

# Water hardness monitor BAMOSOFT Smart

- Fit any water softener
- In-line monitoring
- Alarm set up at 10% of raw water hardness
- Automatic diagnostic of complete system



## APPLICATIONS

- Control and monitoring of water quality between inlet and outlet of the softener.

## DESCRIPTION

BAMOSOFT Smart monitors safely the water quality produced by the softener. It alarms (LED and relay output) when softened water hardness is 10% or over the hardness of raw water.

### Example :

- Raw water inlet = hardness of 300 ppm  $\text{CaCO}_3$
- System is alarming if softened water hardness > 30 ppm  $\text{CaCO}_3$

BAMOSOFT Smart gives an alarm as well as brine (leakage) is detected at softener outlet and if system integrity is not in conformity (solenoid valves, electrode effectiveness). In the event of a fault, the controller issues an alarm signal to warn the user of the maintenance to operate (See LED-Status and Displays)

### Operation:

BAMOSOFT comprises two solenoid valves that successively pass raw water then softened water on a specific ion electrode  $\text{Ca}^{++} / \text{Mg}^{++}$ . The specific hardware carries out the analysis of ionic activities, compares data and proceed to diagnostic routines. The device then delivers the following information: correct measurement, alarm, defective valve, brine leakage, etc. Samples are wasted to drain after each analysis.

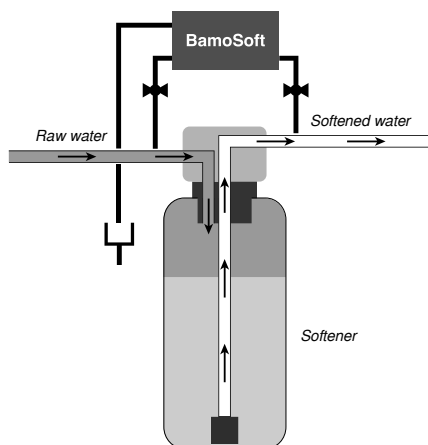
When the first cycles of measurement are stable, BAMOSOFT operates a control each 15 min.

Measuring cycle may be started by an external signal (pulse from a counter or an external contact).

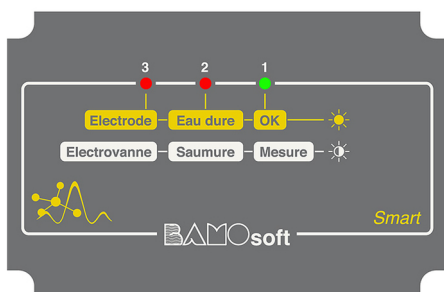
### LED Status displays

According the message, LEDs are alight or flashing.

- LED 1 (green):  
Alight: Measurement is alright  
Flashing: Monitoring cycle is running
- LED 2 (red):  
Alight: Softened water hardness > 10% of raw water hardness  
Flashing: Brine leakage detected in softened water
- LED 3 (red):  
Alight: Electrode replacement required  
Flashing: Leakage of a solenoid valve
- When the 3 LED are flashing together: Electrode is not properly mounted.



Operating diagram



Front plate

# BAMO MESURES

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Water hardness monitor  
**BAMOSOFT Smart**

20-11-2018

D-375.01-EN-AA

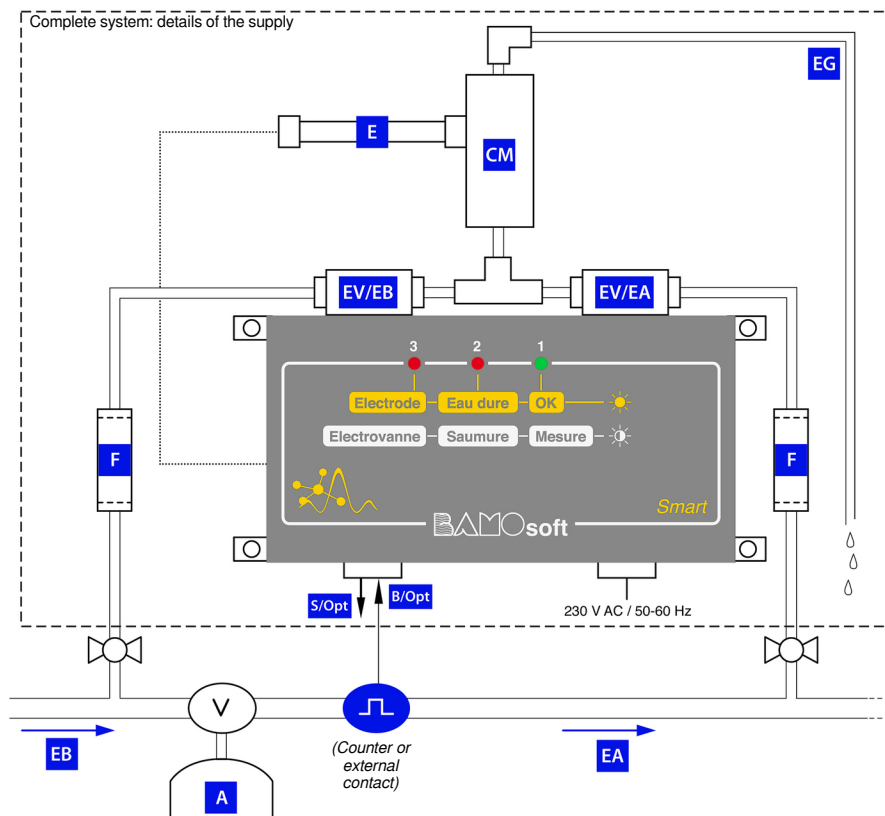
**DUR**

**375-01 /1**

## TECHNICAL FEATURES

Water temperature	< 30 °C
Ambient temperature	+5 ... +50 °C
% H.R.	30 ... 80 %
Power Unit (included)	100 ... 240 V AC; 50/60 Hz; 0.2 A
Power supplied	15 V DC; approx. 4 W
Relay output	N.C. contact; max. 24 V DC; 0.5 A; Alarm/ Fault on Threshold, Brine, Electrode, Solenoid valve
Raw water inlet	By-pass with fitting for PA tubing
Inlet for softened water	O.D. 4 mm.; I.D. 2 mm, necessary filtration unit (<0.1 mm)
Pressure limits for raw water	Min. 1 bar; Max. 10 bar (raw & softened waters)
Drain outlet	PA tubing; O.D. 8 mm; atmospheric pressure
Raw water quality	Drinkable water, free of grease, oil and brine, biol.: < 5000 KVE /ml
Raw water hardness limits	2 ... 100 °f (20 to 1000 ppm CaCO <sub>3</sub> )
Electrode check up	Automatic test with indication of low efficiency
External cycling switch	Pulse limit: >0.5 s
Dimensions	Wall mount cabinet: 120 x 80 x 55 mm (Overall: 250x220x100 mm)

**CE Conformity: The instrument meets the legal requirements of the current European Directives.**



EG = Outlet to drain	F = Filter	EV/EB = Solenoid valve/ Raw water
CM = Measuring cell	A = Softener	EV/EA = Solenoid valve/ Softened water
E = Electrode	EB = Raw water	EA = Softened water
S/Opt = Alarm output contact	B/Opt = Input External contact	

## CODE NUMBERS AND REFERENCES

Code	Reference	Description
375 100	BAMOSOFT Smart 375	BAMOSOFT Smart (without électrode, filters)
375 110	Electrode Soft 670	Ion selective electrode Ca <sup>++</sup> / Mg <sup>++</sup> for BAMOSOFT Smart
375 051	PF01	Filter unit for cold water, inlet/outlet 1/4" G Female
375 052	NY50 / PF01	Nylon cartridge 50 µm

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**DUR**

**375-01 /2**