
ABB MEASUREMENT & ANALYTICS | DATA SHEET

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 ($\frac{3}{4}$ in) of float travel

Contact rating

Material

Silver-cadmium alloy

AC rating

10 A resistive, $\frac{1}{4}$ HP @ 125 AC or 250 V AC and less than 187 Watts

DC rating

2.6 amp @ 24 VDC, $\frac{1}{2}$ A @ 125 VDC, $\frac{1}{4}$ 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

$\frac{3}{4}$ in FNPT conduit and terminal block with #6 screws

Approvals

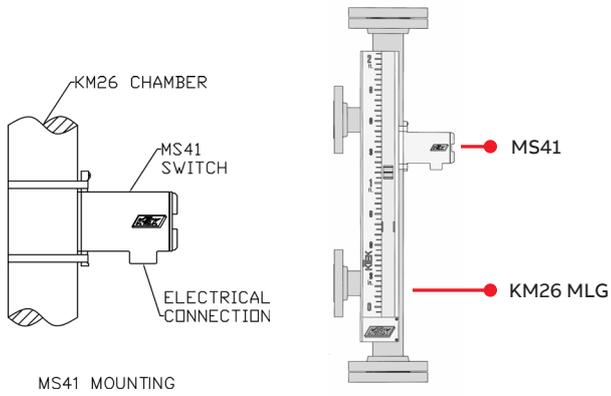


Ordering information

Mandatory characteristics	MS41	xx	xx	xx
Mounting				
Standard up to 149°C (300°F)		S		
Includes Switch Insulation Pad; Process Temperatures up to 315°C (600°F)		IH		
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)		RD		
Electrical connection				
¾ in FNPT standard			F7	
M20 adapter			M2	
Approvals				
None				Y0
Factory Mutual System (FM) and Canadian Standards Association (CSA) approvals				N3
ATEX/IECEX intrinsically safe				E1
ATEX/IECEX flameproof				E2
EAC TR CU approvals				G1
<hr/>				
Optional characteristics	MS41	xx		
Services				
Certificate of origin				GS1
Certificate of functionality				CU3

Example configurations

MS41 mounted on KM26 magnetic level gauge



MS41 mounted on LS series mechanical level switch

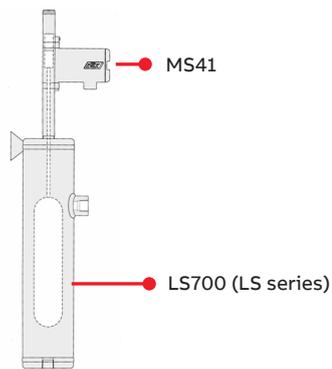
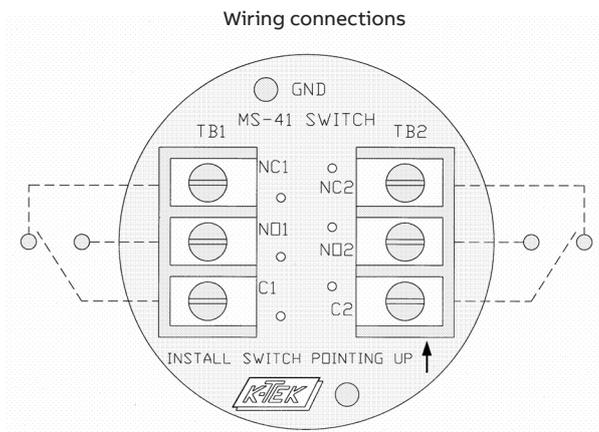


Figure 1 Example configurations



Contact closure is shown with the magnetic float below switch

Figure 2 Wiring connections

Notes

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