

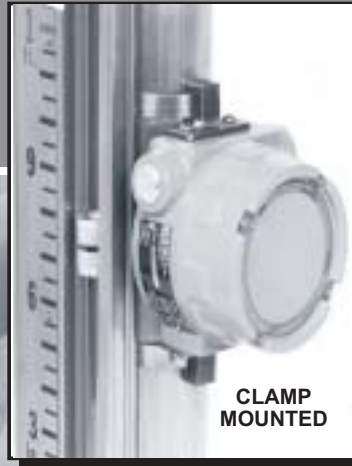
ES40 ELECTRIC PROXIMITY SWITCHES



APPROVED



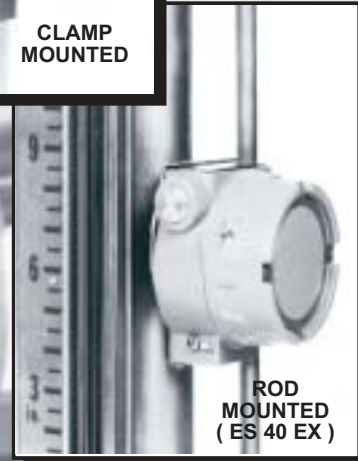
CLAMP MOUNTED (ES 40)



CLAMP MOUNTED



ROD MOUNTED (ES 40)



ROD MOUNTED (ES 40 EX)

DESCRIPTION

The ES-40 is a magnetically activated proximity switch. It will accurately detect HIGH/LOW Level when used with a PROMAG PM-26 Liquid Level Measuring Gauge.

FEATURES

- * Unique Magnetic Coupling Concept
- * Ease of Mounting and Adjustment - no special tools required
- * SPDT Switch (NC & NO Contacts)
- * DPDT (2 sets NC & NO Contacts)
- * Compact Design
- * Latching / Automatic Reset

BENEFITS

- No contact with process fluids
- No valves or process piping required
- No seals, diaphragms, springs, or torque tubes required
- No cleaning required
- Trip point easily adjustable
- Vibration resistant
- Corrosion Resistant Components

MOUNTING

A small screwdriver is the only tool necessary. Two stainless steel clamps pass through the mounting slots attached to the switch housing then around the **PM-26** chamber. The switch can be repositioned easily by loosening the stainless clamp then sliding the switch along the chamber to the required position. Two switches can be mounted to trip at the same point, or at two different points separated by less than the length of the switch. The Switches may also be rod mounted for more flexibility.

APPLICATIONS

Systems requiring Proximity Sensing.

EXAMPLE: Activating alarms / solenoids / motor starters relays etc..

OPERATION

The ES40 consists of a Micro Switch, Trip Spindle and a Bar Magnet. The Trip Spindle will rotate when the Float of the PM26 passes by it in either an upward or downward direction. This rotation of the Trip Spindle is due to the interaction of the magnetic field of the Bar Magnet attached to it, and the magnetic field of the PM-26 Float. The Trip Spindle has a center cam design that trips the Micro Switch when it rotates, causing the Micro Switch's contacts to either open or close. The Trip Spindle will latch in either direction of rotation due to a unique latching design. Therefore, as the PM-26 Float continues to either rise or fall past the actuation point, the Switch will maintain its new position eliminating the need for latching relays. This Latching design also provides the ES40 with the automatic reset feature.

PRO MAG LTD

BULLETIN 1004

ES40 ELECTRIC PROXIMITY SWITCH

SWITCH TYPE DESCRIPTION

The difference between a Type 1 and a Type 2 switch has to do with the Electrical Class rating as described below.

The Type 1 switch has FM Approval for Class I Div. 2 and Class I Div 1 only when housed in a Explosion Proof housing and with the proper seal fittings. It can be used in Non-Hazardous area when housed in NEMA 4 housings.

The Type 2 switch can be mounted in a Class I Div 2 area when it is mounted in the NEMA 4 housing. It can be used in a Class I Div. 1 area when mounted in an Explosion Proof housing.

ES40 SWITCH PART NUMBER EXAMPLE

HOUSING STYLE

- F NEMA 4X FIBERGLASS
- X NEMA 7 EXPLOSION-PROOF

CONFIGURATION

- S SINGLE POLE DOUBLE THROW
- D DOUBLE POLE DOUBLE THROW

MOUNTING

- R ROD MOUNTED
- C CLAMP MOUNTED

SWITCH TYPE

- 1 TYPE 1
- 2 TYPE 2

ELECTRICAL HOOKUP

- T TERMINAL STRIP
- F FLYING LEADS

HIGH TEMPERATURE PAD

- X NO PAD < 200 °F
- P HI TEMP PAD > 200 °F

ES40 F D R 1 F X

← PART NUMBER EXAMPLE

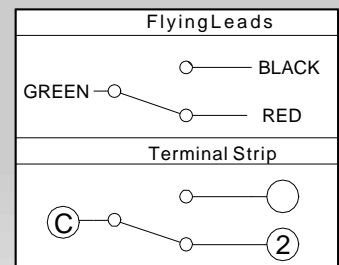
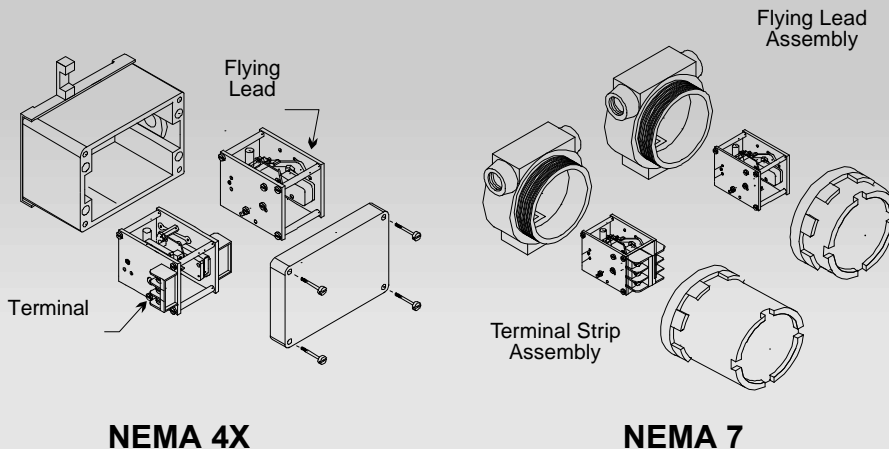
TYPE 1 SWITCH **FM** APPROVED

SWITCH TYPE	Magnetically Activated Micro-Switch
SWITCH ACTION	Break before Make
MAX DEAD BAND	Approximately +/- .75" of float travel
MAX SWITCHING VOLTAGE	125 / 250 VAC
MAX CURRENT RATING	10 Amps @ 125 / 250 VAC 1/2 Amp @ 125 VDC 1/4 Amp @ 250 VDC 3 Amps @ 125 VAC (lamp load)
MECHANICAL LIFE	1 Times 10 ⁷ Operations
MAX SWITCHING RATE	10,000 per Hour
MAX TEMPERATURE	200 deg F (93 deg C) Consult Factory for High Temp Applications. (High Temperature Pad Required)
HOUSING	See Part Number Options
APPROVALS	Factory Mutual NEMA 4 Non-Hazardous Area NEMA 7 Class I Div 1 Groups B,C, D with proper seal fittings

TYPE 2 SWITCH **FM** Applied For

SWITCH TYPE	Magnetically Activated Micro Switch
SWITCH ACTION	Break before Make
MAX DEAD BAND	Approximately +/- .75" of Float Travel
MAX SWITCHING VOLTAGE	250 VAC / 250 VDC
MAX CURRENT	7 Amps Resistive @ 125 / 250 VAC 5 Amps Inductive @ 125 / 250 VAC
	7 Amps @ 30 VDC Resistive 5 Amps @ 30 VDC Inductive 1 Amp @ 75 VDC Resistive 1 Amp @ 75 VDC Inductive .5 Amp @ 125 VDC Resistive .06 Amp @ 125 VDC Inductive .25 Amp @ 250 VDC Resistive .03 Amps @ 250 VDC Inductive
MECHANICAL LIFE	10,000 Cycles per Hour
MAX TEMPERATURE	200 deg F (93 deg C) Consult Factory for higher Temp Applications. (High Temperature Pad Required)
HOUSING	See Part No Breakdown / Options for Housings Available

ES40 SWITCH HOUSING OPTIONS



ES40 Contact Arrangement

NEMA 4X

NEMA 7

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