Operating current	I_L	0 ... 200 mA
No-load supply current	I_0	≤ 10 mA

Technical Data

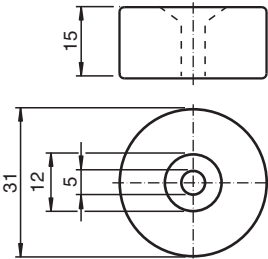
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		2935 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
Protection class		II
UL approval		cULus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 75 °C (-13 ... 167 °F)
Mechanical specifications		
Connection type		cable
Housing material		Stainless steel 1.4404 / AISI 316L
Sensing face		PBT
Degree of protection		IP67
Cable		
Material		PUR
Core cross section		0.34 mm ²
Length	L	2 m
Dimensions		
Length		50 mm
Diameter		12 mm

Connection



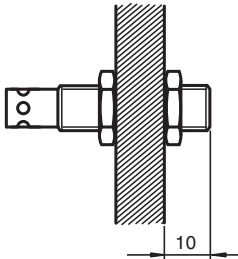
Additional Information

Magnet DM 60-31-15



Mounting

When installed in magnetic materials,
a free space must be left.



Magnetic field sensor

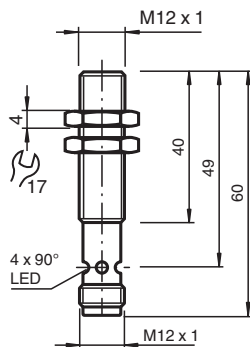
MMB60-12GH50-E2-V1



- Stainless steel sensing face
- 3-wire DC



Dimensions



Technical Data

General specifications

Switching function	Normally open (NO)	
Output type		PNP
Rated operating distance	s_n	60 mm
Installation		flush
Output polarity		DC
Actuating element		magnetic
Output type		3-wire

Nominal ratings

Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V DC
Operating current	I_L	≤ 200 mA
Current consumption		< 10 mA

Indicators/operating means

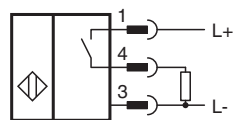
Operation indicator		4-way LED Yellow: output
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Compliance with standards and directives

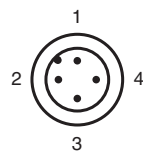
Technical Data

Standard conformity		
Standards	EN IEC 60947-5-2	
Approvals and certificates		
UL approval	cULus Listed, General Purpose	
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 75 °C (-13 ... 167 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material	stainless steel V4A	
Sensing face		stainless steel V4A
Degree of protection	IP65 / IP67 /	
Connector		
Threading	M12 x 1	
Number of pins		4
Dimensions		
Length		60 mm
Diameter	12 mm	

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



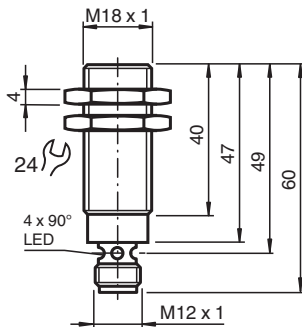
Magnetic field sensor

MMB70-18GH50-E2-V1

- Stainless steel sensing face
- 3-wire DC



Dimensions



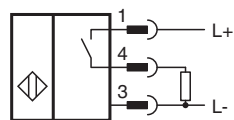
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	s_n	70 mm
Installation		flush
Output polarity		DC
Actuating element		magnetic
Output type		3-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V DC
Operating current	I_L	≤ 200 mA
Current consumption		< 10 mA
Indicators/operating means		
Operation indicator		4-way LED Yellow: output
Compliance with standards and directives		

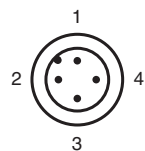
Technical Data

Standard conformity		
Standards	EN IEC 60947-5-2	
Approvals and certificates		
UL approval	cULus Listed, General Purpose	
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 75 °C (-13 ... 167 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material	stainless steel V4A	
Sensing face		stainless steel V4A
Degree of protection	IP65 / IP67 /	
Connector		
Threading	M12 x 1	
Number of pins		4
Dimensions		
Length		60 mm
Diameter	18 mm	

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Magnetic field sensor

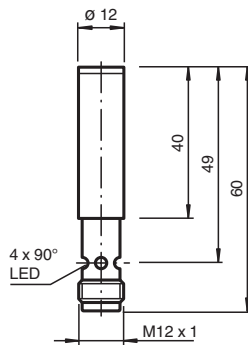
MMB60-12H50-E2-V1



- Stainless steel sensing face
- 3-wire DC



Dimensions



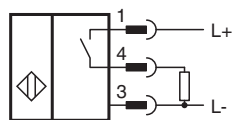
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	S_n	60 mm
Installation		flush
Output polarity		DC
Actuating element		magnetic
Output type		3-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	5000 Hz
Hysteresis	H	1 ... 10 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V DC
Operating current	I_L	≤ 100 mA
Current consumption		< 10 mA
Indicators/operating means		
Operation indicator		4-way LED Switching state indicator: yellow
Compliance with standards and directives		

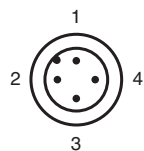
Technical Data

Standard conformity		
Standards	EN IEC 60947-5-2	
Approvals and certificates		
UL approval	cULus Listed, General Purpose	
CCC approval	CCC approval / marking not required for products rated ≤36 V	
Ambient conditions		
Ambient temperature	0 ... 100 °C (32 ... 212 °F)	
Mechanical specifications		
Connection type	Connector plug	
Housing material	stainless steel V4A	
Sensing face	stainless steel V4A	
Degree of protection	IP65 / IP68 / IP69K /	
Connector		
Threading	M12 x 1	
Number of pins	4	
Dimensions		
Length	60 mm	
Diameter	12 mm	

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)



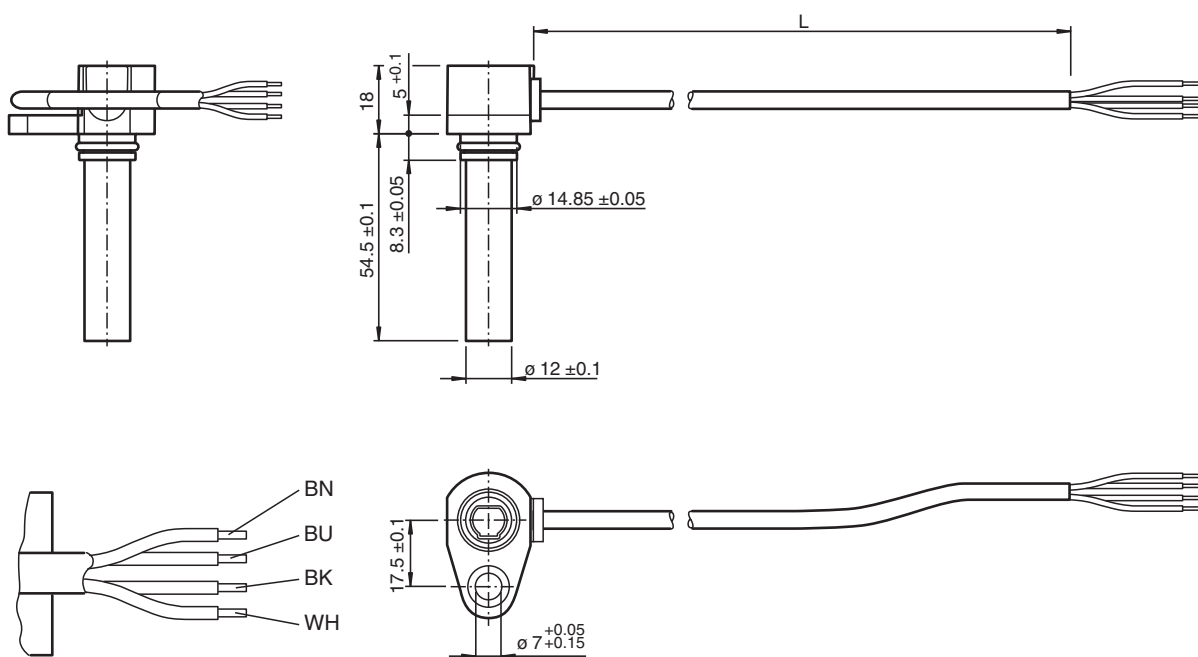
Hall effect sensor

MHS2-12M55-2EU-0,3M

- Rotational speed-detecting hall effect sensor
- Responds to customer-specific gear
- Switching frequency up to 10 kHz



Dimensions



Technical Data

General specifications

Output type	Digital voltage output	
Assured operating distance	s_a	0.3 ... 2 mm

Nominal ratings

Operating voltage	U_B	4.75 ... 5.25 V
Switching frequency	f	10 kHz
Operating current	I_L	0 ... 25 mA

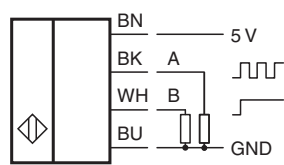
Functional safety related parameters

MTTF _d	882.2 a
Mission Time (T _M)	20 a

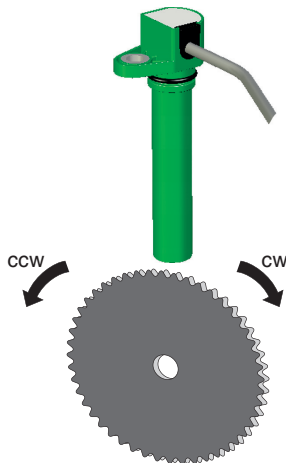
Technical Data

Diagnostic Coverage (DC)		0 %
Output 1		
Designation		A
Output type		Digital voltage output output of the velocity
Output value		The following output values are only achieved with a load resistance of $\geq 500 \Omega$ high level 3.8 ... 4.75 V low level 0.4 ... 2.6 V
Output 2		
Designation		B
Output type		Digital voltage output output of the direction of rotation
Output value		The following output values are only achieved with a load resistance of $\geq 500 \Omega$ direction of rotation cw 3.8 ... 4.75 V direction of rotation ccw 0.4 ... 2.6 V
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
UL approval		UL Recognized
Ambient conditions		
Ambient temperature		-40 ... 125 °C (-40 ... 257 °F)
Mechanical specifications		
Connection type		cable
Housing material		PBT + GF
Sensing face		PBT + GF
Degree of protection		IP67
Cable		
Cable diameter		4.8 mm $\pm$ 0.15 mm
Bending radius		> 10 x cable diameter
Material		PUR
Color		black
Number of cores		4
Core cross section		0.5 mm ²
Length	L	300 mm
Tightening torque, housing screws		10 Nm
General information		
Supplementary information		Specifications relating to disk 61_01-105_04_72-03 ST12 ferromagnetic steel

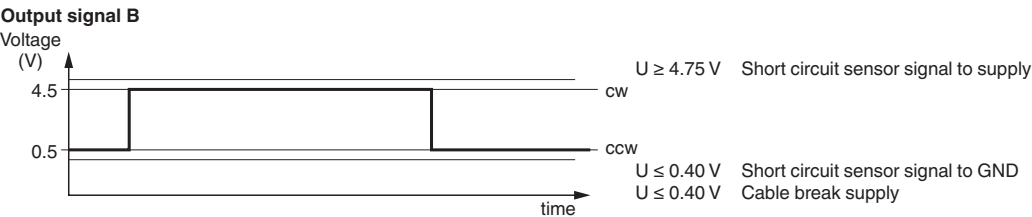
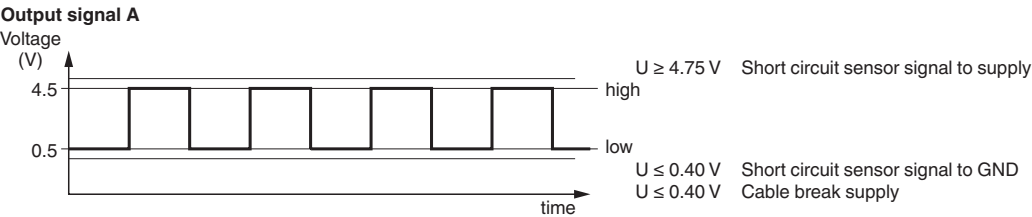
Connection

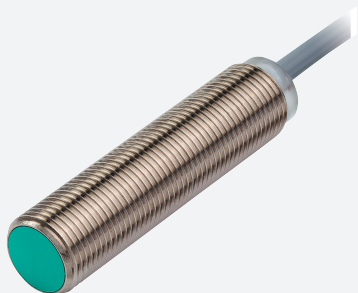


Installation Conditions



Operation

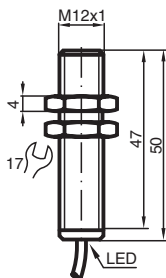




Magnetic field sensor MB80-12GM50-E0-PUR



Dimensions



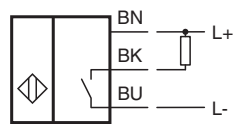
Technical Data

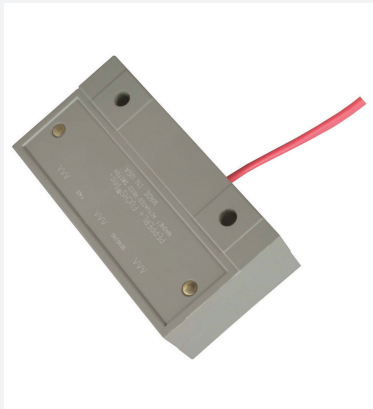
General specifications		
Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	s_n	80 mm
Installation		flush in non-magnetic metal
Output polarity		DC
Assured operating distance	s_a	20 ... 64.8 mm
Output type		3-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 5000 Hz
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V
Operating current	I_L	0 ... 200 mA
No-load supply current	I_0	≤ 20 mA
Switching state indicator		LED, yellow

Technical Data

Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		cabLe PUR , 2 m (black)
Core cross section		0.14 mm²
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP67
Dimensions		
Length		50 mm
Diameter		12 mm

Connection



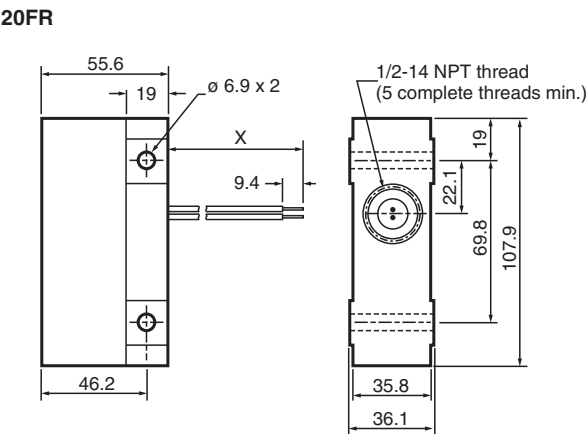


Magnetic field sensor

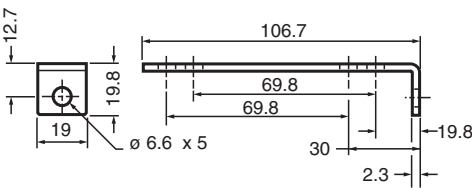
20FR1-6B

- Magnetically actuated reed switch
- Hermetically sealed contacts
- Heavy duty Aluminum housings

Dimensions



Mounting bracket (included)



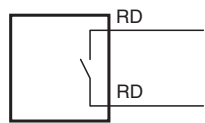
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		Reed Contact
Rated operating distance	s_n	61 mm
Installation		non-flush
Output type		Reed Contact Normally Open
Mechanical life		1 x 10 ⁷ switching cycles

Technical Data

Nominal ratings		
Operating voltage	U _B	250 V DC, 1.0 A max, 15 W
Hysteresis	H	typ. 25 % (15.2 mm)
Release point		≤ max. 76 mm
Ambient conditions		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Connection type		cable
Core cross section		16 AWG
Housing material		Aluminum
Sensing face		Aluminum
Degree of protection		IP68
Material		
Activation target		21FR1-B
Cable		
Material		PVC
Length	L	1.83 m
Dimensions		
Width		107.9 mm
Length		55.6 mm

Connection



Application

Temperature Effects

Temperature must be taken into consideration when using magnetically operated switches. The sensing ranges given on the following pages are for head-on operations at room temperature (75° F). Sub-zero temperatures can cause permanently reduced sensitivity. Use the following table as a guide for potential sensitivity loss.

Model	Maximum possible sensitivity loss
20FR1-6B	2.03 mm
20FR3-6B	1.52 mm
20FR4-6B	1.52 mm
20FR5-6B	4.95 mm

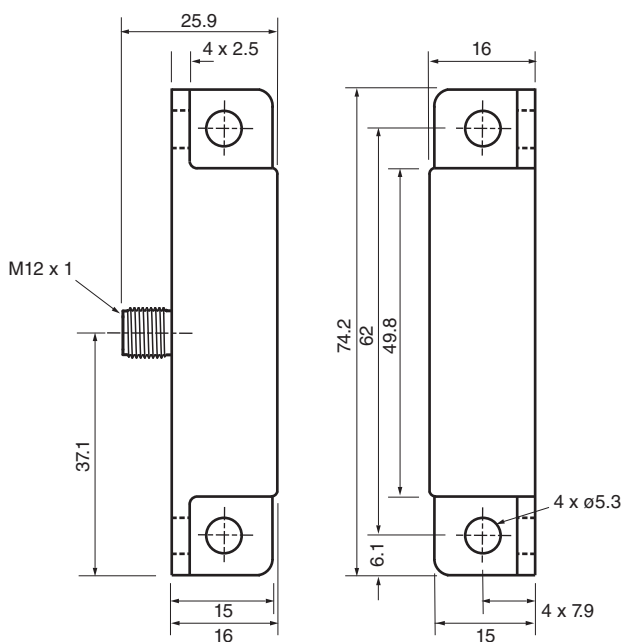


Magnetic field sensor

40FR1-33

- Magnetically actuated reed switch
- AC/DC compatibility
- Hermetically sealed contacts
- Matching permanent magnet

Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		Reed Contact
Rated operating distance	s_n	19.8 mm
Installation		non-flush
Output polarity		AC/DC
Output type		2-wire AC/DC
Mechanical life		3×10^7 operations

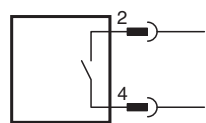
Nominal ratings

Operating voltage	U_B	100 V DC, 250 mA 115 V AC, 250 mA
Hysteresis	H	typ. 12 % (2.54 mm)

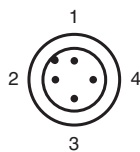
Technical Data

Contact resistance	0.15 Ω
Insulation resistance	min. 100 MΩ at 200 V
Dielectric strength	200 V AC, 60 Hz
Release point	≤ max. 43 mm
Electrical specifications	
Electrical rating	AC supply: 10 VA, 132 V AC, 750 mA DC supply: 10 W, 100 V DC, 300 mA
Ambient conditions	
Ambient temperature	-40 ... 125 °C (-40 ... 257 °F)
Mechanical specifications	
Connection type	Connector plug
Housing material	Polycarbonate
Sensing face	Polycarbonate
Degree of protection	IP68
Connector	
Threading	M12 x 1
Number of pins	4
Dimensions	
Width	16 mm
Depth	16 mm
Length	74.2 mm

Connection



Connection Assignment

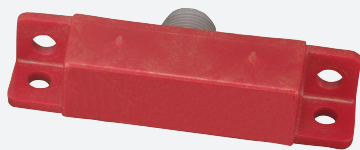


Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Magnetic field sensor

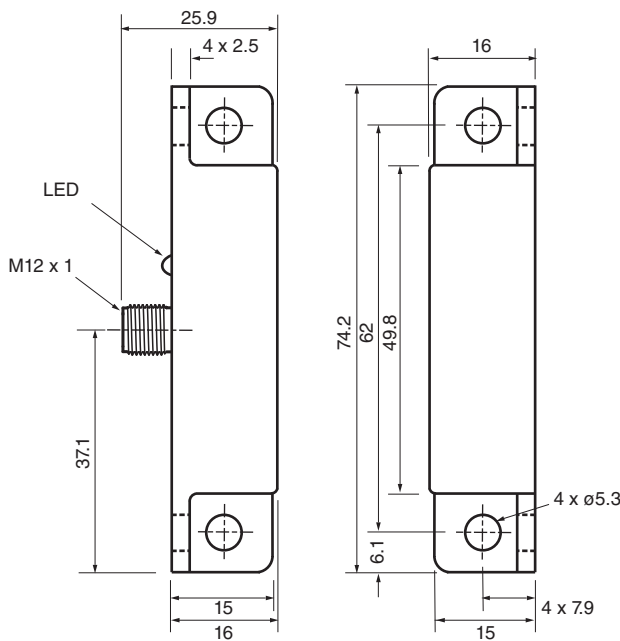
40FY26-33



- Hall Effect Sensor
- Door Interrupt Sensor
- Tamper resistant magnetic actuator



Dimensions



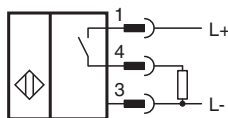
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	s _n	Use either 41FY1 - 6.4 - 15.2 mm or 41FY2 - 7.6 - 19 mm
Installation		non-flush
Output polarity		DC
Output type		3-wire
Nominal ratings		
Operating voltage	U _B	10 ... 30 V DC
Hysteresis	H	5 ... 25 %
Short-circuit protection		yes

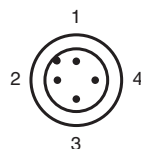
Technical Data

Voltage drop	U_d	$\leq 2.5\text{ V DC}$
Repeat accuracy		$\pm 3\%$
Operating current	I_L	$\leq 200\text{ mA}$
Off-state current	I_r	$\leq 30\text{ mA}$
No-load supply current	I_0	$\leq 40\text{ mA}$
Indicators/operating means		
LED indication		switching state
Electrical specifications		
Electrical rating		10 - 30 V DC
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		$-30 \dots 85\text{ }^{\circ}\text{C}$ ($-22 \dots 185\text{ }^{\circ}\text{F}$)
Mechanical specifications		
Connection type		Connector plug
Housing material		Polycarbonate
Sensing face		Polycarbonate
Degree of protection		IP67
Connector		
Threading		M12 x 1
Number of pins		4
Dimensions		
Width		16 mm
Depth		16 mm
Length		74.2 mm

Connection



Connection Assignment



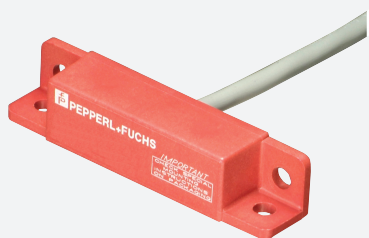
Connection Assignment

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Magnetic field sensor

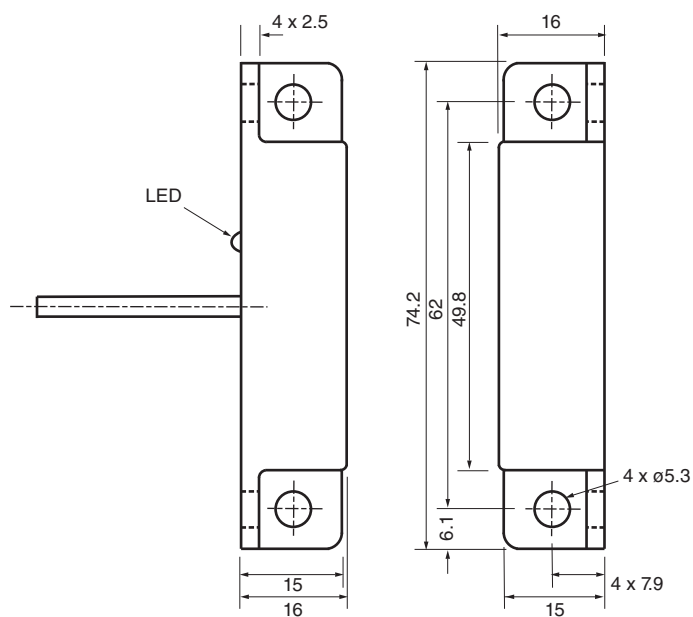
40FY28-020



- Hall Effect Sensor
- Door Interrupt Sensor
- Tamper resistant magnetic actuator



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	s _n	Use either 41FY1 - 6.4 - 15.2 mm or 41FY2 - 7.6 - 19 mm
Installation		non-flush
Output polarity		DC
Output type		3-wire

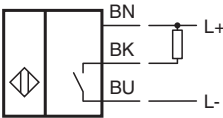
Nominal ratings

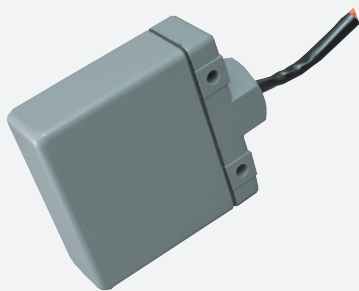
Operating voltage	U _B	10 ... 30 V DC
Hysteresis	H	5 ... 25 %
Short-circuit protection		yes

Technical Data

Voltage drop	U_d	$\leq 2.5\text{ V DC}$
Repeat accuracy		$\pm 3\%$
Operating current	I_L	$\leq 200\text{ mA}$
Off-state current	I_r	$\leq 30\text{ mA}$
No-load supply current	I_0	$\leq 40\text{ mA}$
Indicators/operating means		
LED indication		switching state
Electrical specifications		
Electrical rating		10 - 30 V DC
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		$-30 \dots 85\text{ }^{\circ}\text{C}$ ($-22 \dots 185\text{ }^{\circ}\text{F}$)
Mechanical specifications		
Connection type		cable
Housing material		Polycarbonate
Sensing face		Polycarbonate
Degree of protection		IP67
Cable		
Material		PVC
Core cross section		0.34 mm^2
Length	L	2 m
Dimensions		
Width		16 mm
Depth		16 mm
Length		74.2 mm

Connection



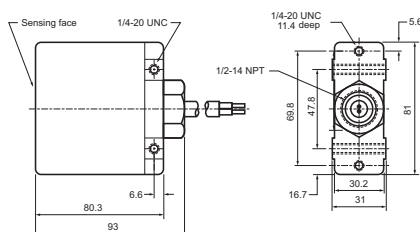


Magnetic field sensor

4FR1-6

- Ferromagnetic actuated reed switch
- Detects ferrous metal through nonferrous metal
- One piece housing

Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		Reed Contact
Rated operating distance	s_n	12.7 mm
Installation		non-flush
Mechanical life		5 x 10 ⁷ switching cycles

Nominal ratings

Switching frequency	f	100 Hz
Repeat accuracy		≤ 0.13 mm
No-load supply current	I_0	≤ 50 mA
Reed bounce time		max. 0.5 ms

Electrical specifications

Electrical rating		AC supply: 15 VA, 500 mA, 280 V RMS DC supply: 15 W, 500 mA, 400 V DC
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Ambient conditions

Ambient temperature		-20 ... 83 °C (-4 ... 181.4 °F)
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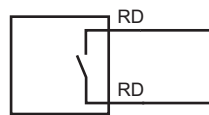
Mechanical specifications

Connection type		cable PVC , 1.83 m
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Technical Data

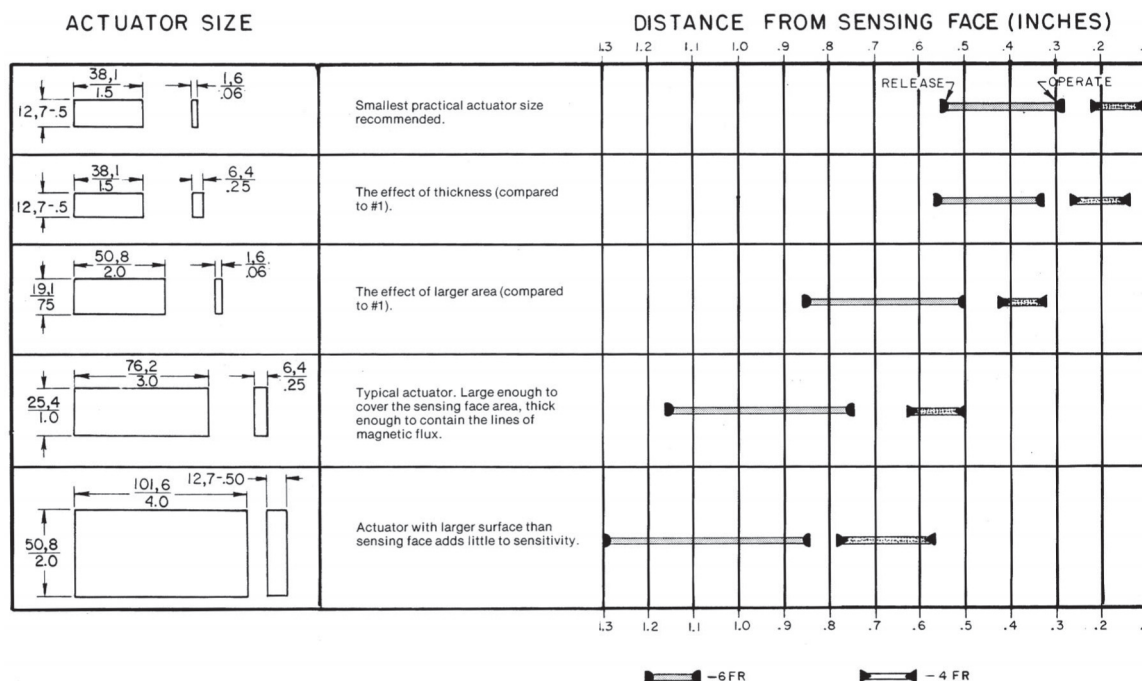
Core cross-section	1.5 mm ²
Housing material	aluminum
Sensing face	aluminum
Degree of protection	IP68
Note	Full sensing range available for low carbon steel 25.4 x 76.2 x 6.35mm

Connection



Function Principle

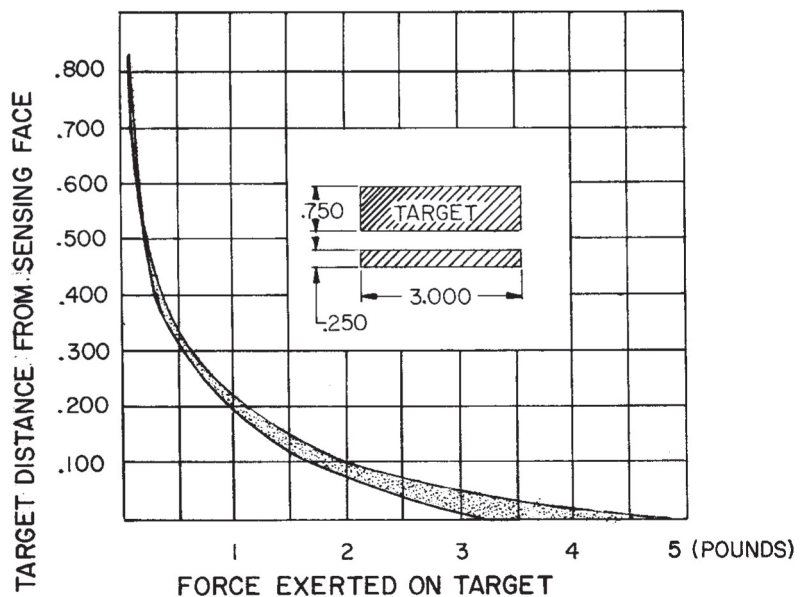
For proper operation over the total temperature range [with typical actuator (#4)], use a minimum overtravel of 0.150 in. (3.8 mm) release travel of 0.250 in. (6.35 mm). Overtravel and release travel will differ for smaller actuators.

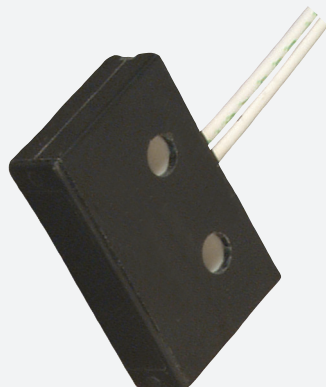


MAGNETIC ATTRACTION

The switch exerts a magnetic force on the actuator. The actuator should be secured to prevent its being drawn to the sensing face.

1. Do not subject the switch to the influence of strong magnetic fields. External permanent magnets should be a minimum of 6 inches (152mm) from the switch.
2. Ferromagnetic materials (other than the actuator) should be at least 3 inches (76,2mm) from the sensing face.
3. Arc suppression networks must be used in inductive circuits.
4. These switches should not be subjected to severe shock.
5. Mount on solid support and protect from vibration.
6. The switch may fail to release if adjacent steel parts are too close, or if quantities of metallic chips are attracted to the sensing face.
7. Do not subject reed switches to high inrush currents.
8. Each 4/6FR contains a glass reed switch and a magnet, and should be handled and applied accordingly.

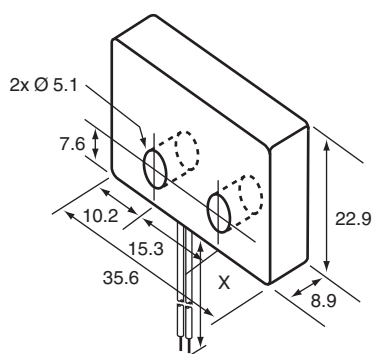




Magnetic field sensor 50FR2-3-1

- Magnetically actuated reed switch
- Hermetically sealed contacts
- AC/DC compatibility
- Matching permanent magnet

Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		Reed Contact
Rated operating distance	s_n	11.4 mm
Installation		non-flush
Output polarity		AC/DC
Output type		2-wire AC/DC
Mechanical life		3 x 10 ⁷ operations

Nominal ratings

Operating voltage	U_B	100 V DC, 250 mA 115 V AC, 250 mA
Hysteresis	H	22 ... 145 %
Contact resistance		0.2 Ω
Insulation resistance		min. 100 M Ω at 200 V DC
Dielectric strength		200 V AC, 60 Hz
Release point		max. 17.8 mm

Electrical specifications

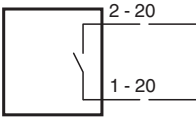
Electrical rating		AC supply: 10 VA, 132 V AC, 750 mA DC supply: 10 W, 100 V DC, 300 mA
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Ambient conditions

Technical Data

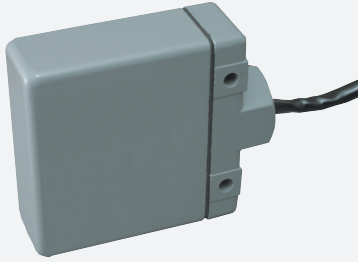
Ambient temperature	-40 ... 125 °C (-40 ... 257 °F)
Mechanical specifications	
Connection type	cable PVDF , 914 mm
Core cross section	0.5 mm²
Housing material	Phenolic
Sensing face	Phenolic
Degree of protection	IP68
Dimensions	
Height	8.9 mm
Width	35.6 mm
Depth	22.9 mm

Connection



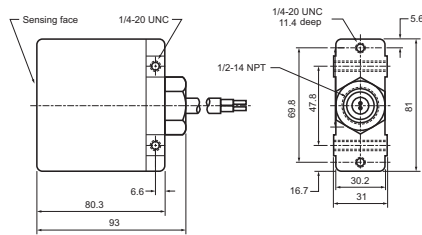
Magnetic field sensor

6FR1-6



- Ferromagnetic actuated reed switch
- Detects ferrous metal through nonferrous metal
- One piece housing

Dimensions



Technical Data

General specifications

Switching function	Normally open (NO)	
Output type		Reed Contact
Rated operating distance	s_n	19.1 mm
Installation		non-flush
Mechanical life	5 x 10 ⁷ switching cycles	

Nominal ratings

Switching frequency	f	100 Hz
Repeat accuracy		≤ 0.13 mm
No-load supply current	I_0	≤ 50 mA
Reed bounce time		max. 0.5 ms

Electrical specifications

Electrical rating	AC supply: 15 VA, 500 mA, 280 V RMS DC supply: 15 W, 500 mA, 400 V DC	
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Standard conformity

Standards	EN 60947-5-2
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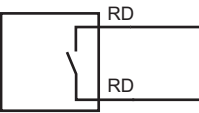
Ambient conditions

Ambient temperature	-20 ... 83 °C (-4 ... 181.4 °F)
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Technical Data

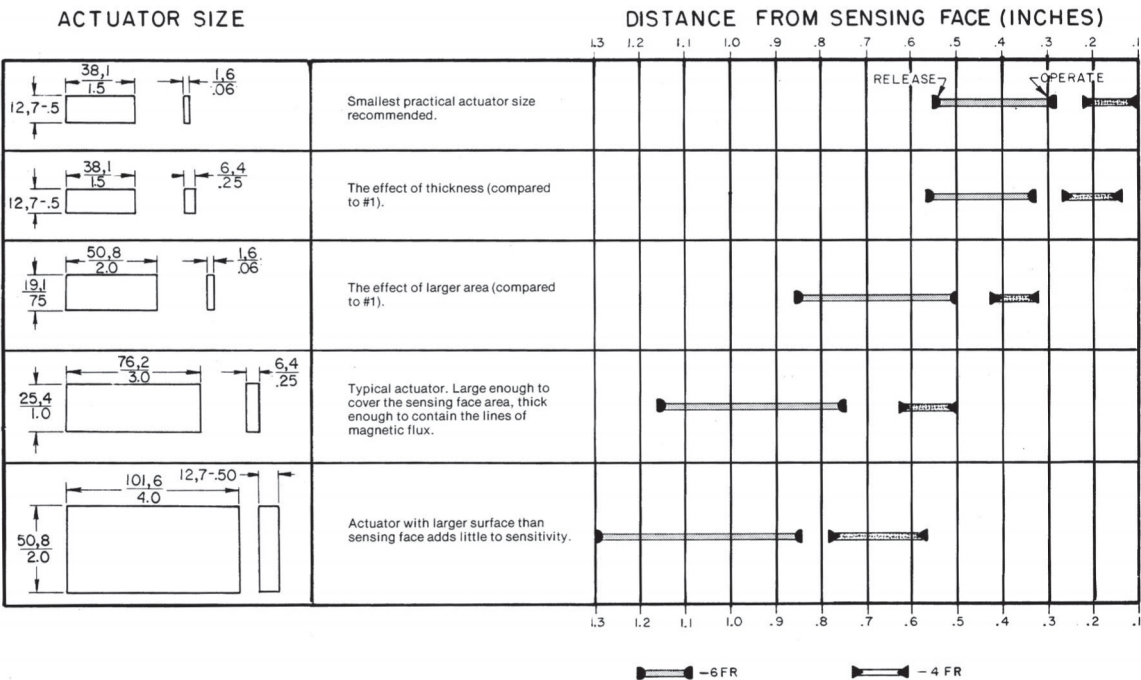
Mechanical specifications		
Connection type		cable PVC , 1.83 m
Core cross-section		1.5 mm ²
Housing material		aluminum
Sensing face		aluminum
Degree of protection		IP68
Note		Full sensing range available for low carbon steel 25.4 x 76.2 x 6.35mm

Connection



Function Principle

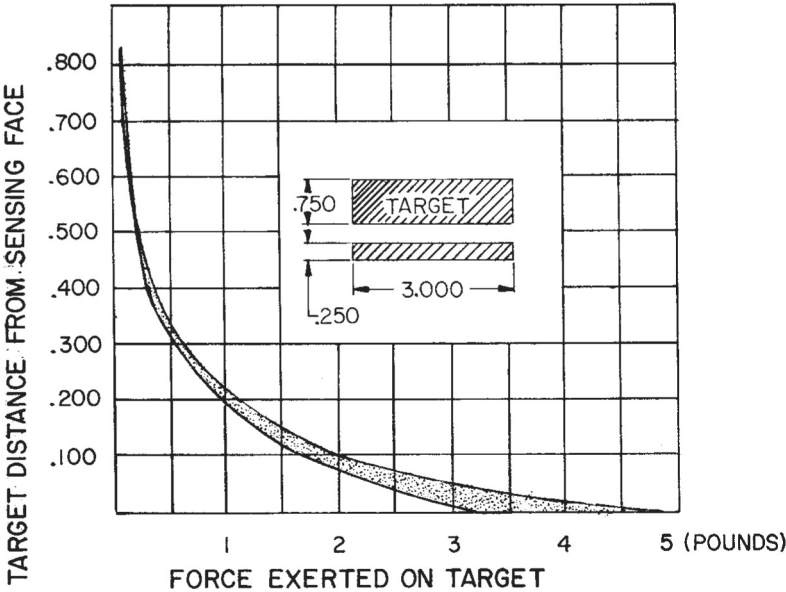
For proper operation over the total temperature range [with typical actuator (#4)], use a minimum overtravel of 0.150 in. (3.8 mm) release travel of 0.250 in.(6.35 mm). Overtravel and release travel will differ for smaller actuators.



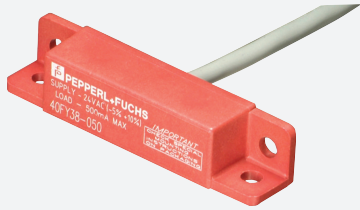
MAGNETIC ATTRACTION

The switch exerts a magnetic force on the actuator. The actuator should be secured to prevent its being drawn to the sensing face.

1. Do not subject the switch to the influence of strong magnetic fields. External permanent magnets should be a minimum of 6 inches (152mm) from the switch.
2. Ferromagnetic materials (other than the actuator) should be at least 3 inches (76,2mm) from the sensing face.
3. Arc suppression networks must be used in inductive circuits.
4. These switches should not be subjected to severe shock.
5. Mount on solid support and protect from vibration.
6. The switch may fail to release if adjacent steel parts are too close, or if quantities of metallic chips are attracted to the sensing face.
7. Do not subject reed switches to high inrush currents.
8. Each 4/6FR contains a glass reed switch and a magnet, and should be handled and applied accordingly.

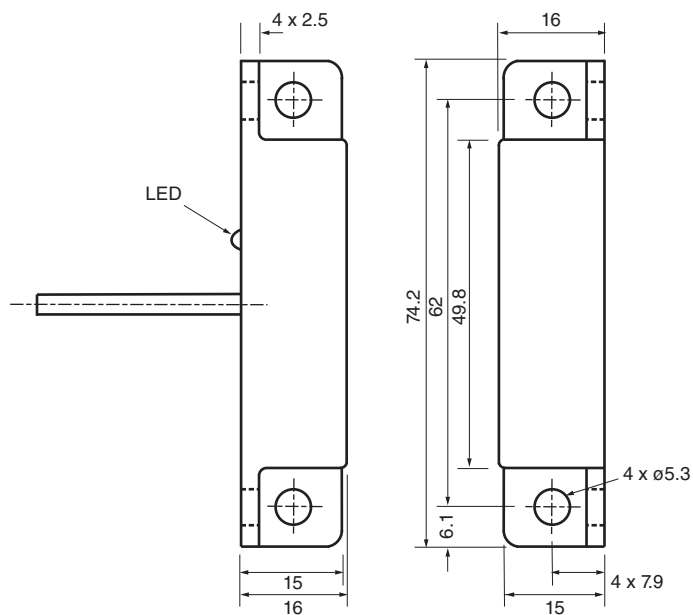


40FY38-50



- Hall Effect Sensor
- Magnet Actuator Required
- Door Interrupt Sensor

Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		Two-wire
Rated operating distance	s _n	Use either 41FY1 - 6.4 - 15.2 mm or 41FY2 - 7.6 - 19 mm
Installation		non-flush
Output polarity		AC

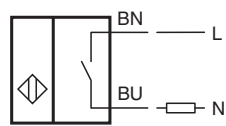
Nominal ratings

Operating voltage	U_B	24 V AC
Voltage drop	U_d	8 V at 500 mA
Operating current	I_L	max. 500 mA
Off-state current	I_r	1.5 mA

Technical Data

Indicators/operating means		
LED indicator		switching state
Electrical specifications		
Electrical rating		24 V AC
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		cable PVC , 5 m
Core cross-section		0.34 mm²
Housing material		Polycarbonate
Sensing face		Polycarbonate
Degree of protection		IP67

Connection



Accessories

	41FY1	
	41FY2	

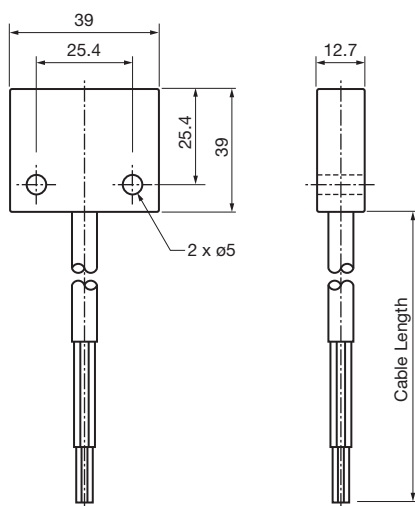


Magnetic field sensor 50FY41-V4A-12

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire

Nominal ratings

Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA

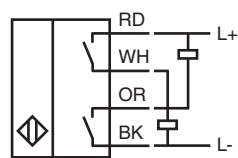
Compliance with standards and directives

Standard conformity		
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Technical Data

Standards		IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008
Approvals and certificates		
CE conformity		2014/30/EU
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cable PVC , 3.5 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection



Accessories

	52FY31-V4A	Magnetic actuator
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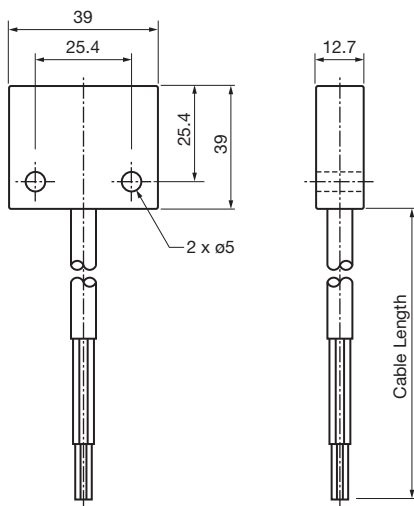
Magnetic field sensor

50FY41-V4A-50

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire

Nominal ratings

Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA

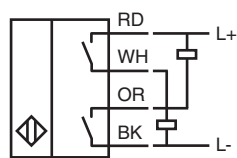
Compliance with standards and directives

Standard conformity		
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Technical Data

Standards		IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008
Approvals and certificates		
CE conformity		2014/30/EU
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cable PVC , 15 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection



Magnetic field sensor

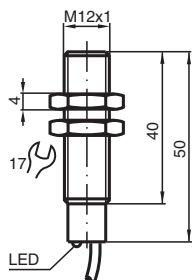
MMB70-12GH50-1N



- Comfort series
- 70 mm flush



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		NAMUR
Rated operating distance	s_n	5 ... 70 mm
Installation		flush in non-magnetic metal
Output type		2-wire

Nominal ratings

Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Switching frequency	f	0 ... 1000 Hz
Current consumption		
Magnet detected		≥ 2.3 mA
Magnet not detected		≤ 1 mA
Switching state indicator		LED, yellow

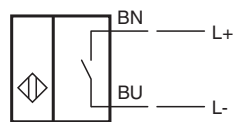
Functional safety related parameters

MTTF _d		2828 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Technical Data

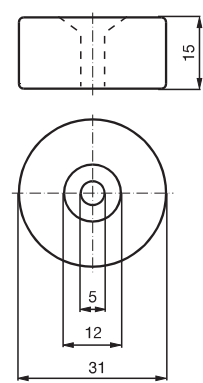
Compliance with standards and directives		
Standard conformity		
NAMUR		EN 60947-5-6:2000
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012
Approvals and certificates		
IECEX approval		
Equipment protection level Ga		IECEX TUN 20.0007
Equipment protection level Da		IECEX TUN 20.0007
ATEX approval		
Equipment protection level Ga		TÜV 20 ATEX 241336
Equipment protection level Da		TÜV 20 ATEX 241336
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		cable PVC , 2 m
Core cross section		0.34 mm²
Housing material		Stainless steel 1.4404 / AISI 316L
Sensing face		Stainless steel 1.4404 / AISI 316L
Degree of protection		IP67
Dimensions		
Length		50 mm
Diameter		12 mm
General information		
Use in the hazardous area		see instruction manuals

Connection

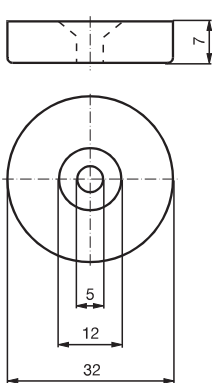


Additional Information

Magnet DM 60-31-15



Magnet DM 25-32-07



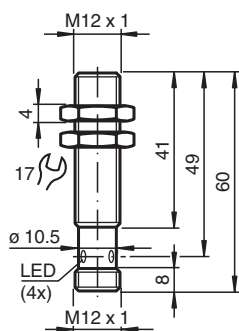


Magnetic field sensor MMB70-12GH50-1N-V1

- Comfort series
- 70 mm flush



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		NAMUR
Rated operating distance	s_n	5 ... 70 mm
Installation		flush in non-magnetic metal
Output type		2-wire

Nominal ratings

Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Switching frequency	f	0 ... 1000 Hz
Current consumption		
Magnet detected		≥ 2.3 mA
Magnet not detected		≤ 1 mA
Switching state indicator		LED, yellow

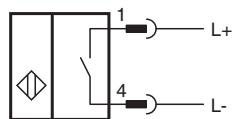
Functional safety related parameters

MTTF _d		2828 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

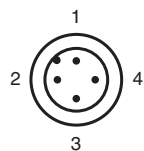
Technical Data

Compliance with standards and directives		
Standard conformity		
NAMUR		EN 60947-5-6:2000
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012
Approvals and certificates		
IECEX approval		
Equipment protection level Ga		IECEX TUN 20.0007
Equipment protection level Da		IECEX TUN 20.0007
ATEX approval		
Equipment protection level Ga		TÜV 20 ATEX 241336
Equipment protection level Da		TÜV 20 ATEX 241336
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		Connector plug M12 x 1 , 4-pin
Housing material		Stainless steel 1.4404 / AISI 316L
Sensing face		Stainless steel 1.4404 / AISI 316L
Degree of protection		IP67
Dimensions		
Length		60 mm
Diameter		12 mm
General information		
Use in the hazardous area		see instruction manuals

Connection

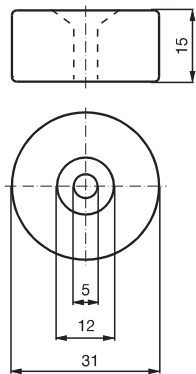


Connection Assignment

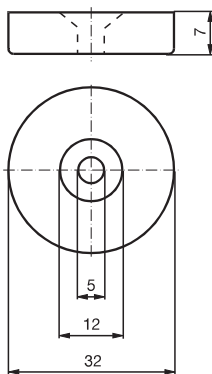


Additional Information

Magnet DM 60-31-15



Magnet DM 25-32-07



Magnetic field sensor

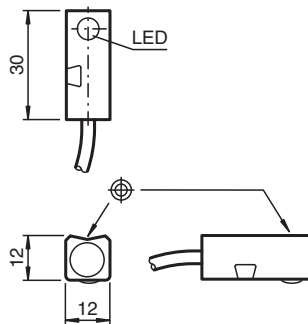
MB35-F12-1N



- Comfort series
- 35 mm flush



Dimensions



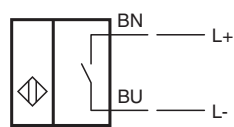
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		NAMUR
Rated operating distance	s_n	35 mm
Installation		flush
Assured operating distance	s_a	0 ... 35 mm
Output type		2-wire
Nominal ratings		
Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Switching frequency	f	0 ... 5000 Hz
Current consumption		
Magnet detected		≥ 3 mA
Magnet not detected		≤ 1 mA
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		2781 a
Mission Time (T_M)		20 a

Technical Data

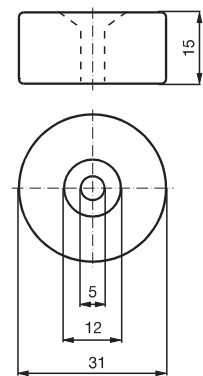
Diagnostic Coverage (DC)	0 %
Compliance with standards and directives	
Standard conformity	
NAMUR	EN 60947-5-6:2000
Standards	EN 60947-5-2:2007 EN 60947-5-2/A1:2012
Approvals and certificates	
IECEX approval	
Equipment protection level Gb	IECEX TUN 20.0007
Equipment protection level Da	IECEX TUN 20.0007
ATEX approval	
Equipment protection level Gb	TÜV 20 ATEX 241336
Equipment protection level Da	TÜV 20 ATEX 241336
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications	
Connection type	cabLe PVC , 2 m
Core cross section	0.34 mm²
Housing material	anodized aluminum
Sensing face	black plastic
Degree of protection	IP67
Dimensions	
Height	12 mm
Width	12 mm
Length	30 mm
General information	
Use in the hazardous area	see instruction manuals

Connection

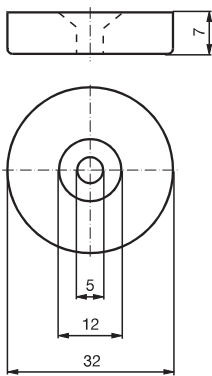


Additional Information

Magnet DM 60-31-15



Magnet DM 25-32-07



Magnetic field sensor

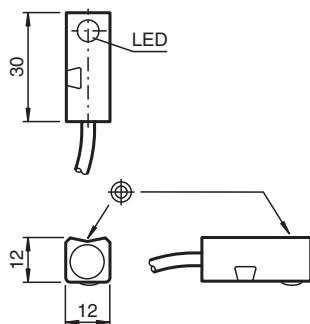
MB35-F12-1N-5M



- Comfort series
- 35 mm flush



Dimensions



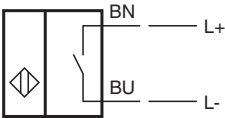
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		NAMUR
Rated operating distance	s_n	35 mm
Installation		flush
Assured operating distance	s_a	0 ... 35 mm
Output type		2-wire
Nominal ratings		
Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Switching frequency	f	0 ... 5000 Hz
Current consumption		
Magnet detected		≥ 3 mA
Magnet not detected		≤ 1 mA
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		2781 a
Mission Time (T_M)		20 a

Technical Data

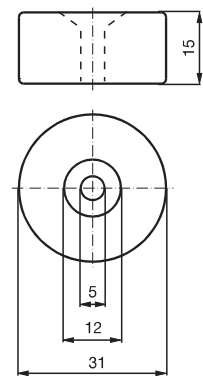
Diagnostic Coverage (DC)	0 %
Compliance with standards and directives	
Standard conformity	
NAMUR	EN 60947-5-6:2000
Standards	EN 60947-5-2:2007 EN 60947-5-2/A1:2012
Approvals and certificates	
IECEX approval	
Equipment protection level Gb	IECEX TUN 20.0007
Equipment protection level Da	IECEX TUN 20.0007
ATEX approval	
Equipment protection level Gb	TÜV 20 ATEX 241336
Equipment protection level Da	TÜV 20 ATEX 241336
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications	
Connection type	cablc PVC , 5 m
Core cross section	0.34 mm²
Housing material	anodized aluminum
Sensing face	black plastic
Degree of protection	IP67
Dimensions	
Height	12 mm
Width	12 mm
Length	30 mm
General information	
Use in the hazardous area	see instruction manuals

Connection

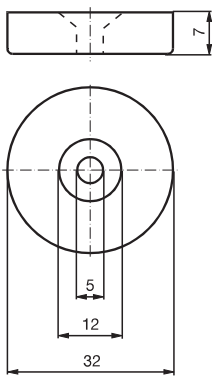


Additional Information

Magnet DM 60-31-15



Magnet DM 25-32-07



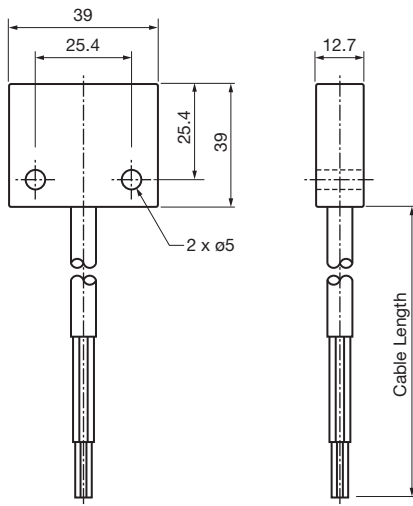


Magnetic field sensor 50FY41-V4A-50-KIT

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC
- Magnet and Hall Effect Sensor included in kit



Dimensions



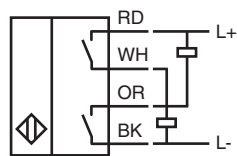
Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire
Nominal ratings		
Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA
Compliance with standards and directives		
Standard conformity		

Technical Data

Standards		IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008
Approvals and certificates		
CE conformity		2014/30/EU
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cable PVC , 15 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection



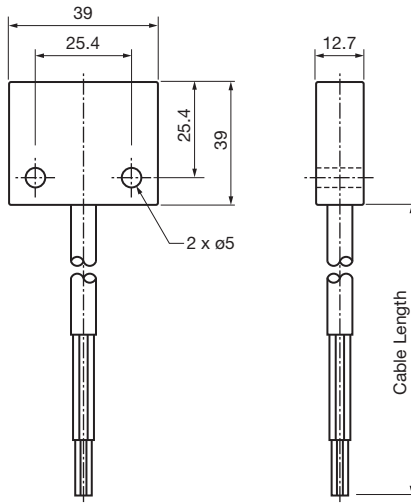


Magnetic field sensor 50FY41-V4A-6-KIT

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC
- Magnet and Hall Effect Sensor included in kit



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire

Nominal ratings

Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA

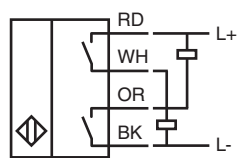
Compliance with standards and directives

Standard conformity		
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Technical Data

Standards		IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008
Approvals and certificates		
CE conformity		2014/30/EU
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cablc PVC , 1.8 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection



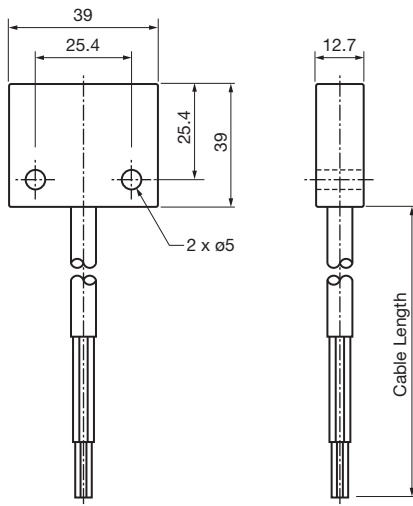


Magnetic field sensor 50FY41-V4A-12-KIT

- Hall Effect Sensor
- Sensing range 2.5 mm
- 4-wire DC
- Magnet and Hall Effect Sensor included in kit



Dimensions



Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP/NPN
Rated operating distance	s_n	2.5 mm at 0 mm offset, 1.3 mm at 3.5 mm offset, 0 mm at 4.0 mm offset
Installation		non-flush
Output polarity		DC
Output type		4-wire

Nominal ratings

Operating voltage	U_B	10 ... 12 V
Short-circuit protection		NO
Voltage drop	U_d	7 V @ 10 K load, 12 V supply
Operating current	I_L	0.5 mA
Current consumption		30 mA

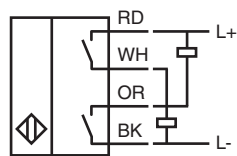
Compliance with standards and directives

Standard conformity		
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Technical Data

Standards	IEC 60947-5-2:2012 IEC 60947-5-3:2013 IEC 61236-3-1:2008	
Approvals and certificates		
CE conformity	2014/30/EU	
UL approval		cULus Listed, General Purpose
Ambient conditions		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		cablc PVC , 3.5 m
Core cross section		0.34 mm²
Housing material		316 stainless steel
Sensing face		316 stainless steel
Degree of protection		IP69K
Note	Only approved for use with FYQLA1-140R-3 and KE5D2-6H/2R-S Use only with actuator 52FY31-V4A	

Connection

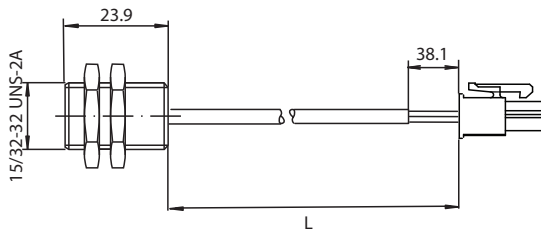


Magnetic field sensor

MB-15/32GM25-E0-1.27M-4MOL

- Cylindrical housing
- Molex connector
- Hall Effect Sensor
- 3-wire DC

Dimensions



Technical Data

General specifications

Switching function	Normally open (NO)	
Output type		NPN
Output polarity		DC
Output type		3-wire

Nominal ratings

Operating voltage	U_B	4.5 ... 24 V DC
Operating current	I_L	20 mA max
No-load supply current	I_0	10 mA max

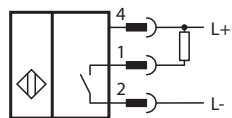
Ambient conditions

Ambient temperature		-40 ... 105 °C (-40 ... 221 °F)
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Mechanical specifications

Connection type		fixed cable with plug
Housing material		Aluminum
Sensing face		Aluminum
Degree of protection		IP67
Connector		
Number of pins		3
Connection assembly		Molex connector 39-00-2040 Molex contact 39-00-0139
Cable		
Material		PVC
Color		Gray
Number of cores		3
Core cross section		0.34 mm ²
Length	L	1.27 m

Wiring Diagram



По вопросам продаж и поддержки обращайтесь:

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Орел (4862)44-53-42
Оренбург (3532)37-68-04
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Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

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Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
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