

# WATER HARDNESS MONITOR BAMOSOFT Control



- Fit any water softener system
- Controller and survey monitoring
- Reagent free
- Calcium and magnesium selective electrode
- Alarm: Adjustable signal between 0.25% and 10% of raw water hardness
- 4-20 mA signal output on set up ranges
- Continuous system self-diagnostic

## DESCRIPTION

**BAMOSOFT Control** provides a safe survey on water quality with a visual alarm and 4-20 mA output signal. The monitored softened water threshold value can be defined from 0.25% up to 10% in reference to raw water hardness (8 step values available). A pulse signal input allows running a monitoring cycle when necessary. Through a current loop the indicated water hardness value will put out and allows a record of the hardness progress.

**Principle:** Softening Control monitors a defined softened water threshold at the outlet of the water softener. The device extracts raw or softened water samples, time controlled or flow rate dependent, and evaluates the residual hardness in reference to the defined threshold. The threshold can be customized by DIP switches. The measurements will be automatically carried out every 15 minutes in a measurement chamber where an ion-selective electrode is securely placed. Alternatively the process cycle can be run by pulse signal (from totalizer counter with pulse output, external contact). With opening and/or closing solenoid valves, the respective process water will be exchanged and then rejected to the drain pipe (pressure free). On exceeding of defined threshold value or because of service requirements (hardness sensor maintenance, solenoid valve error, brine excess in softener system outlet) an alarm will be signalised. Measuring functions and their results are represented by coloured LED. The measuring system calibrates and monitors by itself via the intermittent automatic switching from softened water to raw water.

## TECHNICAL FEATURES

Ambient temperature:	5 ... 50°C
% R. H.:	20 ... 80 %
Power supply:	100 ... 240 V 50/60 Hz – 0.2 A, included separated unit
Power consumption:	15 V DC; approx. 6 Watt
Relay outputs:	2 SPDT, switching power 24 V DC / 1 A
Water connections:	For PA tube o.d. 4 mm, i.d. 2 mm Recommended up stream dirt filters = 0.1 mm
Pressure limits:	1 to 10 bar
Pressure limits:	Raw and softened water, 1 to 10 bar
Drain sample:	Ø 6 mm as a minimum, pressure free
Water quality:	Raw water, free of grease, oil and brine
Measuring range:	0.3 ... 28°e (or 1 ... 100°f)
Threshold, pre-set:	8 steps, in percents (0.25, 0.5, 1, 2, 4, 6, 8 and 10%) of water hardness reference value
Output signal:	4-20 mA (max. 250 Ohm)
Electrode check up:	Self diagnostic with alarm for low efficiency
External cycle switch:	Pulse limit, > 0.5 s as a minimum
Electrode time life:	6 to 12 months

### Example with tap water

Raw water hardness inlet: 14°e  
(or = 20°f)

Threshold value set up at 10%: 1.4°e  
(or = 2.0°f)

4-20 mA signal will cover the range  
0 to 1.4°e (or 0 to 2°f)

**BAMO MESURES**

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Water hardness monitor  
**BAMOSOFT Control**

19-01-2011

376 11 01 C

**DUR**

**376-01/1**

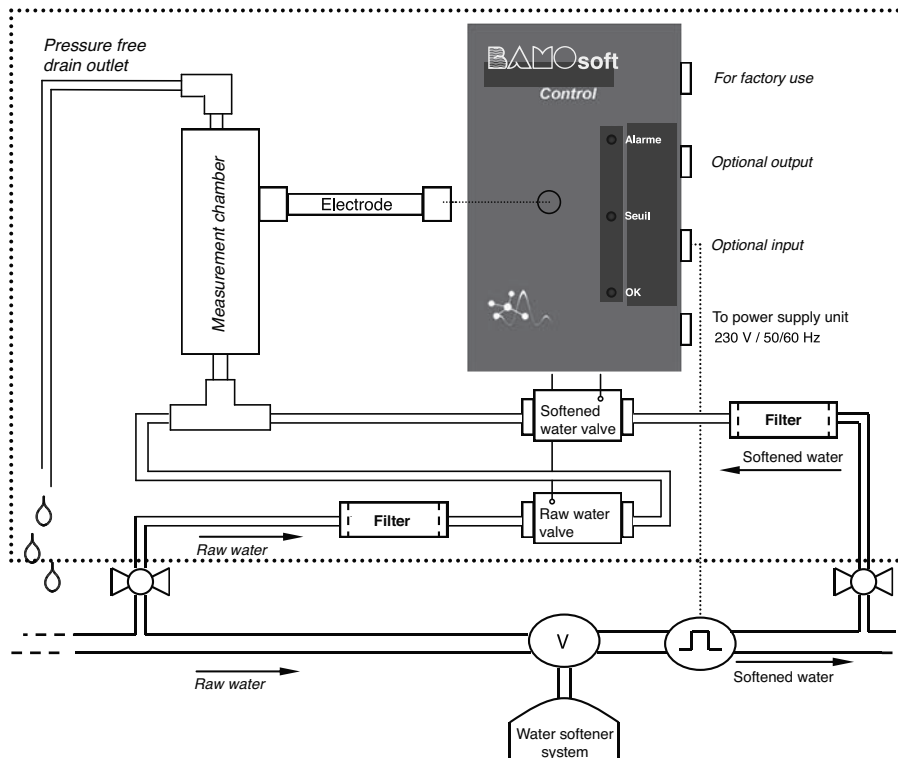
## CODE NUMBERS AND REFERENCES

Code	Reference	Designation
376 304	BAMOSOFT Control	BAMOSOFT Control basic system (without electrode, filters and assembly)
376 111	Electrode Soft 650	Ion selective electrode Ca/ Mg specific to BAMOSOFT Con
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
376 - - -	Assembly BAMOSOFT Control	Mounting on PVC panel, Wall mounting, BAMOSOFT Control assembly

BAMOSOFT Control dimensions: Wall mounting housing, 95 x 145 x 35 mm (Overall system 120 x 220 x 120 mm)

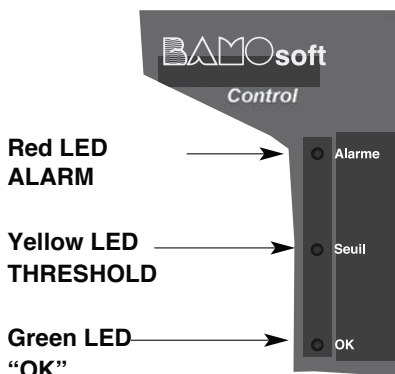
## OPERATION OVERVIEW

..... : Recommended complete system



## LED-STATUS

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



Alight LED ●	Description	Flashing LED ◐	Description
GREEN	Hardness < 80 % of threshold value	GREEN	Measuring
YELLOW + GREEN	Hardness < 90 % of threshold value	YELLOW + GREEN	Calibration
YELLOW	Hardness = 100 % of threshold value	YELLOW	Stand by
YELLOW + RED	Hardness < 110 % of threshold value <b>Alarm</b>	YELLOW + RED	Brine leakage or solenoid valve <b>Alarm</b>
RED	Hardness > 110 % of threshold value <b>Alarm</b>	RED + GREEN	Defect on sensor <b>Alarm</b>

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