

## DESCRIPTION

Standard liquid level sensor. The sensor has to be mounted vertically for best results.

Two versions are available:

**PP** (Polypropylene) for water applications and dilute acids

**PA** (Polyamide) for use in oil, gasoline (petrol) and brake fluid

The standard termination is a PVC cable with a cross section of 0.14 mm<sup>2</sup> and a length of 500 mm. The cable can be modified on request.

## FEATURES

- High power switches available
- Other cables, connectors and colors available
- Form A (normally open) and Form B (normally closed) types are available
- IP 68 (only to screw thread)

## MATERIALS

| Materials PA version |                     |
|----------------------|---------------------|
| Shaft, nut           | Polyamide black     |
| Float                | Polyamide black     |
| Seal                 | Nitrile rubber      |
| Materials PP version |                     |
| Shaft, nut           | Polypropylene black |
| Float                | Polypropylene black |
| Seal                 | Nitrile rubber      |

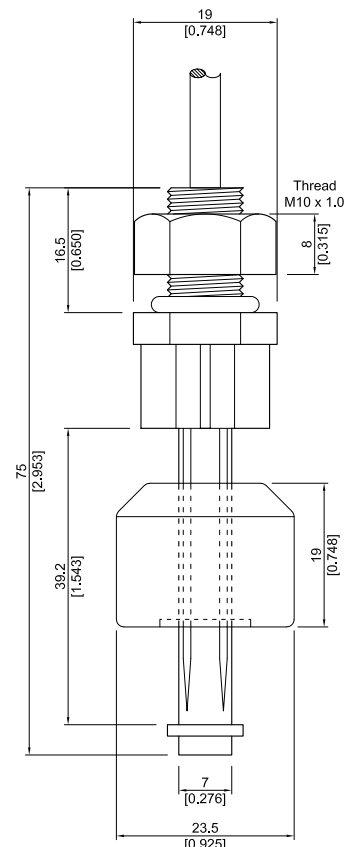


## APPLICATIONS

- Liquid container monitoring in household appliances, automotive applications, test and measurement, and control technology.

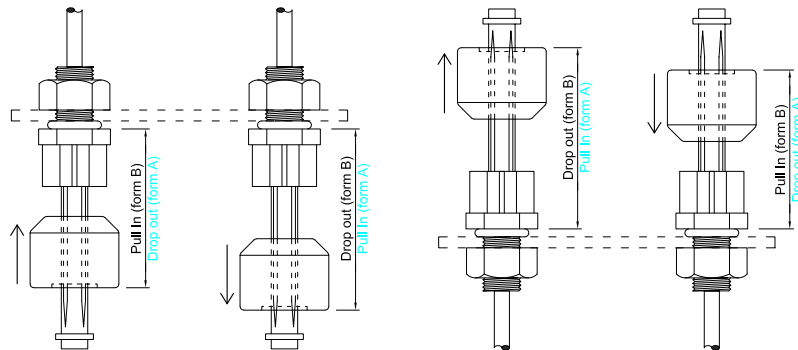
## DIMENSIONS

All dimensions in mm [inches]



## Level Sensors with Magnetic Floats

### MOVEMENT



### ORDER INFORMATION

| SERIES  | CONTACT FORM | SWITCH MODEL | MATERIAL | CABLE LENGTH (mm) | TERMINATION |
|---------|--------------|--------------|----------|-------------------|-------------|
| LS02 -  | XX           | XX -         | XX -     | XXX               | X           |
| OPTIONS | 1 Form A     | 66, 84       | PA, PP   | 500 *             | W, X, Y     |
|         | 1 Form B     |              |          |                   |             |

\* Other cable lengths available.

#### Part Number Example

LS02 - 1A66 - PA - 500 W

1A is the contact form  
66 is the switch model  
PA is the material  
500 is the cable length (mm)  
W is the termination

### TERMINATION

For wire and termination details please consult factory.

|   |  |                                                                                                   |
|---|--|---------------------------------------------------------------------------------------------------|
| W |  | The cable cut length includes:<br>30 mm of separated wire with<br>5mm of wire stripped and tinned |
| X |  | The cable cut length includes:<br>30 mm of separated wire with<br>individual crimped terminals    |
| Y |  | The cable cut length includes:<br>30 mm of separated wire with<br>individual spade terminals      |

## CONTACT DATA

| All data 20 °C                                                                                                                                                                                                                                                                                                                                                         | Switch Model →<br>Contact Form →                                 | Switch 66<br>Form A / B |      |      | Switch 84<br>Form A / B |      |      |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------|------|------|-------------------------|------|------|-------|
| Contact Ratings                                                                                                                                                                                                                                                                                                                                                        | Conditions                                                       | Min.                    | Typ. | Max. | Min.                    | Typ. | Max. | Units |
| Switching Power                                                                                                                                                                                                                                                                                                                                                        | Any DC combination of V & A not to exceed their individual max's |                         |      | 10   |                         |      | 10   | W     |
| Switching Voltage                                                                                                                                                                                                                                                                                                                                                      | DC or peak AC                                                    |                         |      | 200  |                         |      | 400  | V     |
| Switching Current                                                                                                                                                                                                                                                                                                                                                      | DC or peak AC                                                    |                         |      | 0.5  |                         |      | 0.5  | A     |
| Carry Current                                                                                                                                                                                                                                                                                                                                                          | DC or peak AC                                                    |                         |      | 1.25 |                         |      | 1.0  | A     |
| Static Contact Resistance                                                                                                                                                                                                                                                                                                                                              | w/ 0.5V & 10mA                                                   |                         |      | 150  |                         |      | 150  | mΩ    |
| Dynamic Contact Resistance                                                                                                                                                                                                                                                                                                                                             | Measured w/ 0.5V & 50mA 1.5 ms after closure                     |                         |      | 200  |                         |      | 200  | mΩ    |
| Insulation Resistance across Contacts                                                                                                                                                                                                                                                                                                                                  | 100 Volts applied                                                | 10 <sup>10</sup> *      |      |      | 10 <sup>11</sup>        |      |      | Ω     |
| Breakdown Voltage across Contacts                                                                                                                                                                                                                                                                                                                                      | Voltage applied for 60 sec. min.                                 | 225 *                   |      |      | 700                     |      |      | VDC   |
| Operate Time, incl. Bounce                                                                                                                                                                                                                                                                                                                                             | Measured w/ 50% overdrive                                        |                         |      | 0.5  |                         |      | 2.0  | ms    |
| Release Time                                                                                                                                                                                                                                                                                                                                                           | Measured w/ no coil suppression                                  |                         |      | 0.1  |                         |      | 0.1  | ms    |
| Capacitance                                                                                                                                                                                                                                                                                                                                                            | @ 10kHz across contact                                           |                         | 0.2  |      |                         | 0.7  |      | pF    |
| <b>Environmental Data</b>                                                                                                                                                                                                                                                                                                                                              |                                                                  |                         |      |      |                         |      |      |       |
| Shock Resistance                                                                                                                                                                                                                                                                                                                                                       | 1/2 sine wave duration 11ms                                      |                         |      | 50   |                         |      | 50   | g     |
| Vibration Resistance                                                                                                                                                                                                                                                                                                                                                   | From 10 - 2000 Hz                                                |                         |      | 20   |                         |      | 20   | g     |
| Ambient Temperature                                                                                                                                                                                                                                                                                                                                                    | 10 °C/ minute max .allowable                                     | -20                     |      | 90   | -20                     |      | 90   | °C    |
| Storage Temperature                                                                                                                                                                                                                                                                                                                                                    | 10 °C/ minute max. allowable                                     | -20                     |      | 100  | -20                     |      | 100  | °C    |
| Soldering Temperature                                                                                                                                                                                                                                                                                                                                                  | 5 sec dwell                                                      |                         |      | 260  |                         |      | 260  | °C    |
| Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.<br>* Insulation resistance of 10 <sup>12</sup> and breakdown voltage of 480 VDC is available.<br>These ranges refer to the uncut / unmodified Reed Switches described in our Reed Switch section. Consult factory if more detail is required. |                                                                  |                         |      |      |                         |      |      |       |



*Products for  
Automation*

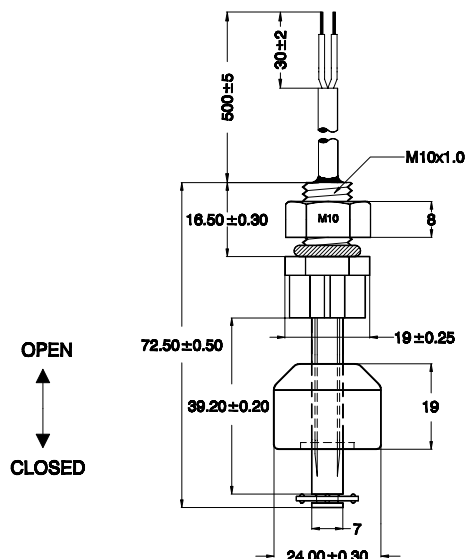
Headquarter Europe  
MEDER electronic AG  
Friedrich-List Strasse 6  
D-78234 Engen-Welschingen  
Tel.: +49(0)7733-9487-0  
Fax: +49(0)7733-9487-32  
eMail: [info@meder.com](mailto:info@meder.com)  
Internet: [www.meder.com](http://www.meder.com)

Headquarter USA  
MEDER electronic Inc.  
766 Falmouth Rd  
Mashpee, MA 02649  
Phone: +1/ 508-539-0002  
Fax: +1/ 508-539-4088  
eMail: [salesusa@meder.com](mailto:salesusa@meder.com)

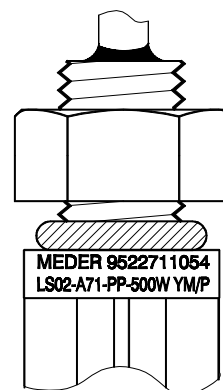
Level Sensor: LS02-1A71-PP-500W

Part Number: 9522711054

#### Dimensions (mm)(unspecified tolerances $\pm 0,1\text{mm}$ )



#### Marking



MEDER-Label Art.Nr. Type  
Production-Code-EN60062/Factory Code

| Contact Data 71 (Form A/Dry)        |                                                                                            | Min.             | Typ. | Max. | Units      |
|-------------------------------------|--------------------------------------------------------------------------------------------|------------------|------|------|------------|
| Contact Rating                      | Any combination of the switching voltage and current must not exceed the given rated power |                  |      | 10   | W          |
| Switching Voltage                   | DC or Peak AC                                                                              |                  |      | 200  | V          |
| Switching Current                   | DC or Peak AC                                                                              |                  |      | 0,5  | A          |
| Carry Current                       | DC or Peak AC                                                                              |                  |      | 1,0  | A          |
| Static Contact Resistance (initial) | Measured with 40% overdrive                                                                |                  |      | 150  | m $\Omega$ |
| Insulation Resistance               | RH 45%                                                                                     | 10 <sup>12</sup> |      |      | $\Omega$   |
| Breakdown Voltage                   |                                                                                            | 240              |      |      | VDC        |
| Operate Time, including Bounce      | Measured with 40% overdrive                                                                |                  |      | 0,5  | ms         |
| Release Time                        |                                                                                            |                  |      | 0,1  | ms         |
| Capacitance                         |                                                                                            |                  | 0,3  |      | pF         |

| Material    |                     |
|-------------|---------------------|
| stem        | Polypropylene white |
| nut         | Polypropylene white |
| float       | Polypropylene white |
| lock washer | Polypropylene white |
| O-ring      | nitril caoutchouc   |

| Environmental Data            |                                                                                                                                   |     |             |     |            |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----|-------------|-----|------------|
| Shock                         | ½ sine wave, duration 11ms                                                                                                        |     |             | 50  | g          |
| Vibration                     | from 10 - 2000 Hz                                                                                                                 |     |             | 20  | g          |
| Operating Temperature         | 10°C/min max. allowable                                                                                                           | -20 |             | 80  | °C         |
| Storage Temperature           | 10°C/min max. allowable                                                                                                           | -20 |             | 80  | °C         |
| Contact Resistance with Cable | Measured with 40% overdrive                                                                                                       |     |             | 200 | m $\Omega$ |
| Sealing Compound              |                                                                                                                                   |     | Epoxy resin |     |            |
| Cable                         | Round cable LIYY 2 x 0,14 mm <sup>2</sup> , grey, colour of wire: white and brown<br>Ends of cable with 5 $\pm 1$ mm tinned leads |     |             |     |            |
| Connection                    | M10 x 1,0                                                                                                                         |     |             |     |            |
| Float specific density        | approx. 0,7 g / cm <sup>3</sup>                                                                                                   |     |             |     |            |
| Remarks                       | Float down = Contact closed; Float over = Contact open                                                                            |     |             |     |            |