

# MEMPRO

## Hydrostatic level transmitter



### INSTRUCTION MANUAL

**BAMO MESURES**

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**MEMPRO**

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592 M1 01 A

**MES**

**592-01/1**

## 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

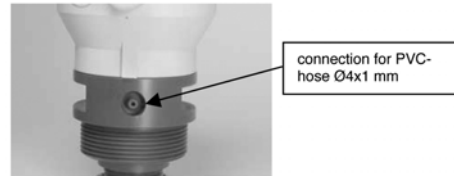
The MEMPRO® hydrostatic level transmitter could be restricted in its signal response because of some specific operating conditions.

- 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

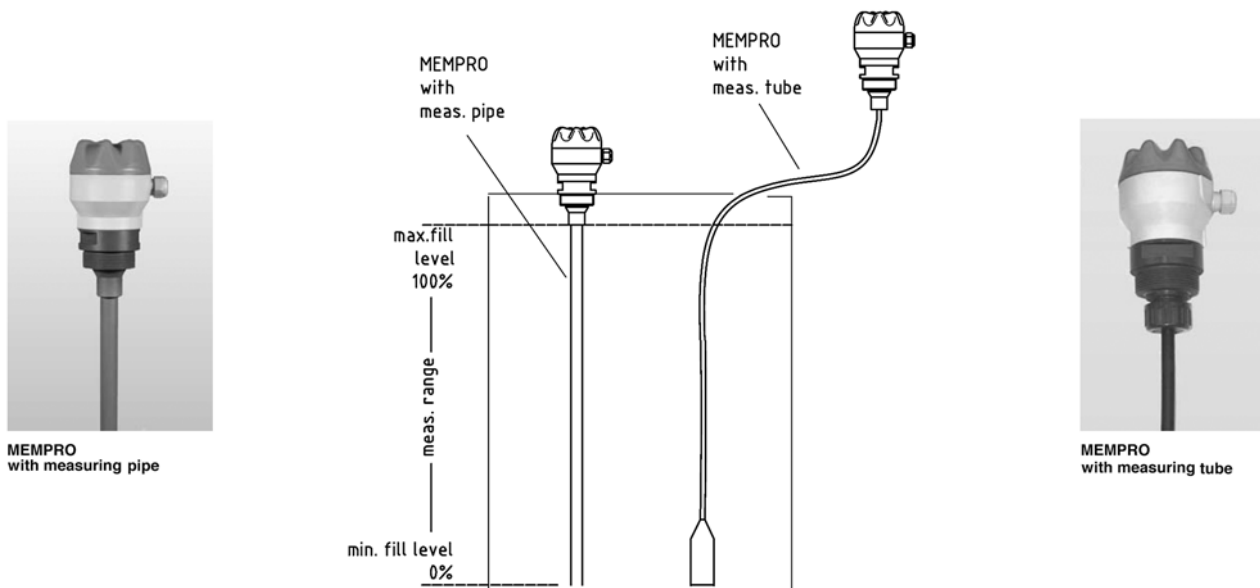


## TECHNICAL FEATURES

Power Supply:	12...28 V DC, max 5% residual ripple
Ambient temperature:	-15...+60° C
Liquid temperature:	PVC: 0...+60°C PP: 0...+90°C
Pressure measuring cell:	Ceramic, with EPDM-sealing
Output Signal:	4 to 20 mA
Connector Cable:	For shielded cable 0.5 mm <sup>2</sup> as a minimum Maximal load allowed to be respected (see the diagram)
Terminal housing:	PBT, fiber glass reinforced, IP65 acc. EN 60 529

## INSTALLATION

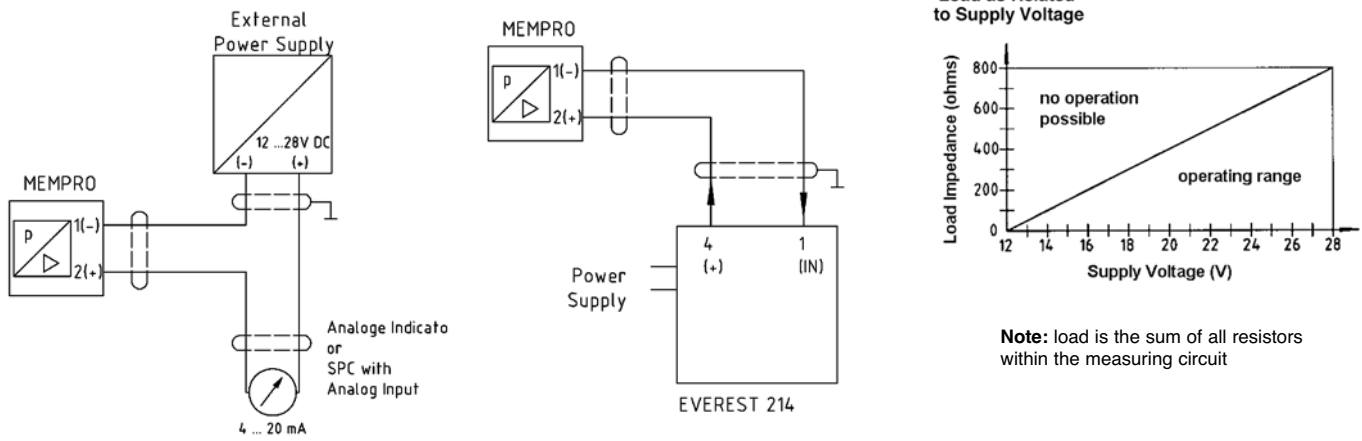
Different ways for fitting the units above containers and tanks exist; the measuring pipe or tube is immersed into the liquid from above.



## 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.

# WIRING



**Note:** load is the sum of all resistors within the measuring circuit

## 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 (10 000 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

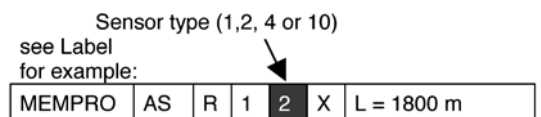
**Note:** Always switch only one of the DIP switches to ON-position

### 3. Zero Point

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

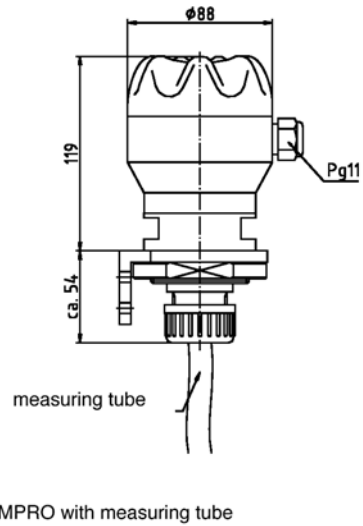
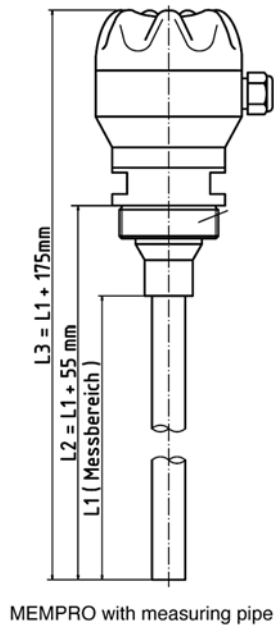
### 4. 100%-Point

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



**Note:**  
If the container is refilled with liquids which have another density the MEMPRO must be readjusted!

## DIMENSIONS



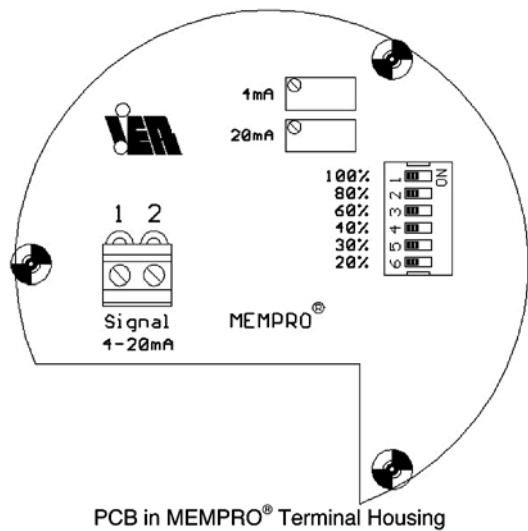
## TERMINAL HOUSING

### Note:

Liquids with a density greater than water will reduce the nominal measuring range.

$$\text{Reduction factor: } f = \left( \frac{\text{density}_{\text{water}}}{\text{density}_{\rho > 1}} \right)$$

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



## FILL LEVEL MEASURING SIGNAL V.S. DENSITY

