

# WATER HARDNESS MONITOR BAMOSOFT Smart



- Fit any water softener system
- Controller and survey monitoring
- Plug and play, respect of environment
- Reagent free
- Calcium and magnesium selective electrode
- Easy installation, and operating
- Preset over threshold value alarm (10%)
- Continuous system self-diagnostic

## DESCRIPTION

BAMOSOFT Smart monitors a preset residual water hardness threshold value from the outlet of the water softener system. Threshold value is fixed at 10% of inlet raw water hardness.

### Example with tap water:

- Raw water hardness inlet = 12.6°e (or = 18°f)
- BAMOSOFT Alarming when softened water outlet is > 1.3°e (or > 1.8°f)

## PRINCIPLE

Using bypass technology, the device extracts softened water, time controlled or flow rate depending while the process, evaluates residual hardness and alerted with exceeding of threshold value of 10% referring to raw water hardness. The measurements will be realized by an ion selective electrode, which is securely placed in the flow measurement chamber. By automatically opening and closing of the up streamed stop valves the process water will be replaced and after this, pressure free rejected (*wasted sample*).

Alarm will be signalled with exceeding of preset threshold value or with identification of service requirements such as: *Hardness sensor maintenance, Solenoid valve failure, Brine excess in softener system outlet.*

Measuring functions and their results are represented with coloured LEDs. Measuring system is automatically calibrated with cyclical change over from softened water to raw water. Cycle time is about 15 minutes once the first measurements are validated. A specific timing is possible through an external signal (*totalizer counter with pulse output, external contact*).

## TECHNICAL FEATURES

Dimensions:	Wall mounting housing, 120 x 80 x 55 mm (Overall system 250 x 220 x 100 mm)
Ambient temperature:	+5...+30°C
% R. H.:	30...80 %
Power supply ( <i>delivered unit</i> ):	100...240 V – 50/60 Hz / 0.2 A
Power consumption:	15 V DC; approx. 4 Watt
Relay output:	N.C., switching power 24 V / 0.5 A
Water connections	For PA tube o.d. 4 mm, i.d. 2 mm ( <i>by-pass tubing</i> ) Recommended up stream dirt filters: ≤ 0.1 mm
Pressure limits	Raw and soft water: 1 to 10 bar
Drain sample:	Ø 8 mm as a minimum, pressure free
Water quality:	Natural water, free of grease, oil and brine germ content < 5000 KBE/mL
<b>Detection range:</b>	<b>1.4...70°e (or 2 ...100°F)</b>

# BAMO MESURES

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Water hardness monitor  
**BAMOSOFT Smart**

03-12-2010

375 I1 01 B

**DUR**

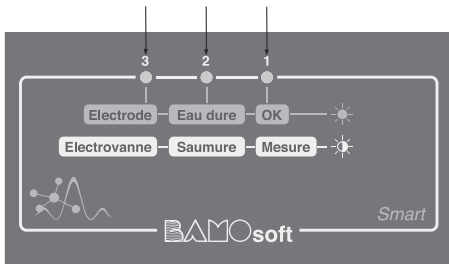
**375-01/1**

## CODE NUMBERS AND REFERENCES

Code	Reference	Designation
375 100	BAMOSOFT Smart	BAMOSOFT Smart basic system ( <i>without electrode, filters and assembly</i> )
375 110	Electrode Soft 670	Ion selective electrode Ca/ Mg specific to BAMOSOFT Smart
375 051	Filter	For inlets (raw or softened water), cold water only, 1/4" GF / Ø 4 mm
375 052	Filter cartridge	Nylon made, filtration rate 50 µm , cold water, Inlet/Outlet Ø 4 mm
375 - - -	Assembly BAMOSOFT Smart	Mounting on PVC panel, Wall mounting, BAMOSOFT Smart Assembly

## LED-STATUS

The functional status and the measuring results will be shown by a light or flashing LED



**LED 1,** green light (OK / Measurement): FUNCTION STATUS  
**Alight:** last monitoring cycle is alright  
**Flashing:** monitoring cycle is running (sampling, controls)

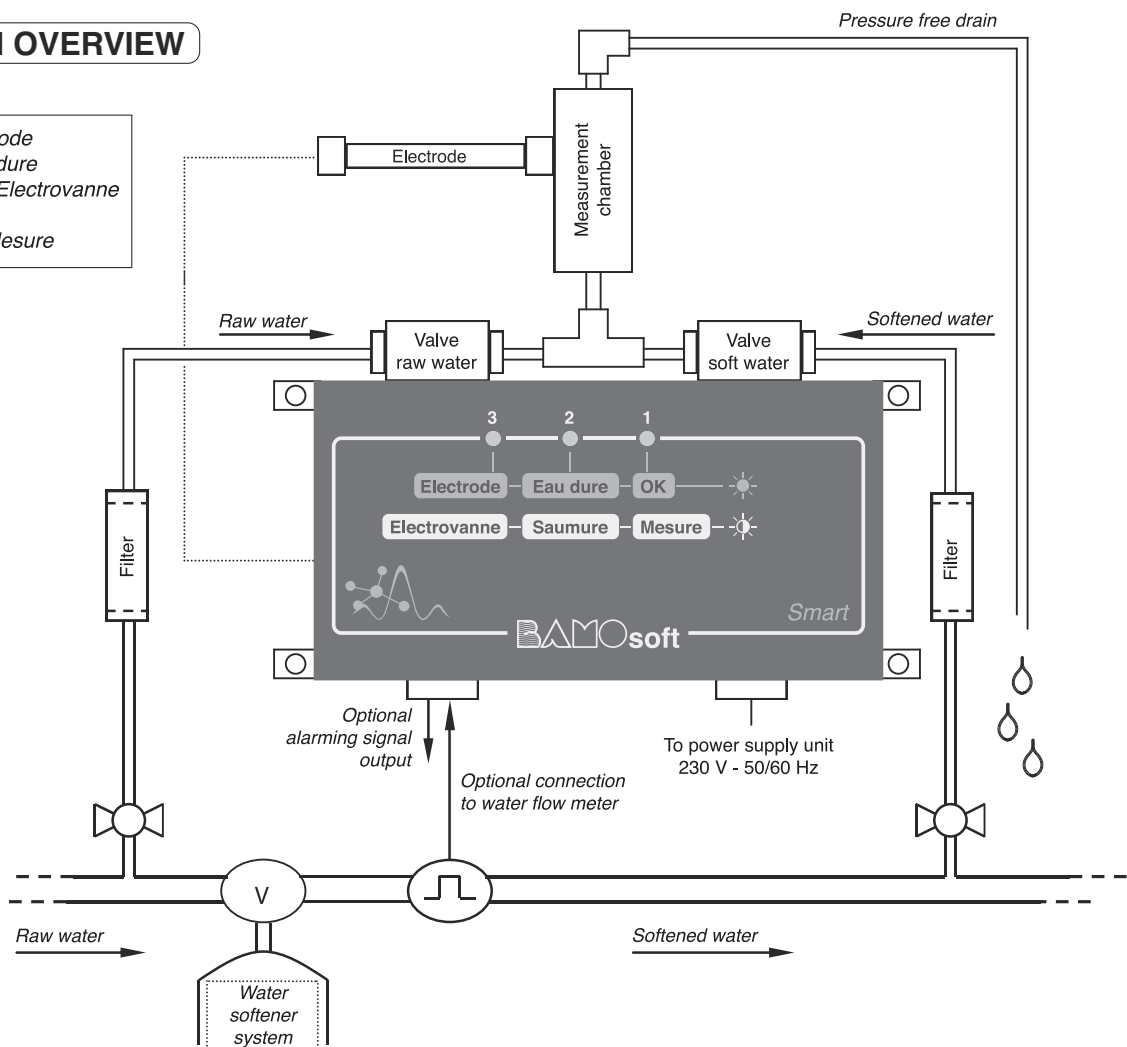
**LED 2,** red light (Hard water / Brine): PROCESS ALARM  
**Alight:** Alarm on quality on softened water, exceeding of threshold value  
**Flashing:** Alarm on brine, leaking in outlet pipe

**LED 3,** red light (Electrode/Solenoid valve): SYSTEM ALARM  
**Alight:** Sensor response non conformity sensor alarm  
**Flashing:** Leaking due to dirt on solenoid valve

**LED 1, 2 and 3** flashing at the same time: there is no electrode or incorrect connection

## OPERATION OVERVIEW

**Electrode / Electrode**  
**Raw water / Eau dure**  
**Solenoid valve / Electrovanne**  
**Brine / Saumure**  
**Measurement / Mesure**



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**375-01/2**