



# MLS39 Level Switch

## INTRODUCTION:

The Manik MLS39 is a refrigerant liquid level switch used to electrically indicate or control a liquid level by opening or closing a SPDT/DPDT switch. The Float Chamber is made of Cast Steel which can sustain high pressures upto 50Bars. The float chamber is also available in Cast Stainless Steel (CF8) which provides robust corrosion-free design. Long lasting independent LED Lamps provide quick indication of High and Low level even from a distance. The precise and reliable electromechanical design provides long life performance for almost any application. For ease of installation, switch assembly position rotates 360°.

MLS 39 is used for various applications such as liquid level control in evaporators, protection switch for high and low level in pump re-circulatory vessels.

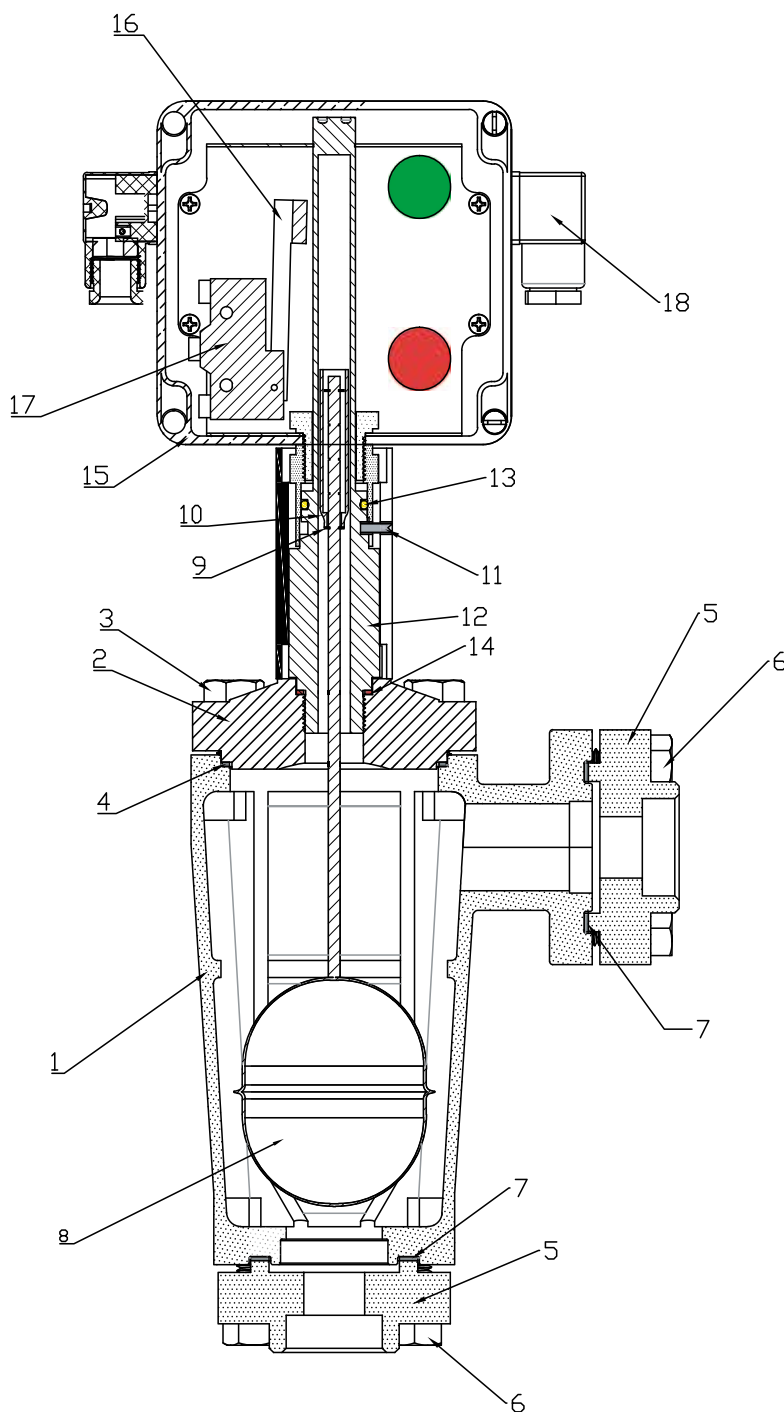
Liquid operating point can be easily adjusted. MSL39 is supplied with weldable flanges which is very easy to install, service and repair.

## DESIGN FEATURES

- Safe Working Pressure → 28 bar
- Operating Temperature → -45°C to 55°C
- Suitable for NH3, R-22, R404a etc
- Flange connection → ¾" or 1" BW/SW.
- Mechanically adjustable operating points.
- Electromagnetic Heavy Duty Snap Acting 10A switch.
- Easily replaceable switch box unit.
- DIN connector for Electrical connection.
- Flame proof version available on request.

## APPLICATIONS:

- Control Liquid Level by controlling a liquid fill solenoid valve.
- As High Level Cut-Off Alarms for Low Pressure Vessels in Liquid overfeed systems to protect compressors.
- To turn-off recirculating liquid pumps if a low level occurs.
- To control/detect Liquid Level in Flooded Shell and Tube Chillers, Intercoolers, Surge drums and Pressure vessels on the high side as well as the low side.



| SR NO. | PART NAME                  | QTY |
|--------|----------------------------|-----|
| 1      | FLOAT BODY                 | 1   |
| 2      | FLOAT HEAD                 | 1   |
| 3      | HEAD BOLTS                 | 4   |
| 4      | HEAD GASKET                | 1   |
| 5      | FLANGE                     | 2   |
| 6      | FLANGE BOLT                | 8   |
| 7      | FLANGE GASKET              | 2   |
| 8      | BALL FLOAT ASSEMBLY        | 1   |
| 9      | CIRCLIP FOR INTERNAL FLOAT | 2   |
| 10     | FLOAT SLEEVE               | 1   |
| 11     | M4X0.8 GRUB SCREW          | 1   |
| 12     | ENCLOSING TUBE             | 1   |
| 13     | O-RING FOR ENCLOSING TUBE  | 1   |
| 14     | GASKET FOR ENCLOSING TUBE  | 1   |
| 15     | CONTROL BOX                | 1   |
| 16     | ARM WITH MAGNET            | 1   |
| 17     | MICRO SWITCH               | 1   |
| 18     | DIN CONNECTOR              | 2   |

## OPERATION:

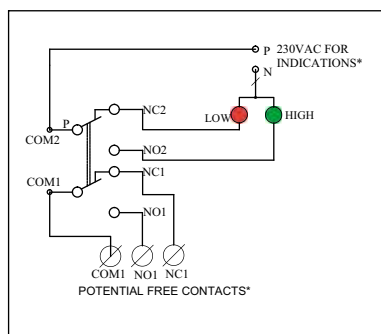
The MLS39 has an internal float ball - MFB3 (Pos.8) which slides smoothly inside when the liquid level rises or lowers inside a float. The float ball has a SS sleeve attached to its top which move along with the float ball inside the enclosing tube.

The Switch box (Pos.15) has an arrangement which includes an arm which holds the magnet (Pos.16) at one end and is connected to an electrical microswitch (Pos.17) on the other end.

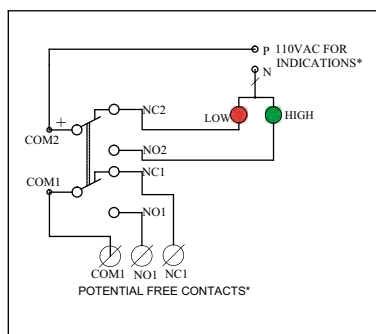
When the SS sleeve moves upwards along with the float-ball, it attracts the magnet at the calibrated point and the microswitch is operated. Similarly, when the SS sleeve moves downwards, the magnet frees to open the microswitch. 2nos separate NO and NC connections (potential free) are available at the output of the switch for multiple feedback/control.

The actual calibrated point of operation can be adjusted with the help of grub screw provided. (Pos.11). The differential of operation can also be changed by appending the position of the circlip(Pos.9) to suit the application needs. Standard position provide 40mm differential.

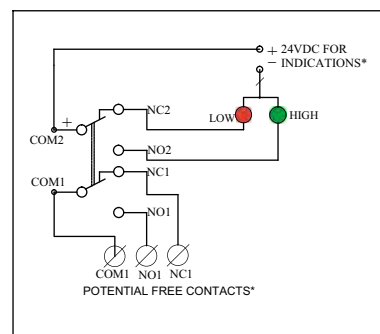
## ELECTRICAL CONNECTION:



MLS39 - 230A



MLS39 - 110A

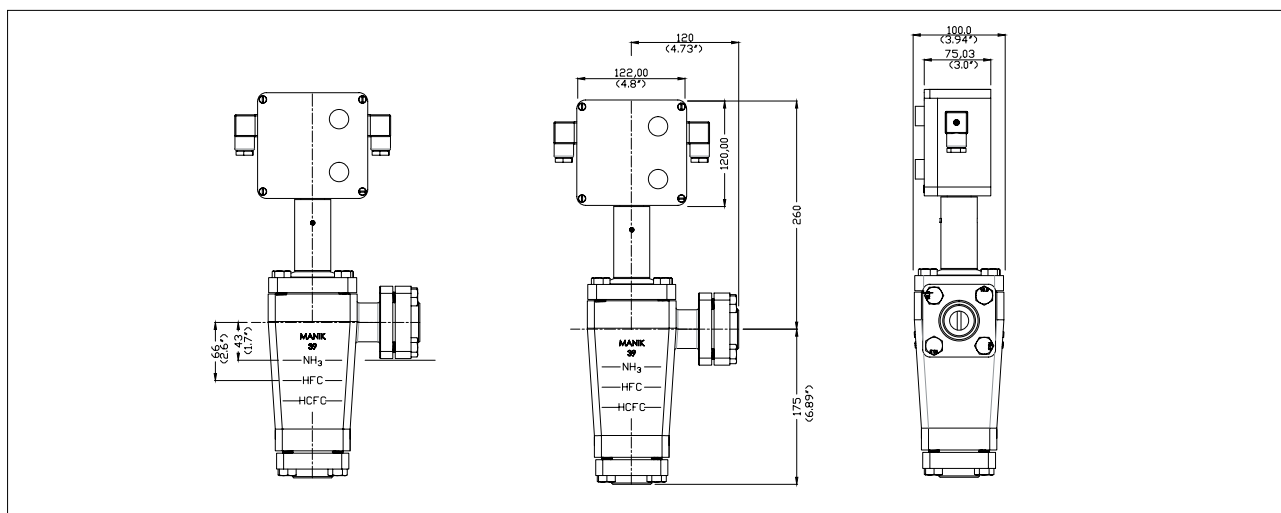


MLS39 - 24D

### NOTE

- 1) PLEASE MENTION SUPPLY VOLTAGE FOR INDICATION WHILE ORDERING 230VAC / 110VAC / 24VDC
- 2) POTENTIAL FREE CONTACT
  - a FOR CONNECTION TO PLC/DCS OR
  - b CONNECT SUPPLY VOLTAGE TO OPERATE SOV / PROCESS CONNECTION.
- 3) CHANGE OVER MICRO(DPDT) SWITCH RATINGS 250VAC / 10A OR 30VDC / 5A

## DIMENSIONS:



## ORDERING INFORMATION:

| Model no.    | Description                                                     | Weight |
|--------------|-----------------------------------------------------------------|--------|
| MLS39        | Standard                                                        | 7 kg   |
| MLS39-SS     | With Stainless Steel 304 Casting                                | 6 kg   |
| MLS39-HLI    | With High and Low Level Indicator                               | 7.2 kg |
| MLS39-SS-HLI | With Stainless Steel 304 Body and High and Low Level Indicator. | 6.2 kg |
| MLS-SB       | Switch box assembly                                             | 1 kg   |
| MFB3         | Float ball assembly                                             | 0.2 kg |

### Note:

MLS39 is by default supplied with 20NB Connection. For 25NB SW connection, please add suffix "25" to the ordering code. When ordering "HLI" type MLS, use the following to codes to indicate required voltage - 230 A - 230VAC / 110 A - 110VAC / 24 D - 24VDC

**For any queries and questions, please feel free to contact us at**

