



Mounting and Operation Manual Level Sensor M 01 – M 08

Functional Description

The level sensor is used for measuring of the level of liquid media. It operates according to the float principle with magnetic transmission in three-wire potentiometer circuit. A measuring network built into the slip pipe is actuated by a permanent magnet built into the float. This provides a proportional resistance signal for evaluation. Evaluation may take place for example with a series-connected resistance transmitter.

Area of Application

Level sensors serve exclusively for monitoring the level of liquid media. All materials which come into contact with the media must be suitably resistant. The medium to be monitored may not be heavily contaminated. It may not have a tendency to crystallize.

Assembly

When installing the level sensor according to their connection please make sure that they are installed in the correct position (max. deviation from the vertical $\pm 30^\circ$). Use a suitable sealing to seal the process connection. For flange connections the corresponding bolts and nuts must be used. The float must be removed before installation in openings with a diameter smaller than the diameter of the float. Mark the position of the set collars before removing. The float must be marked with "top". Replace the float inside the tank after installing the float switch and fix the set collars in the marked position.

Electrical Connection

All cabling and electrical connections must be carried out in accordance with the regulations applicable in the country where the equipment is installed and by personnel qualified to do.

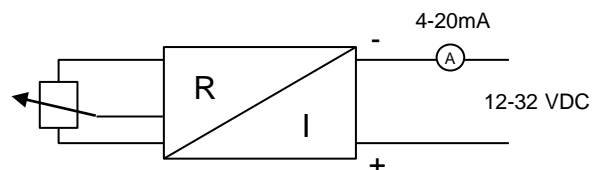
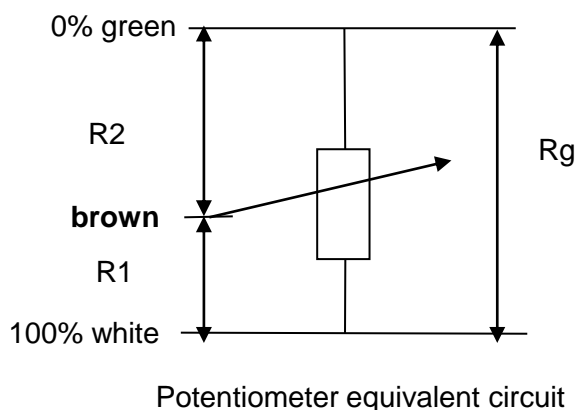
Warning!

Current spikes may occur malfunctions by using longer cable lengths or if the lines are laid together with energy lines. A screened cable must be used and earthed at one end.

The level sensor must be connected according to the wiring diagram and wired with the electronic unit to be connected in series. The cable bushing must then be sealed and the lid of the connection enclosure closed tightly.



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The level sensor with built-in head transmitter must be connected as shown in the wiring diagram.

Faults detection

Default Type

Transmitter Output

green opened	negative overflow I out>4mA
brown opened	positive overflow I out>25mA
white opened	negative overflow I out>4mA
no sensor	negative overflow I out>4mA

Maintenance

The level sensors operate free of maintenance and wear when used properly.

Function Test

A function test can only be carried out when the level sensor has been removed.

Disconnect the cable

Connect an ohmmeter to two wires

Move the float by hand from min. to max.

The displayed resistance value changes continuously depending on the connected wire colours

green and brown(R1): Resistance value increases proportionally to the height of the float

white and brown (R2): Resistance value drops proportionally to the height of the float

green and white (Rg): Display of the total resistance

Notes

Do not operate level sensors in the immediate vicinity of strong electromagnetic fields.

Only operate in connection with suitable transmitter.

The level sensor may not be exposed to any heavy mechanical stress.