

# Conductivity and resistivity probes

## BS - BC



BS 1285



BC 1427



BS 570

- Conductivity and resistivity probes
- Cell factors 0.1 and 0.01
- Reliability and sturdiness
- Construction: AISI 316 and PTFE, PVC
- For in-line or immersion measurements

### APPLICATIONS

Conductivity measurements (0.05 to 10  $\mu\text{S}/\text{cm}$ ) or resistivity (10  $\text{k}\Omega\cdot\text{cm}$  to 30  $\text{M}\Omega\cdot\text{cm}$ , on water:

- Controls of rainwater or runoff
- Controls on demineralized water in industrial process:
  - Boilers monitoring, etc.
  - Parts rinsing in galvanic process
  - Electronic components rinsing

### DESCRIPTION

External frame surrounds the active part (centric electrode) and limit the measuring area used for measurement, ensuring perfect shield grounding. Some models have a built-in temperature sensor (Pt100 type). For a high mechanical resistance, cells are in AISI 316 L with PTFE insulation.

#### Cell factor

The cell factor is the ratio between the measurement done with the cell and value displayed on the monitor.

Example: A probe with a cell factor  $K = 0.1$  immersed in a liquid of resistivity 10  $\text{k}\Omega\cdot\text{cm}$ , measures a resistor value of 1  $\text{k}\Omega$ . The monitor will display a corrected value by factor  $K$ : resistivity of 10  $\text{k}\Omega\cdot\text{cm}$ .

For highly conductive liquids (low resistivity) it will be necessary to use probes with cell factor of  $K=1$  or  $K=10$  (BF1200; data sheet 361-01) or inductive sensors (toroidal sensor on data sheet 364-01/ 05).

#### Complete measuring system:

A complete system includes:

- 1 Coaxial probe with  $K = 0.01$  or  $K = 0.1$
- 1 Connector PL259 or direct connection to screw connectors or cable output
- Coaxial cable CCA type
- A 3-wire cable C3B type (when Pt 100 sensor is built-in the probe)
- One BNC plug for monitor connection.
- A monitor BAMOPHAR 323 (see data-sheet 323-01).

## TECHNICAL FEATURES

### Probe connection:

Electric connection is done as following, according to probe model:

- With a removable coaxial connector PL 259 type.
- With integrated screw terminals for industrial heads.
- With cable (cable output probes).
- With a BNC plug.

### CABLE FOR CONDUCTIVITY

It transfers the signal between probe and BAMOPHAR.

A cable of a bad quality may procure errors over 50 %. The specific cable CCA is a safe solution, 100 % compatibility with our probes BS-BC. In parallel, some probes have a cable output.

### Connector on the monitor:

A coaxial plug BNC is necessary to connect with the BAMOPHAR monitor. A standard connector or electric cable will induce errors on measurements, even on a short distance.

The cable must be of one length between the probe and the indicator without intermediate junction box.

### Cable for temperature measurement:

For temperature, cable should be 3-wire type and shielded (3 x 0.22 mm<sup>2</sup>). The shield is connected to ground only on one end. Probes with a Pt100 built-in sensor have 2 specific cable-glands, insuring a perfect water-tightness.

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

## CODE NUMBERS AND REFERENCES

Code	Reference	Factor	T° Comp.	Fitting	Body	Insulation	Head	P. bar	T°
<b>IN-LINE MEASUREMENT</b>									
360 100	BS 570	0.1	-	3/4"	AISI 316 L	PTFE + NBR	Connector PL 259	10	70
360 112	BS 572	0.1	-	3/4"	AISI 316 L	PTFE + NBR	Head (aluminum)	10	70
360 125	BS 650 CT	0.1	YES	3/4"	AISI 316 L	PTFE + NBR	Head (aluminum)	10	70
360 127	BS 651 CT	0.1	YES	3/4"	AISI 316 L	PTFE + NBR	Cable output (5 m)	10	70
360 135	BS 660 CT	0.01	YES	3/4"	AISI 316 L	PTFE + NBR	Head (aluminum)	10	70
360 137	BS 661 CT	0.01	YES	3/4"	AISI 316 L	PTFE + NBR	Cable output (5 m)	10	70
360 310	BS 1284	0.1	-	1/2"	AISI 316 L	PTFE + NBR	Connector PL 259	10	70
360 313	BS 1283/50	0.1	-	Clamp Ø 50	AISI 316 L	PTFE + NBR	Connector PL 259	10	70
360 315	BS 1285	0.1	-	1/2"	AISI 316 L	PTFE + NBR	Head (aluminum)	10	70
360 502	BC 1425	0.1	-	1/4"	AISI 316 L	PTFE + NBR	Cable output (5 m) + BNC plug	5	50
360 507	BC 1427	0.1	-	1/4"	AISI 316 L	PTFE + NBR	BNC plug	5	50
<b>MEASUREMENT IN BASIN</b>									
360 200	BS 575	0.1	-	Flange ND 20	AISI 316 L		Head (aluminum)	10	70
360 210	BS 575 CT	0.1	YES	Flange DN 20	AISI 316 L		Head (aluminum)	10	70
360 211	BS 575 CT	0.1	YES	3/4"	AISI 316 L		Head (aluminum)	10	70
360 400	BS 1287	0.1	-	1"	PVC		Junction box (PP)	5	50
<b>ACCESSORIES</b>									
360 410	BS 1288	PVC flange ND 20 - PN 10/16 for BS 1287							
368 100	CCA	Coaxial cable for resistivity/ conductivity							
368 200	PL 259	Coaxial connector, metallic, for BS 1284 et BS 570							
368 210	BNC/CCA	BNC Connector to screw on cable CCA type							
610 010	C3B	Cable 3 wires, 0.22 mm <sup>2</sup> , shielded for temperature compensation							

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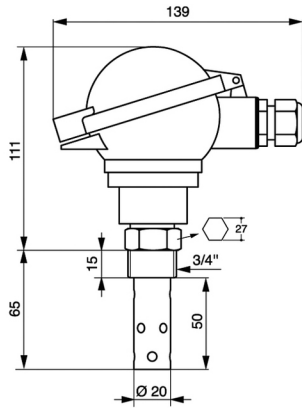
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**360-01 /2**

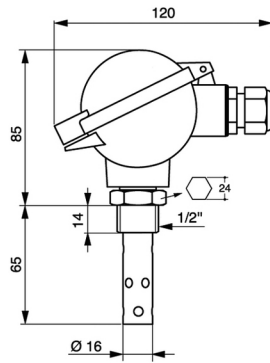
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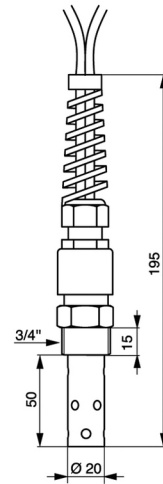
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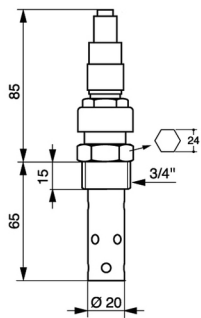
**BS 650 CT - BS 660 CT - BS 572**



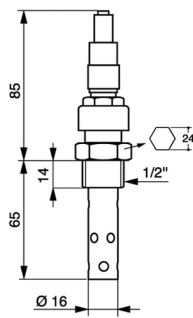
**BS 1285**



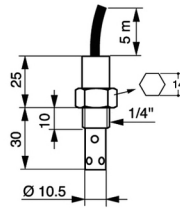
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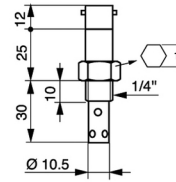
**BS 570**



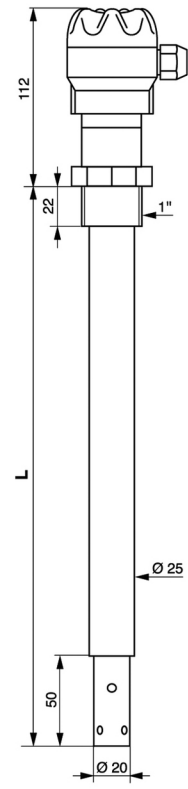
**BS 1284**



**BC 1425**



**BC 1427**



**BS 1287**

**360**

**360**

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**RES**

**360-01 /3**