

MEMPRO S6

Hydrostatic level controller with integrated aerator connection

INSTRUCTION MANUAL

Safety Precautions

- The device may only be connected to the specified supply voltage.
- Installation, initial start-up and maintenance may only be performed by trained technicians.

Description

The MEMPRO® hydrostatic level transmitter functions in accordance with the head-pressure principle, i.e. the level signal is proportional to the hydrostatic pressure in a measuring tube plunged into the liquid.

Application

The MEMPRO® hydrostatic level transmitter could be restricted in its signal response because of some specific operating conditions.

- Media with high fluctuation of density: level measurement will correspond to the mean value of density you may consider.
- Media with high viscosity or sticky fluids: in this case, the MEMPRO® hydrostatic level transmitter should operate with an external aerator.

MEMPRO® BL Automatic Aerator controller is designed for liquids with large temperature fluctuations, highly viscous and liquids depositing or degassing (e.g. Muriatic Acid). The aerator controller is connected to the MEMPRO through a tubing connection suitable for a PVC-hose Ø 4x1 mm. More details are on the operating manual of the **BL Automatic Aerator**



connection for PVC-hose Ø4x1 mm

Technical Data

Power Supply:	12 to 28 V DC
Ambient Temperature:	-15 to +60° C
Output Signal:	4 to 20 mA
Terminal housing:	PBT, fibre glass reinforced, IP65 acc. EN 60 529
Connector Cable:	for shielded cable 0.5 mm ² as a minimum Maximal load allowed to be respected (see the diagram)



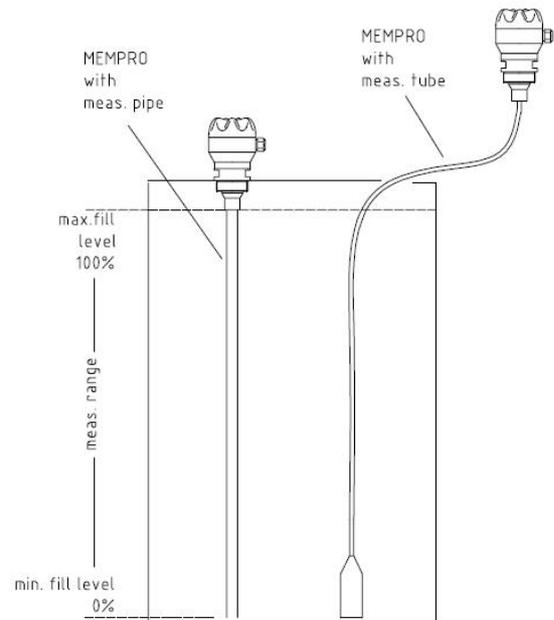
MEMPRO with measuring pipe



MEMPRO with measuring tube

Installation on site

Different ways for fitting the units above containers and tanks exist; the measuring pipe or tube is immersed into the liquid from above.



Maintenance

If used for its intended purpose, the MEMPRO® hydrostatic level transmitter is maintenance-free. If used with highly adhesive liquids (e.g. lime slurry), the measuring pipe or tube must be inspected at regular intervals and cleaned if necessary.

BAMO MESURES

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HYDROSTATIC LEVEL TRANSMITTER
MEMPRO

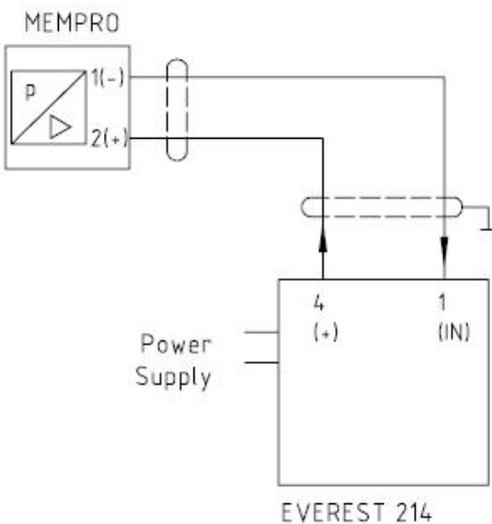
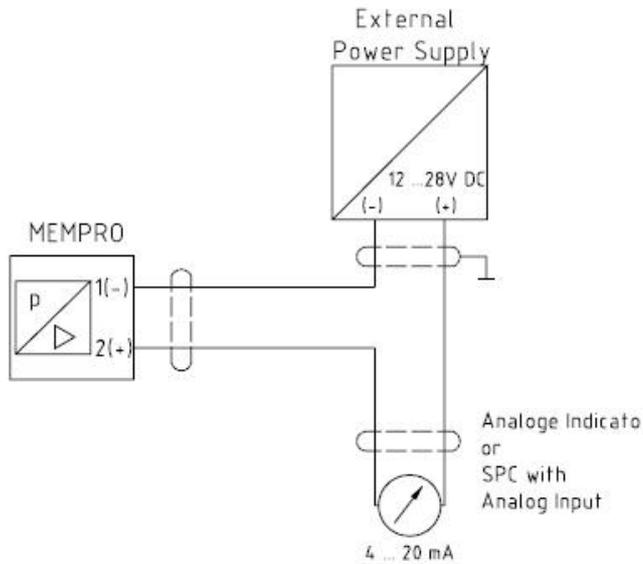
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Wiring



Initial Start-Up

All MEMPRO® hydrostatic level transmitters are configured at the factory to values acc. customer application or respectively to the measuring cell nominal value.

(DIP switch S1=ON)

- Zero point (0% fill level = 4 mA)
- Maximal value (100% fill level = 20 mA)

The zero point and the maximal value must always be examined during initial start-up and readjusted to the desired measuring range if necessary.

It is advantageous to adjust the MEMPRO with the original liquid.

Adjustment sequence

1. Electrical connection of MEMPRO acc. connection diagram
2. Preset of the measuring range

100 % of fill level range (height of Water Column)		
measuring cell Type 1 (1000 mm WC)	measuring cell Type 2 (2500 mm WC)	DIP switch setting
0,20 – 0,30	0,4 – 0,7 m	DIP 6 = ON
0,20 – 0,45	0,5 – 1,1 m	DIP 5 = ON
0,25 – 0,55	0,7 – 1,4 m	DIP 4 = ON
0,35 – 0,80	0,8 – 2,0 m	DIP 3 = ON
0,55 – 1,0	1,4 – 2,5 m	DIP 2 = ON
0,65 – 1,0	1,6 – 2,5 m	DIP 1 = ON

100 % of fill level range (height of Water Column)		
measuring cell Type 4 (4000 mm WC)	measuring cell Type 10 (10000 mm WC)	DIP switch setting
0,7 – 1,2	2,0 – 3,0	DIP 6 = ON
0,8 – 1,8	2,0 – 4,5	DIP 5 = ON
1,2 – 2,2	2,5 – 5,5	DIP 4 = ON
1,5 – 3,2	3,5 – 8,0	DIP 3 = ON
2,0 – 4,0	5,5 – 10	DIP 2 = ON
2,4 – 4,0	6,5 – 10	DIP 1 = ON

Note: Always switch only one of the DIP switches to ON-position

3. Zero Point

- Empty the container or remove the MEMPRO
- Adjust measuring current to 4 mA with the "4 mA" trimming potentiometer

4. 100%-Point

- Fill container with the original liquid to desired maximal level
- Adjust measuring current to 20 mA with the "20 mA" trimming potentiometer

Sensor type (1,2, 4 or 10)

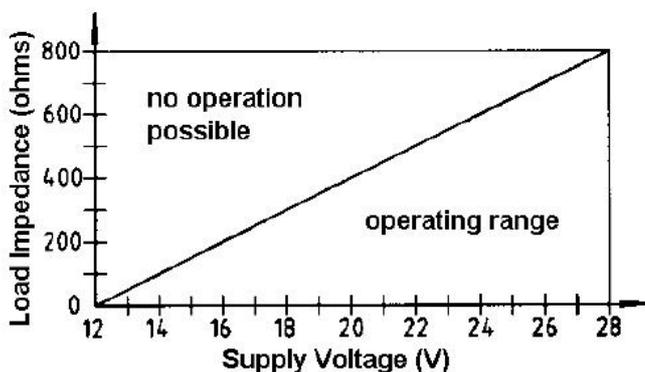
see Label
for example:

MEMPRO	R	1	2	Z8	X	S	L = 1800 m
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Note:

If the container is refilled with a liquid of different specific weight, the MEMPRO must be readjusted.

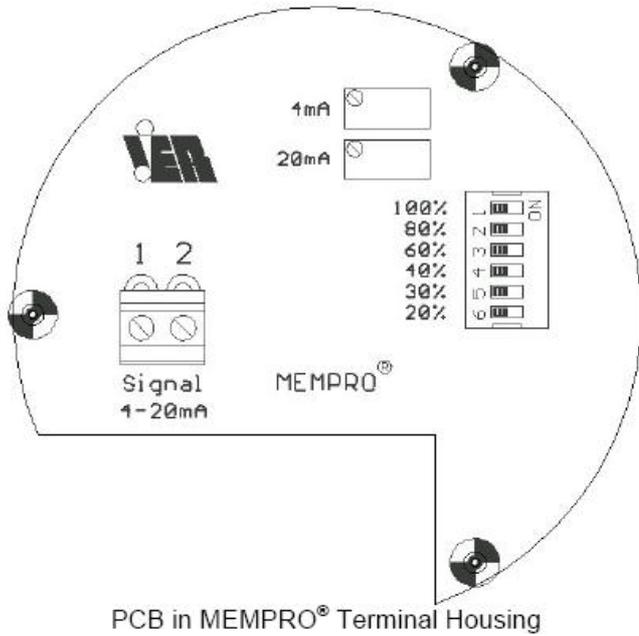
Load vs. Supply Voltage



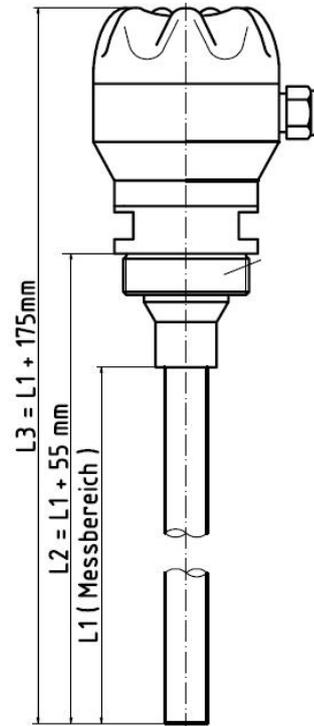
Note:

Load is the sum of all resistors within the measuring circuit.

PCB in MEMPRO® Terminal Housing



MEMPRO® with measuring pipe



Note:

Liquids with a density lower than water will reduce the nominal measuring range. $f = \frac{\text{density}_{\text{water}}}{\text{density}_{\rho > 1}}$

Reduction factor:

Result: the 20mA measuring signal is reached already at a lower filling level

Fill Level Measuring Signal vs. Density

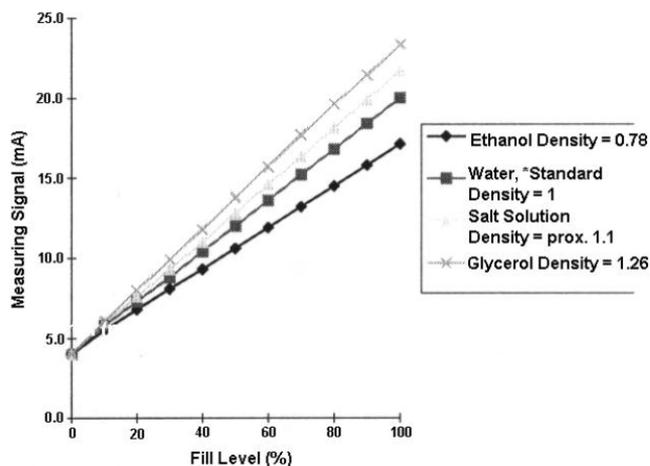
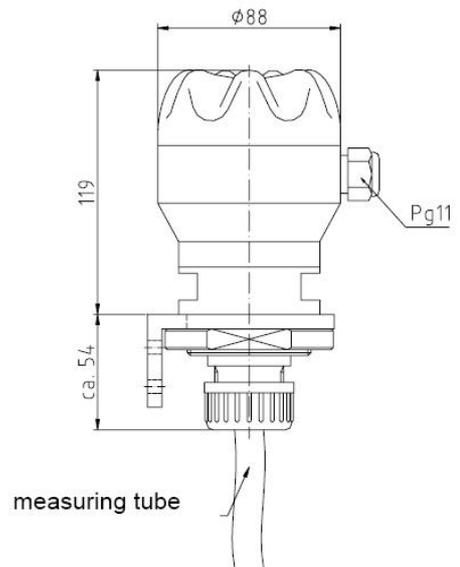


Diagram 1: Fill Level Measuring Signal versus Density

MEMPRO with measuring tube



CE Mark

Acc. Low Voltage Guideline (73/23/EWG) and EMC Guideline (89/336/EWG)