



## MS-02 – Position Sensor



Certificate: ATEX



### Technical Parameters:

Model	I M2 Exd I
Maximum voltage	60 V AC/DC
Maximum current	0.8 A, resistance load or induction quenched load
Pre-fuse maximum	0.8 A according to IEC 127 or IEC269
Conductor cross-section	1.5 mm <sup>2</sup>
Protective terminal for grounding and interconnecting	N6 screw with a cable eye
Maximum switching distance	100 mm
Service life	at least 3x10 <sup>6</sup> switches-on at resistance load of 6 W / 0.1 A
Switching system	polarized contacts
Impact strength	20 J
Maximum sensor (magnet) travel speed	25 m/s
Working area	Horizontal
Vibrations	0.35 mm; 10 ÷ 55 Hz
Ambient temperature	- 20°C - + 40°C
Relative humidity	99% without condensation
Protection	IP 67
Dimensions	443 x 240 mm
Weight	22.5 kg

### Use:

The MS-02 magnetic sensor is intended for use in coal mines with a methane explosion hazard. It is typically used as a shaft switch in deep mine shafts for stopping a gig at semi-automatic and automatic mining machines or other transportation systems.

### Description:

MS-02 has two rest positions of the switching system anchor (a switch with a memory). The armature always keeps one contact switched in the non-excited status. By moving the magnet over the switch the armature shifts and switches over the other contact. The system anchor remains in the changed (shifted) position after magnet removal. The sensor distance from the magnet must not exceed 10 cm.

When MS-02 is mounted to a metal structure, the sensor must be separated from this structure by a base made of a non-magnetic material with the thickness of at least 3 mm.

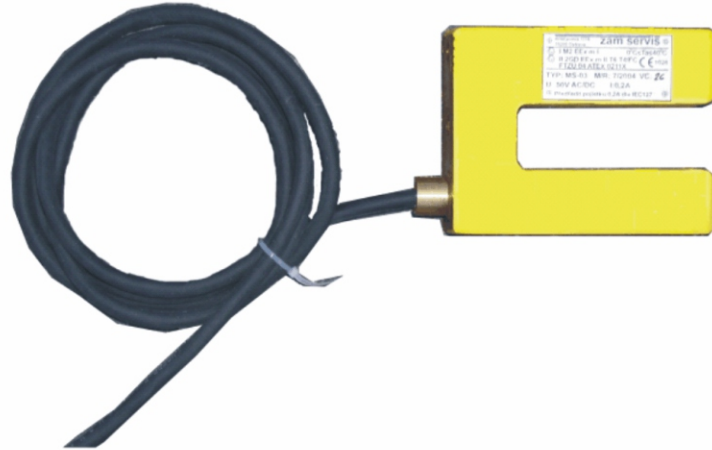
**The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.**



## MS-03 – Position Sensor



Certificate: ATEX, Po



### Use:

The MS-03 magnetic sensor can be used for sensing various moving equipment (up-and-over gates, movable bridges, lifts, covers, etc.) in industrial conditions.

### Description:

The magnetic sensor is controlled by a "screen" plate made of a ferromagnetic material which disconnects a reed contact when inserted to an air gap between sensor arms. The screen must not extend to more switches. The screen insertion depth is at least 85 mm to obtain reliable disconnection. The built-in resistor protects the contact against damage by peak capacity current when switched to a long line or relay coil. The magnetic switch is unattended only switching must be set according to requirements.

### Structure:

When MS-03 is mounted to a metal structure, the sensor must be separated from this structure by a base made of a non-magnetic material with the thickness of at least 3 mm.

The minimum ferromagnetic cover distance is 60 mm (this does not apply to the area under the fixation area). The sensor must be protected by a pre-fuse with the value of at least 0.2 A. MS-03 is supplied with approximately 1.5 m long cable; other lengths are possible upon agreement with the manufacturer, however must not exceed 30 m.

### Technical Parameters:

Model	I M2 Ex m I II 2GD Ex m II T6
Maximum voltage	50 V AC/DC
Maximum current	0.2 A, resistance load or induction quenched load
Pre-fuse maximum	0.2 A according to IEC 127 or IEC269
Conductor cross-section	1.5 mm <sup>2</sup>
Maximum resistance in switched status	15 Ω ± 5%
Service life	at least 3x10 <sup>6</sup> switches-on at resistance load of 6 W / 0.1 A
Conductor cross-section for grounding and interconnecting	4 mm <sup>2</sup>
Impact strength	20 J
Maximum sensor (screen) travel speed	25 m/s
Working position	Horizontal
Vibrations	0,35 mm; 10+ 55 Hz
Minimum screen insertion for switching	80 mm
Ambient temperature	0°C - +40°C
Relative humidity	99% without condensation
Dimensions	96 x 125 x 40 mm
Screen dimensions	2 x 80 x 120 mm
Weight	2.8 kg

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