# MLS-3, MLS-3Ex Level Switches Specifications \& Wiring Diagrams Specifications MLS Series 

3902 Magnolia Rd.
Pearland, Texas 77584
Phone 281-488-0788 Fax 281-488-7080

## Specifications MLS Series

## Specifications:

Deadband:
$600^{\circ} \mathrm{F}\left(316^{\circ} \mathrm{C}\right)$
Min. Temperature: $-40^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right)$
Contacts:
Contact Ratings:
Volts AC/DC
Amps
Housing:
Electrical Class:
. 50 Inches ( 12.7 mm )

SPDT or DPDT
150

General Purpose
1.0 to 10.0 Amp Options

316 SS Encapsulated base with
Explosion-proof Condulet
Class 1, Div. 1, Groups B, C \& D
UL, C-UL, CSA \& ATEX Listed

## Switch Options:

| MLS-3 | 1 amp SPST switch (no housing) |
| :--- | :--- |
| MLS-3Ex | explosion-proof with terminal block |
| MLS-3Ex 2 | DPDT option |
| MLS-5Ex | 5 amps, DPDT |
| MLS-10Ex | 10 amps, DPDT |
| "HT" | options for temperatures to $650^{\circ} \mathrm{F}$ |
| "NL" | Non-latching |

## MLS-3, MLS-3Ex Level Switches

Description: The MLS-3 and MLS-3Ex are electrically the same. The Ex version comes with an explosion-proof housing with terminal block. The MLS-3 switch is a hermetically sealed BI-Stable latching reed switch with SPDT Form C contacts. The switch is actuated by the float and latches, thus maintaining the contact after the float continues to rise or fall with level. The MLS-3 is best suited for low power alarm signals.

## Specifications:

| Deadband: | . 50 Inches |
| :---: | :---: |
| Max. Temperature: | $\begin{aligned} & 650^{\circ} \mathrm{F}\left(343^{\circ} \mathrm{C}\right)-\text { HT Version } \\ & 350^{\circ} \mathrm{F}\left(177^{\circ} \mathrm{C}\right)-\text { STD } \end{aligned}$ |
| Version |  |
| Min. Temperature: | $-40^{\circ} \mathrm{F} /{ }^{\circ} \mathrm{C}$ |
| Contacts: | Form C SPDT |
| Maximum Ratings: |  |
| Switching Voltage: | 150 Volts AC/DC |
| Current: | 1.0 Amps AC/DC |
| Power: | 25 Watts DC/VA |

## Switch Operation/Mounting:

To mount the MLS Series Level Switch simply clamp it directly to the side of the level gage chamber using the adjustable pipe clamps provided. Alarm set points may be changed by simply loosening the clamps and sliding the switch to the desired alarm level. To set up desired starting state follow these steps: Wiring Details:
Rising Level Alarm

| MLS-3 | Yellow | Green | Red |
| :---: | :---: | :---: | :---: |
| MLS-3Ex | A(NC) | $C$ | $B(N O)$ |
| Falling Level Alarm |  |  |  |
| MLS-3 | Red | Green | Yellow |
| MLS-3Ex | B(NC) | $C$ | $A(N O)$ |

The wire leads on the MLS-3 should be terminated using suitable means (wire nuts, terminal block, etc.). The MLS-3Ex are provided with a terminal block inside the explosion-proof enclosure.

After the switches are mounted and wired, they need to be set to the desired state for rising or falling level as noted previously. This is easily accomplished by either manually pushing the float or magnet past the highest switch, or filling the gage chamber with fluid until all switches are properly set.

Schematic:


# MLS-5Ex, MLS-10Ex-R, PS-2 / PS-2H Level Switches Specifications \& Wiring Diagrams 

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## MLS-5Ex and 10Ex Series Level Switches NOTE: These switches require power.

Description: The MLS-5Ex and MLS-10Ex-R switches come in explosion-proof housing (same as MLS-3Ex) with terminals and hermetically sealed relays rated for 5 and 10 Amp, 2 Form C, DPDT contacts. The relay is actuated by the float and latches, thus maintaining the contact after the float continues to rise or fall with the level. These are best suited for alarm signals or pumps.

MLS-5Ex Specifications:

| Deadband: <br> Max. Temperature: | .50" (12.7mm) |
| :---: | :---: |
|  | $650^{\circ} \mathrm{F}\left(343^{\circ} \mathrm{C}\right)-\mathrm{HT}$ Version |
|  | $350^{\circ} \mathrm{F}\left(176^{\circ} \mathrm{C}\right)$ - STD Version |
| Min. Temperature: | $-40^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right)$ |
| Contacts: | Form C DPDT |
| Maximum Ratings: |  |
| Switching Voltage: | 240V/30V AC/DC |
| Current: | 5 Amps |
| Power: | 1KVA/150W |
| Contact Ratings: |  |
| 5A @ 240VAC resistiv | ve 1.5A @ 240VAC inductive (cosec=0.4) |
| 5A @ 120VAC resistiv | ve 1.5A @ 120VAC inductive (cosec=0.4) |
| 5A @ 30VDC resistive | 1.5A @ 24VDC inductive (L/R=7msec) |

MLS-10Ex-R Specifications:

| Deadband: | .50 Inches |
| :--- | :--- |
| Max. Temperature: | $650^{\circ} \mathrm{F}\left(343^{\circ} \mathrm{C}\right)-$ HT Version |
|  | $350^{\circ} \mathrm{F}\left(176^{\circ} \mathrm{C}\right)-$ STD Version |
| Min. Temperature: | $-40^{\circ} \mathrm{F}\left(-40^{\circ} \mathrm{C}\right)$ |
| Contacts: | Form C DPDT |
| Maximum Ratings: |  |
| $\quad$ Switching Voltage: | $240 \mathrm{~V} / 30 \mathrm{~V}$ AC/DC |
| Current: | 10 Amps |
| Power: | $2 \mathrm{KVA} / 300 \mathrm{~W}$ |

Contact Ratings:
10A@ 240VAC resistive
10A@120VAC resistive
10A @ 30VDC resistive 1/8HP @ 250VAC

8A @ 240VAC inductive (cosec=0.4)
8A @ 120VAC inductive (cosec=0.4)
8A @ 24VDC inductive (L/R=7msec)


## PS-2 | PS-2H Level Switches

Description: The PS-2 is a pneumatic switch designed to control air and natural gas from 15 to 100 psi. The PS-2 is rotary cam activated and incorporates a non-bleed switch. When the float passes, the cam rotates and latches the switch in the open position. This will allow unobstructed airflow. When the float moves back in the opposite direction the switch unlatches and blocks the airflow. The nobleed design of the PS-2 makes it ideal for controlling applications requiring natural gas. The PS-2 can also be used to contro pneumatic alarms, pumps and valves.

## PS-2 / PS-2H Specifications:

| Deadband: | $0.7^{\prime \prime}(17.78 \mathrm{~mm})$ |
| :--- | :--- |
| Max. Temperature: | $300^{\circ} \mathrm{F} / 450^{\circ} \mathrm{F}\left(148^{\circ} \mathrm{C} / 232^{\circ} \mathrm{C}\right)$ |
| Min. Temperature: | $0^{\circ} \mathrm{F}$ |
| Supply Pressure @ $70^{\circ} \mathrm{F}$ | $15-100 \mathrm{psi}(1.03-6.89 \mathrm{bar})$ |
| Supply Pressure @ $300^{\circ} \mathrm{F}$ | $15-35 \mathrm{psi} / 15-60 \mathrm{psi}$ |
| (Dry, Filtered air or gas) | $(1.03-2.41$ bar $/ 1.03-4.41$ bar $)$ |
| Housing | 316 SS , Nema 4 |



