MS41
Magnetic level gauge switch
Measurement made easy
Magnetically actuated 10 A hermetically sealed electric switch

Features
• hermetically sealed 10A, DPDT switch
• separate terminal compartment eliminates corrosion potential
• easy mounting and adjustment - only screwdriver required
• trip point infinitely adjustable without changing process piping
• suitable for high temperature and high vibration applications
• compact design
• process temperatures from -195 to 454°C (–320 to 850°F)
• no process piping or valves required
• RoHS 2.0 compliant with industrial explosion proof IP 67 and NEMA4X enclosure with ATEX/IECEX, FM US and CSA approvals
Introduction

The MS41 electric switch is a magnetically actuated double pole double throw switch. When the MS41 is mounted on a KM26, LS series, or an external chamber that contains a magnetic float, it can sense a high or low level within a vessel. The unique magnetic coupling action eliminates the need for seals, diaphragm springs, or torque tubes because there is no physical contact with the process. The switch configuration also has no process connections which insures complete isolation from the process. The maintenance free design requires no periodic cleaning or operational checks and contains hermetically sealed contacts that insure high reliability and extended product life.

Specification

Switch

Switch type
Magnetically actuated, cam driven snap action bistable switch; DPDT

Switch action
Break–before–make

Max deadband
Approx. ± 1.9 cm (¾ in) of float travel

Contact rating

Material
Silver–cadmium alloy

AC rating
10 A resistive, ¼ HP @ 125 AC or 250 V AC and less than 187 Watts

DC rating
2.6 amp @ 24 VDC, ¼ A @ 125 VDC, ¼ A @ 250 VDC

Lamp load rating
1.5A @ 125 VAC

Process temperature
–51 to 149°C (–60 to 300°F) standard;
–195 to 454°C (–320 to 850°F) with options

Switch Ambient Temperature
–50 to 100°C (–58 to 176°F) (max. ambient temp. de-rated depending on approval rating, see below)

Housing

Material
316L stainless steel, dual compartment housing, IP67 / NEMA 4X

Electrical connections
¾ in FNPT conduit and terminal block with #6 screws

Approvals

IECEx Logo

The IECEx Logo as shown in Figure 1 is the graphical symbol to clearly identify the “brand” of the IECEx and shows its relationship with the IEC. The IECEx logo encompasses both boxes as shown below.

The use or misuse of the Logo can impact on the integrity of the organisation or its members. Use of the Logo by an organisation or individual only shows an association with the IECEx, it does not infer any compliance with Standards.

NOTE 1  The design and use of the IECEx Logo is given in Clauses 2 to 3.

NOTE 2  The dotted line around the Logo does not form part of the Logo. It only indicates that the two elements are used together.

Figure 1 – IECEx Logo

2.2 Guidance for colours used in the Logos

The colours used in the Logos may be identified as follows:

a) For the web, presentations and jpeg images (RGB)

Blue:  Red 0  Green 91 Blue 161

b) For printer, posters and TIFF images (CMYK and Pantone)

Where C, M, Y, and K are the percent values for the cyan, magenta, yellow, and black values of the colour.

Blue:  C 100 M 60 Y 0 K 6 Pantone 286 CV

NOTE 1  Guidance on RGB colours may be found in IEC 61966-2-5, Multimedia systems and equipment - Colour measurement and management - Part 2- 5: Colour management - Optional RGB colour space - opRGB.

NOTE 2  The information on colours CMYK comes from a variety of sources.

3 IECEx Logo appearance

3.1 Master symbol for photographic reproduction

The IECEx Logo (which encompasses the IEC Logo) when used shall always appear as shown in Figure 1.

The IECEx Logo is available from the IECEx Secretariat and may be used for photographic reproduction.

The colour of the IECEx Logo is shown in Figure 1. Use of black with white background is permitted.
Ordering information

<table>
<thead>
<tr>
<th>Mandatory characteristics</th>
<th>MS41</th>
<th>xx</th>
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<tbody>
<tr>
<td>Mounting</td>
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<td>Standard up to 149°C (300°F)</td>
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<td>Includes Switch Insulation Pad; Process Temperatures up to 315°C (600°F)</td>
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<tr>
<td>Includes rod mount brackets for use with insulated KM26 magnetic level gauges or ST95 seal fluid supply tanks with switch rods; process temperatures up to 454°C (850°F)</td>
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<td>Certificate of functionality</td>
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Example configurations

MS41 mounted on KM26 magnetic level gauge

MS41 mounted on LS series mechanical level switch

Wiring connections

Contact closure is shown with the magnetic float below switch
Notes