

RTM

Continuous level transmitter



Instruction manual

BAMO MESURES

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Continuous level transmitter
RTM

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NIV

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1. TECHNICAL FEATURES

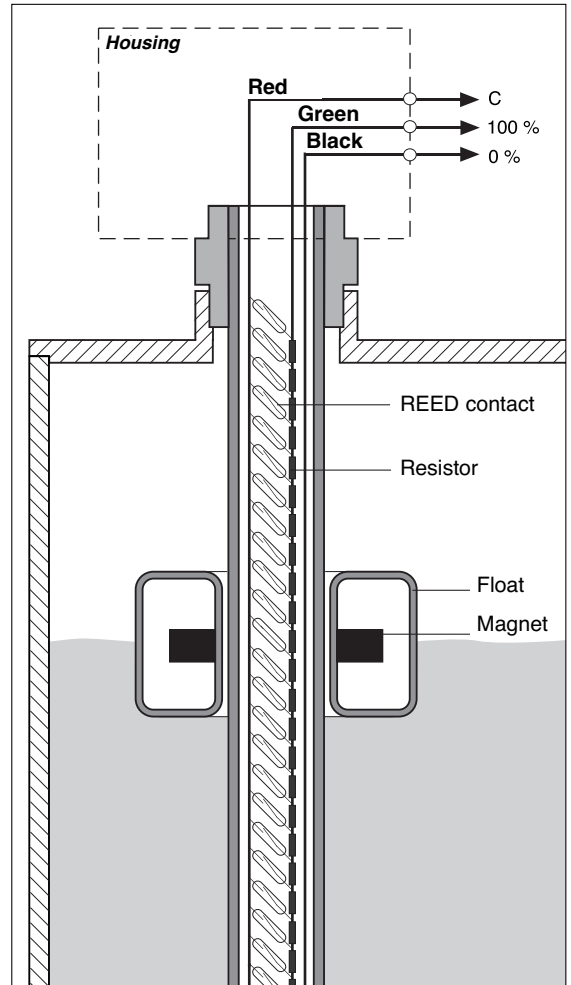
Switches:	Special REED contacts
Signal output	Resistance: up to 10 kΩ, or current or 4-20 mA / 13 to 30 V DC (2 wires transmitter)
Internal ruler:	Glass-circuit in epoxy resin
Length:	250 mm (min) ... 1500 mm (max)
Resolution:	10 mm measuring step
Stem:	PVC-U 0...+50 °C PPh 5...+80 °C PVDF 0...+100 °C Stainless steel -10...+110 °C (AISI 316 L / DIN 1.4404)
Housing:	Plastic PBT, IP 65 Aluminium

2. CAUTION

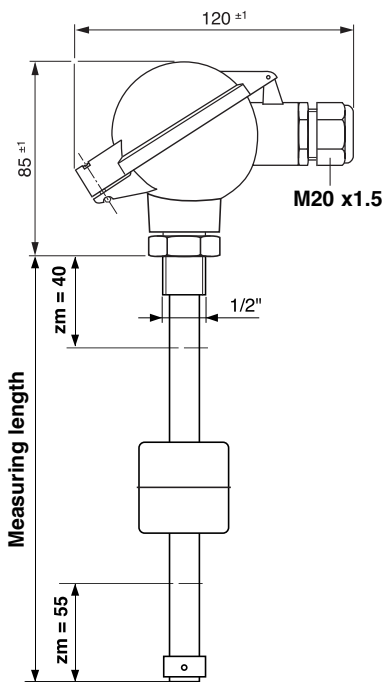
Due to the design, the insert is brittle, reed contacts are subject to break with strong shocks. We recommend handling the device with care. Ensure sensor chemical resistance is adapted to the medium (corrosive vapours) and liquid. Plastic stem models must be stored such that any bending never occurs. Remove the float if necessary. May only be connected to supply power that complies with the specifications of the transmitter. Install, remove or service only when the supply power is off.

3. PRINCIPLE

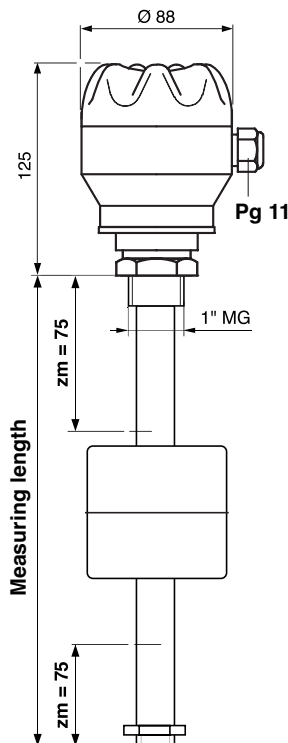
The continuous level transmitter works with a float (built-in magnet), sliding on a vertical stem. Change to the fluid level causes the float to rise or drop vertically. The magnet actuates mono-stable Reed contacts; they are equipped with resistors, all fixed on an internal ruler. Then, the resistance value varies as the fluid level changes. Depending upon total resistance, the measuring transducer generates a signal proportional to the fluid level as a 4-20 mA or Ohm output signal. The RTM is adapted to our level indicator and controllers MAGTOP, SFA, MNR 6 and MNR 7.



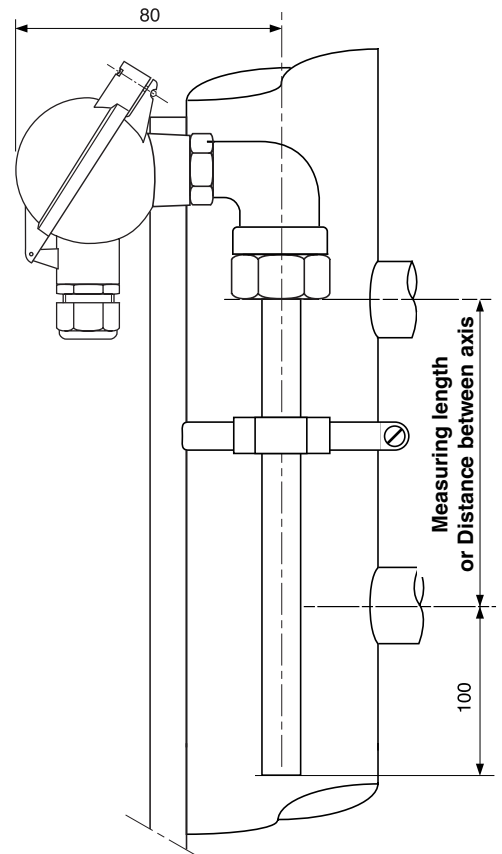
4. DIMENSIONS



RTM-MNR-I-2-xxx-1



RTM-MNR-P-H-xxx-2



RTM-MAG-I-xxx-8 (Mounting on MAGTOP)

5. MOUNTING – WIRING

RTM continuous level sensor are fixed by side of MAGTOP or SFA guiding tubes with stainless steel collars. MNR 6 or 7 models of RTM fit a tank by flange or thread connections.

Vertical installation: The housing is located on the top, PG on way down, wiring going down. The float may not touch any object during operation. For tank monitoring, unscrew the check nut from the bottom of the stem and remove the float. Guide the stem through the tank opening. Slide the float onto the stem with the mark "OBEN" at the top. Fit the check nut back into place. Do not forget the lock washer included with the stainless steel model. Use appropriate sealing materials depending upon installation method.

Special Cares: The stem may not bend during installation or operation. If powerful turbulences could occur (e.g. with mixing equipment), use an appropriate device to provide a tranquilization area around the MNR7. Protect the sensor from excessive vibration and impact. Install the RTM fill level sensor at least 100 mm from steel walls in order to avoid measurement error. To assure IP 65 protection at the terminal housing, be sure to screw tightly the cable and the housing cover.

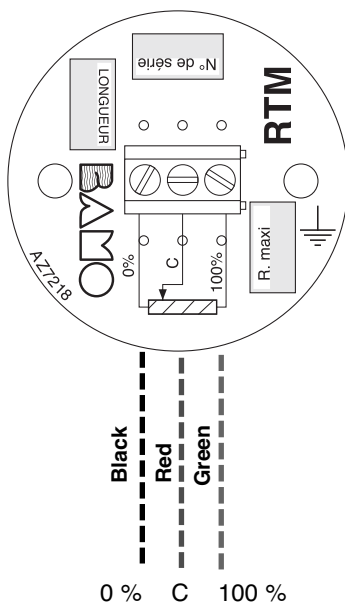
Wiring: Use a shielded cable with a cross section of at least 0.5 mm². Maximum cable length depends upon external load impedance. Check there is low impedance grounding.

Unscrew head cover to access to the screw terminal. Respect the wiring accordingly to the instruction manual of the existing transmitter, see the drawing.

- The black wire corresponds to the lower part of the ruler (increasing resistance).
- The green wire corresponds to the upper part of the ruler (decreasing resistance).

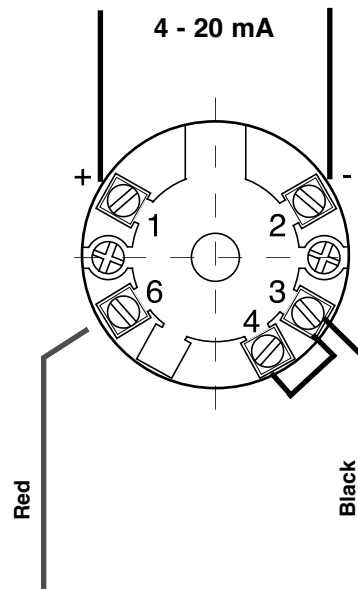
Wiring Ohm resistance transmitter

The red wire (mark 0%) is the cursor for resistance variation reading.



Wiring 4-20 mA transmitter (T2FR 5333)

With a 4-20 mA transmitter powered by the loop (4-20 mA ± 24 VDC), connect the + and – connectors.



Shunt between 4 and 3
Green wire not connected

6. MAINTENANCE

Continuous level sensors are brittle; it happens that one or more reed contact broke. Then one "blind measurement length" cannot be monitored. In this case, please send the complete RTM back to us for repairing. Pack very carefully the unit.