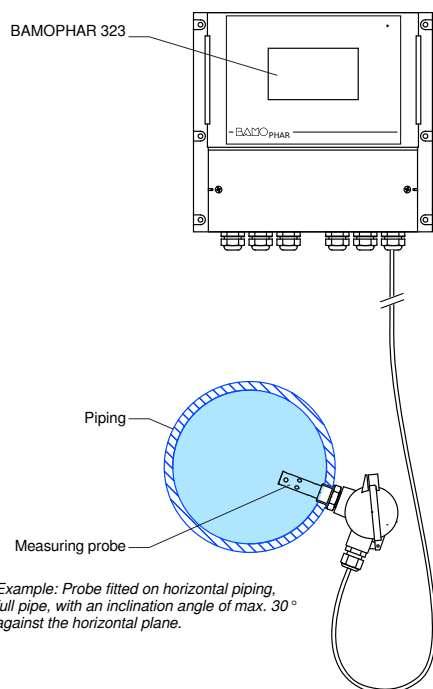


Conductivity / Resistivity BAMOPHAR 323



- Color touch screen
- Programmable ranges:
From 0-200 Ω .cm up to 0-200 MΩ .cm
From 0-2 μS/cm up to 0-20 mS/cm
- Associated measuring cells:
Cell factors: 10 - 1 - 0.1 - 0.01
- Temperature compensation
Automatic or manual compensation
- 2 outputs 0/4-20 mA, configurable
- 4 relays (Thresholds, alarm)
- Options:
RS422/ J-BUS + LOGGER
Extension terminal for 2nd measuring parameter



APPLICATIONS

In combination with one of our conductivity cells (data-sheet 360-01), BAMOPHAR 323 is designed for conductivity or resistivity measurements.

Examples:

- Conductivity on drinkable and ground water
- Conductivity in cooling tower
- Resistivity on demineralized water
- Control of ultra pure water production units

DESCRIPTION

The device is equipped with a color touch screen for the display of a multilingual menu friendly and intuitive. It provides easy reading of measurement, temperature and state of the thresholds.

It displays a menu with all parameters for configuration of analogue outputs, thresholds set up and regulation mode. In order to facilitate its commissioning, a programming menu can simulate the measurement, acting on the analog outputs, as well as on the thresholds.

Associated measuring cells have cell factors from 0.01 up to 10 for accurate measurements between 0 to 2 μS/cm and 20 mS/cm or 0 to 200 Ω.cm and 200 MΩ.cm .

BAMOPHAR 323 displays an absolute or compensated temperature measurement (Access to two reference charts: 20 °C and 25 °C).

An extension terminal (wall, panel or DIN rail mounting):

- Allows a second measuring parameter (pH, flow-rate, turbidity, etc.)
Data from this blind unit are displayed on the main unit
- Connected to main unit via a 4 wire shielded cable
(Cable length between both devices: max. 500 m)
- RS422 and Data Logger of main unit are shared between both units.

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Conductivity / Resistivity
BAMOPHAR 323

01-08-2018

D-323.01-EN-AE

RES

323-01 /1

TECHNICAL FEATURES

End-user interface	Color touch screen 4.3", resolution 480x272 pixels Display of measurements, menus, temperature, relay status Configuration: Keyword protected
Measuring range	From 0-2 $\mu\text{S/cm}$ up to 0-20 mS/cm or from 200 $\Omega\cdot\text{cm}$ up to 200 $\text{M}\Omega\cdot\text{cm}$
Accuracy	$\pm 0.3\%$; $\pm 0.3\text{ }^\circ\text{C}$
Connection of probe	With a BNC connector
Temperature compensation	Automatic with built-in Pt 100 sensor, from 0 to 100 $^\circ\text{C}$ Manually between 0 and 100 $^\circ\text{C}$
Relay outputs	4 contacts, N.O., potential free
Configurable thresholds	S1, independent threshold, to set up for measurement or temperature S2, independent threshold, to set up for measurement or temperature S3, independent threshold, to set up for measurement or temperature or external function S4, to set up for alarming function: out of range or broken cable
Hysteresis	To set up between 0 and 100 % on S1, S2 and S3
Contact Initial resistance	100 $\text{m}\Omega$ max. (voltage drop 6 V DC 1 A)
Switching power	831 VA AC / 3 A / 277 V AC 90 W / 3 A / 30 V DC
Switching capacity (min.)	100 mA, 5 V DC (variable according to switching frequency, environmental conditions and accuracy).
Measurement output	0/4-20 mA (max. 600 Ω) proportional to measurement
Temperature output	0/4-20 mA (max. 600 Ω), for all scales from 0 to 100 $^\circ\text{C}$
Main power supply	230 V AC / 50-60 Hz (others on request) - Consumption 10 VA
Models	Panel mounting, 96x144 mm, front IP65, rear IP 40 Wall mounting, IP65, cable glands
Storage	-10 ... +70 $^\circ\text{C}$
Operating temperature	-5 ... +50 $^\circ\text{C}$
OPTION (RS 422 + Logger)	
Interface	RS 422 output, J-BUS link - Binary slave mode - 2400 to 9600 bauds
Data Logger	Record of cycle average measurement, programmable cycle time - 150 000 records max. on memory card.

EC Conformity: The instrument meets the legal requirements of the current European Directives

MEASURING RANGES

CONDUCTIVITY: Measurements with BAMOPHAR 323 C				
WITH temperature compensation:				
Cell factor	0.01	0.1	1	10
Scale Nr 1	2.000 $\mu\text{S/cm}$	20.00 $\mu\text{S/cm}$	200.0 $\mu\text{S/cm}$	2.000 mS/cm
Scale Nr 2	20.00 $\mu\text{S/cm}$	200.0 $\mu\text{S/cm}$	2.000 mS/cm	20.00 mS/cm
WITHOUT temperature compensation:				
Cell factor	0.01	0.1	1	10
Scale Nr 1	2.000 $\mu\text{S/cm}$	2.000 $\mu\text{S/cm}$	20.00 $\mu\text{S/cm}$	200.0 $\mu\text{S/cm}$
Scale Nr 2	20.00 $\mu\text{S/cm}$	20.00 $\mu\text{S/cm}$	200.0 $\mu\text{S/cm}$	2.000 mS/cm
Scale Nr 3		200.0 $\mu\text{S/cm}$	2.000 mS/cm	20 mS
RESISTIVITY: Measurements with BAMOPHAR 323 R				
WITH temperature compensation:				
Cell factor	0.01	0.1	1	10
Scale Nr 1	20.00 $\text{M}\Omega\cdot\text{cm}$	2.000 $\text{M}\Omega$	200.0 $\text{k}\Omega$	20.00 $\text{k}\Omega$
Scale Nr 2	2.000 $\text{M}\Omega$	200.0 $\text{k}\Omega$	20.00 $\text{k}\Omega$	2.000 $\text{k}\Omega$
WITHOUT temperature compensation				
Cell factor	0.01	0.1	1	10
Scale Nr 1	200.0 $\text{M}\Omega\cdot\text{cm}$	20.00 $\text{M}\Omega\cdot\text{cm}$	2.000 $\text{M}\Omega\cdot\text{cm}$	200.0 $\text{k}\Omega\cdot\text{cm}$
Scale Nr 2	20.00 $\text{M}\Omega\cdot\text{cm}$	2.000 $\text{M}\Omega\cdot\text{cm}$	200.0 $\text{k}\Omega\cdot\text{cm}$	20.00 $\text{k}\Omega\cdot\text{cm}$
Scale Nr 3	2.00 $\text{M}\Omega\cdot\text{cm}$	200.0 $\text{k}\Omega\cdot\text{cm}$	20.00 $\text{k}\Omega\cdot\text{cm}$	2.000 $\text{k}\Omega\cdot\text{cm}$
Scale Nr 4	200.0 $\text{k}\Omega\cdot\text{cm}$	20.00 $\text{k}\Omega\cdot\text{cm}$	2.000 $\text{k}\Omega\cdot\text{cm}$	200.0 $\Omega\cdot\text{cm}$

See on page 4: "Temperature compensation".

Note: This function can be enabled or disabled on all BAMOPHAR 323.

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Conductivity / Resistivity
BAMOPHAR 323

01-08-2018

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RES

323-01/2

CODE NUMBERS AND REFERENCES

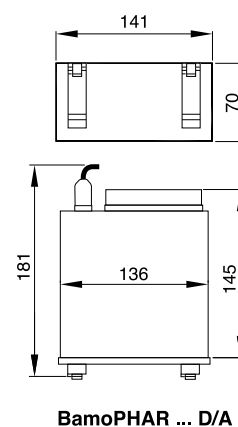
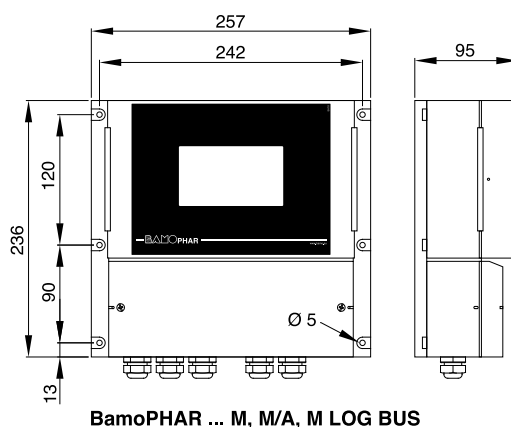
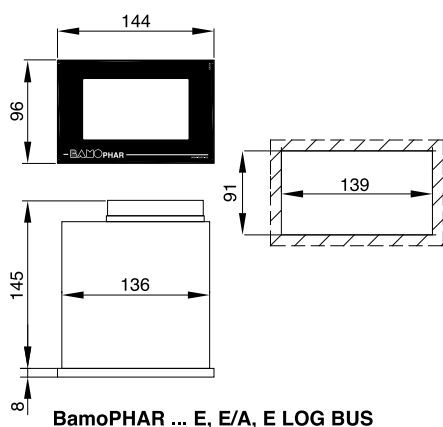
RESISTIVITY

Code	Reference	Description
323 300	BAMOPHAR 323 RE	Panel mounting, box 96x144 mm, Front IP65, rear IP40
323 301	BAMOPHAR 323 RE/A	Panel mounting, box 96x144 m- Extension, blind monitor; Front IP65, rear back IP40
323 303	BAMOPHAR 323 RD/A	DIN Rail mounting/ Extension, blind monitor/ IP40
323 304	BAMOPHAR 323 RE LOG BUS	Panel mounting, box 96x144 mm/ RS422 + logger/ Front IP65, rear IP40
323 400	BAMOPHAR 323 RM	Wall mounting, Box IP 65, cable glands
323 401	BAMOPHAR 323 RM/A	Wall mounting, box IP 65/ Extension, blind monitor/ cable glands
323 450	BAMOPHAR 323 RM LOG BUS	Wall mounting, box IP 65/ RS 422 + logger/ cable glands

CONDUCTIVITY

Code	Reference	Description
323 500	BAMOPHAR 323 CE	Panel mounting, box 96x144 mm, Front IP65, rear back connector IP40
323 501	BAMOPHAR 323 CE/A	Panel mounting, box 96x144 m- Extension, blind monitor; Front IP65, rear back connector IP40
323 503	BAMOPHAR 323 CD/A	DIN Rail mounting/ Extension, blind monitor/ IP40
323 504	BAMOPHAR 323 CE LOG BUS	Panel mounting, box 96x144 mm/ RS422 + logger/ Front IP65, rear back connector IP40
323 505	BAMOPHAR 323 CM	Wall mounting, Box IP 65, cable glands
323 506	BAMOPHAR 323 CM/A	Wall mounting, box IP 65/ Extension, blind monitor/ cable glands
323 509	BAMOPHAR 323 CM LOG BUS	Wall mounting, box IP 65/ RS 422 + logger/ cable glands

DIMENSIONS



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BAMOPHAR 323

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323-01 /3

COMPONENTS OF A MEASURING SYSTEM

1) Selecting a measuring cell and probe

The measuring range imposes the cell factor in order to work under the best conditions for a correct measurement. Our technical department will help you in choosing the most appropriate probe. See table "Measuring ranges" on page 2.

The cell constant will determine the possible ranges to program on the BAMOPHAR.

If the scale is exceeded, the display flashes with the symbol $> M\Omega$ and the maximum value of the preselected scale.

2) With or without temperature compensation

BAMOPHAR 323 is able to display or an absolute value or a temperature compensated value.

BAMOPHAR uses two charts at 20 °C or at 25 °C for the temperature compensation.

One more option for operator is to set the temperature compensation as manual or as automatic mode.

Manual mode:

Temperature will be set up manually.

Conductivity (or resistivity) displayed value corresponds to corrected value at 20 °C or at 25 °C: to set up by choosing the chart through the menu.

This application is valid if the temperature is known and constant.

Automatic compensation

The temperature will be measured by a Pt 100 Ω sensor integrated into cell or separated from the probe.

The correction is carried out by BAMOPHAR between 0 and 100 °C on one of the two reference charts (20 °C or 25 °C).

For specific applications, our technical department can achieve a specific compensation mode for your application.

3) Measuring loop cable

The choice of cable is very important.

Because of intrinsic impedance (resistance and capacitance) the cable could induce an error of 50 % on measurements, mostly on low conductivity ranges (high resistivity ranges). The connecting cable must be connected directly from the probe to the terminal block of the device without any intermediate connection. The maximum length depends on the measuring range and the cell factor (see table below).

In general, the cable used will be of the aerated coaxial type reference CCA (code 368 100). With specific cells BF 1200 series with connector 9054, it is recommended to use the cable BRG-58 (code 368105).

Cable length for conductivity:

The cable can have a length of 100 m and work on all measuring ranges independantly of the cell factor.

Cable length for resistivity:

Table of recommended lengths:

Cell factor	0.01	0.1	1	10
Scale: 200 M Ω	10 m			
Scale: 20 M Ω	50 m	10 m		
Scale: 2 M Ω	100 m	50 m	10 m	
Scale: 200 k Ω		100 m	50 m	10 m
Scale: 20 k Ω		100 m	100 m	50 m
Scale: 2 K Ω			100 m	100 m
Scale: 200 Ω			100 m	100 m

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Conductivity / Resistivity
BAMOPHAR 323

01-08-2018

D-323.01-EN-AE

RES

323-01 /4

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).

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Conductivity and resistivity
probes
BS - BC

20-03-2019

D-360.01-EN-AC

RES

360-01 /1

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 mm²). 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°
IN-LINE MEASUREMENT									
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
MEASUREMENT IN BASIN									
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
ACCESSORIES									
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 ² , shielded for temperature compensation							

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Conductivity and resistivity
probes
BS - BC

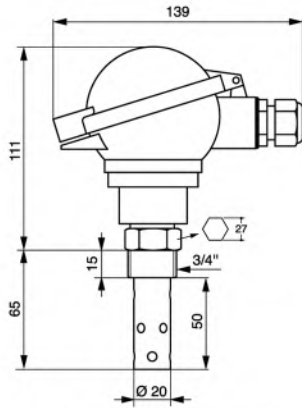
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360-01 /2

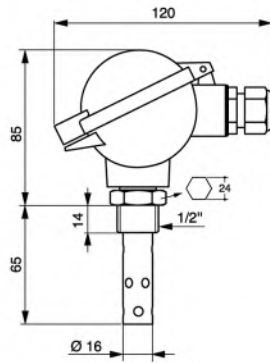
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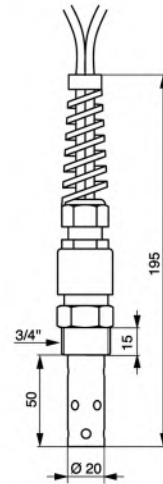
DIMENSIONS



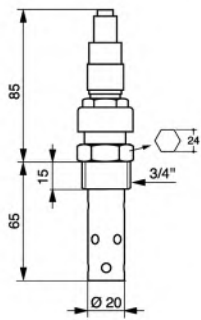
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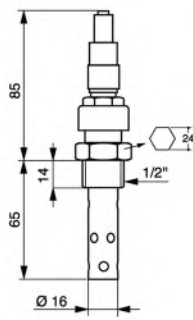
BS 1285



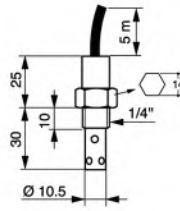
BS 651 CT - BS 661 CT



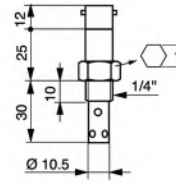
BS 570



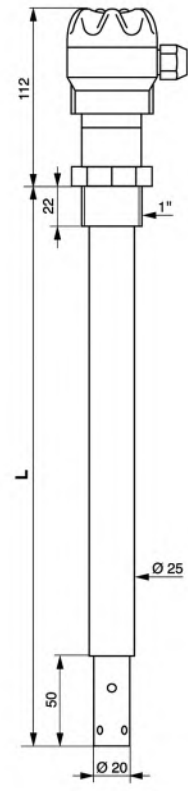
BS 1284



BC 1425



BC 1427



BS 1287

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**Conductivity and resistivity
 probes
 BS - BC**

20-03-2019

D-360.01-EN-AC

RES

360-01 /3

Conductivity measuring electrode BF 1200 SERIES

- Cell factor K = 1
- Fitting PG 13.5
- Body: Plastic PSU, tube Ø 12 mm
- Graphite measuring elements



APPLICATIONS

BF 1200 conductivity cell is designed for low and high conductivity measurements. In use with our monitor BAMOPHAR, this cell allows accurate measurements on clear solutions from 0.5 $\mu\text{S}/\text{cm}$. up to 2 mS/cm.

DESCRIPTION

The electrode BF 1200 is available with a fitting PG 13.5; The tube is 120 mm long (diam. 12 mm).
In order to protect the measuring tube and connector integrity, they may be supplied with an electrode holder for measurements in-line or in immersion.

- BF 1200 cell is connected with a coaxial connector type 9054.

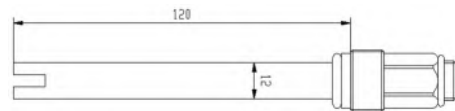
DEDICATED HOLDERS

For BF 1200 electrodes:

These conductivity electrodes are compatible with pH electrode holders. Then, it is recommend to use the same holders as those of the pH series, according applications for in-line or immersion measurements.

TECHNICAL FEATURES

Body	PSU (length: 120 mm)
O-ring	Neoprene
Gasket	Nylon
Electrodes	Graphite (sealing: epoxy)
Measuring range:	1 $\mu\text{S}/\text{cm}$... 100 mS/cm (according to signal frequency and voltage)
Maxima of temperature & pressure	-5 ... +80 °C / 6 bar
Cell factor	1 $\text{cm}^{-1} \pm 20\%$
Immersion depth	Min.: 15 mm
Fitting	S8 type with PG 13.5
Connector	Coaxial connector type 9054



Electrode holders for BF 1200:

In-line	Holders 9222 & 9223 (data-sheet 140-01) Holders 9240 (data-sheet 140-02)
Immersion	Probes 9336 and 9337 (data-sheets 130-01 & -02)

CODE NUMBER AND REFERENCE

Code	Reference	Cell factor	Connector
361 200	BF 1200	1	Coaxial type 9054

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Conductivity measuring
electrode
BF 1200 SERIES

23-11-2020

D-361.01-EN-AE

RES

361-01 /1

Inductive conductivity probe in NORYL TCS 3020 Series

- Range: from 10 $\mu\text{S}/\text{cm}$ up to 2000 mS/cm
- Material: NORYL
- Temperature max. 70 °C
- Low fouling incidence
- Built-in Pt 100 sensor



APPLICATIONS

TCS 3020 is an inductive conductivity probe useful in wastewater treatment and in the chemical industry.

- Monitoring of aeration tower
- Clear water control (wells, drinking water, thermal baths, etc.)
- Control of stormwater and runoff water
- Monitoring of NaCl concentration (0 to 26 %)

DESCRIPTION

TCS 3020 probe is convenient for measuring conductivity on a wide range between 10 $\mu\text{S}/\text{cm}$ and 2000 mS/cm .

It uses inductive measurement principle that offers many advantages. There is a total galvanic insulation between measuring loop and the liquid which makes the measurement reliable on many chemicals.

Measurement in immersion

The probe is fixed to end of probe holder for immersion from 500 to 2000 mm with an optional flange fitting.

On-line measurement

Probe is mounted on a Te, ND 50 mm.

Complete measuring system includes:

- An inductive probe TCL S50, cable output.
- A probe holder for immersion or on-line measurement.
- A converter (factory calibration)
- A monitor BAMOPHAR 364 (data-sheet 364-04) previously BAMOPHOX 364

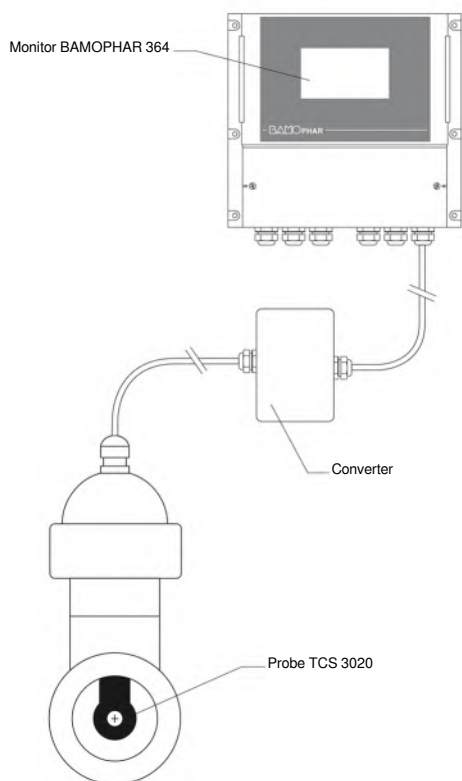
Associated monitors

BAMOPHAR 364 (or BAMOPHOX 364) are designed for inductive conductivity monitoring.

Available ranges:

- 0... 2 mS/cm
- 0... 20 mS/cm
- 0... 200 mS/cm
- 0... 2000 mS/cm

Temperature compensation is performed by the monitor which provides a 4-20 mA signal output, copy of the measurement. Factory calibrations are done on each measuring system for a quick and easy start up on site.



Complete measuring system

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Inductive conductivity probe
in NORYL
TCS 3020 Series

11-03-2021

D-364.01-EN-AC

RES

364-01 /1

TECHNICAL FEATURES

Measuring range From 10 μ S/cm to 2000 mS/cm
 Wet parts material NORYL
 Fitting 3/4" NPT
 Temperature max. 70 °C
 Temperature sensor Built-in sensor Pt 100 Ω at 0 °C
 Pressure max. 10 bar
 Cable output version 5 m long cable

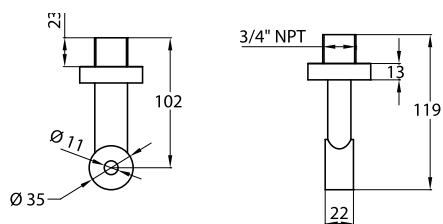
CODE NUMBERS AND REFERENCES

Code	Reference	Description
364 056	TCS 3020 NORYL	Inductive conductivity probe; NORYL; 3/4" NPT; 5 m long cable
364 100	T PVC	Te holder; PVC; ND 50 mm
364 150	T PPH	Te holder; PPH; ND 50 mm
364 200	T PVDF	Te holder; PVDF; ND 50 mm
364 300	SI PVC / 364	Immersion probe holder; PVC; Height 500 up to 2000 mm
364 400	SI PVDF / 364	Immersion probe holder; PVDF; Height 500 up to 2000 mm
368 108	C8B	Shielded 8-wire cable

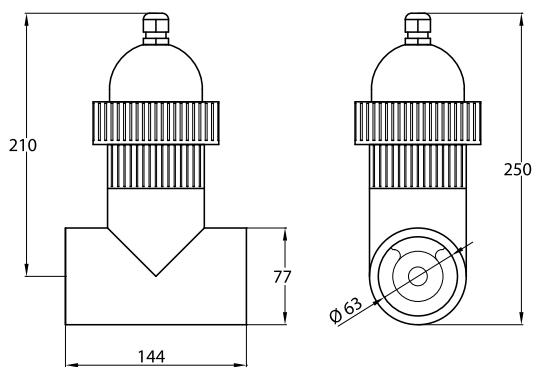
NOTE:

For every system, a converter is inserted between the probe and the monitor. The converter in its case will be ideally located on the holder. **A correct length of C8B cable is necessary to connect the converter to the monitor.**

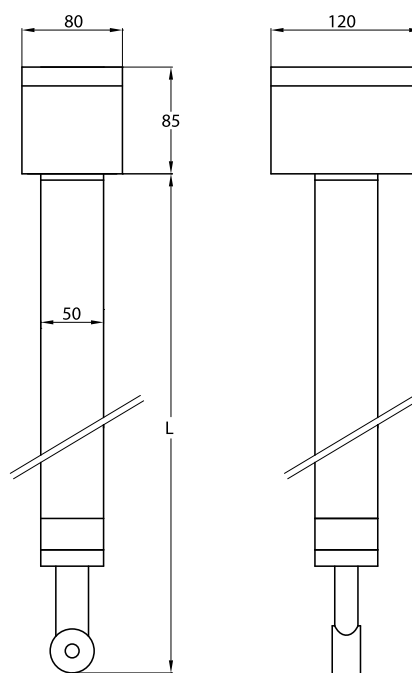
DIMENSIONS



TCS 3020 probe (alone)



In-line probe holder



Immersion probe holder

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Inductive conductivity probe
 in NORYL
TCS 3020 Series

11-03-2021

D-364.01-EN-AC

RES

364-01/2

Conductivity meter for inductive probe BAMOPHAR 364



- Color touch-sensitive screen
- Measuring range, 4 scales:
0 - 2 mS/cm up to 0 - 2000 mS/cm
- Automatic temperature compensation
- 2 Outputs 0/4-20mA
- 3 Independent relays
- 1 Relay for alarms
- OPTIONS :
RS 422 /J-BUS + LOGGER
Extension terminal for 2nd measuring parameter

APPLICATIONS

Conductivity measurement for monitoring and/ or regulation in water treatment, chemical industries, industrial applications:

- Cooling towers survey
- Clean water control (wells, drinking water, thermal baths ...)
- Stormwater and runoff water survey
- WWTP survey
- Concentration measurements of acid and base
- Chemicals quality survey
- Option: display in concentration of NaCl, NaOH or HCl

DESCRIPTION

BAMOPHAR displays on a color touch-sensitive screen a multilingual friendly using menu. The reading is easy for measurement, temperature and relay status. Conductivity and temperature values are available as well from outputs 4-20 mA

With inductive probes TCS 3020 or TCS S50, BAMOPHAR 364 allows measurements from 10 μ S/cm up to 2000 mS/cm all along process routines.

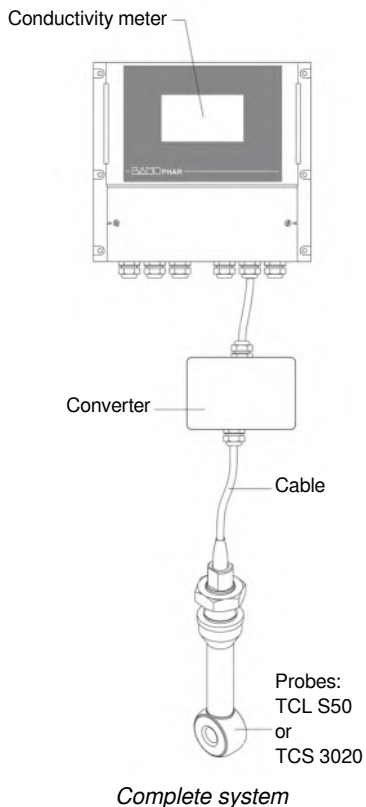
- Probe TCS 3020 in NORYL (data-sheet 364-01) is recommended for neutral liquids.
- Probe TCS S50 in PEEK (data-sheet 364-05) is recommended when application requires high chemical resistance or process is at high temperature.

A complete system includes:

- 1 Inductive probe, cable output
- 1 Probe holder for immersion or on-line application.
- 1 Converter, factory calibrated.
- 1 Monitor BAMOPHAR 364 (data-sheet 364-05)

OPTION: Extension terminal for 2nd measuring parameter

- Allows a second measuring parameter (pH, flow-rate, turbidity, etc.) Data from this blind unit are displayed on the main unit
- Mounting: wall or panel versions
- Connected to main unit with 2 x2 wires shielded cable (Cable length between both devices: max. 500 m)
- RS422 and Data Logger of main unit are shared between both units



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Conductivity meter for
inductive probe
BAMOPHAR 364

01-03-2017

D-364.04-EN-AB

364-04 /1

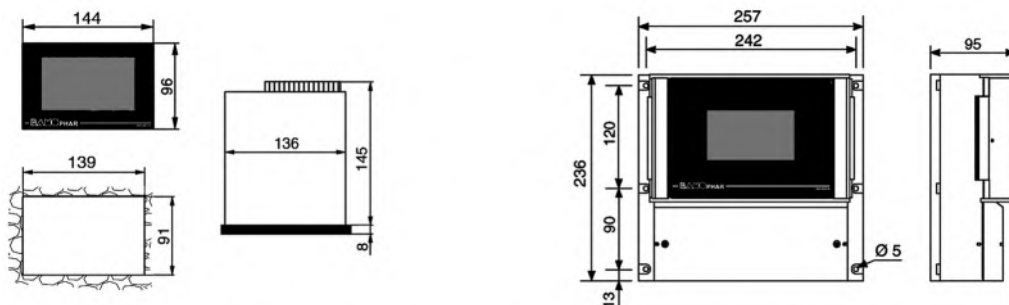
TECHNICAL FEATURES

End-user interface	Color touch-sensitive screen 4.3", resolution 480x272 pixels Display of measurements, menus, temperature, relay status Configuration: Keyword protected
Measuring range	10 μ S/cm up to 2000 mS/cm
Measuring ranges	0 ... 2 mS/cm; 0 ...20 mS/cm; 0 ... 200 mS/cm; 0 ... 2000 mS/cm
Accuracy	$\pm 0.3 \%$; $\pm 0.3 \text{ }^\circ\text{C}$
Probe input	On screw connectors
Temperature compensation	Automatic with Pt 100 signal, sensor built-in the inductive probe. Manually between 0 and 100 $^\circ\text{C}$
Relay outputs	4 contacts, NO, potential free
Configurable thresholds	S1, independent threshold, to set up for measurement or temperature S2, independent threshold, to set up for measurement or temperature S3, independent threshold, to set up for measurement or temperature or external function S4, to set up for alarming function: out of range or broken cable
Hysteresis	To set up between 0 and 100 % on S1, S2 and S3
Contact Initial resistance	100 m Ω max. (voltage drop 6 V DC 1 A)
Switching power	831 VA AC / 3 A / 277 V AC 90 W / 3 A / 30 V DC
Switching capacity (min.)	100 mA, 5 V DC (depends of frequency, ambient conditions, accuracy).
Mechanical lifetime (min.)	5 x 10 ⁶ operations (180 op./min)
Electrical lifetime (min.)	2 x 10 ⁵ (at 20 op./min) for 3 A 125 V AC, 3 A 30 V DC - 10 ⁵ (estimated load) for 3 A 125 V AC
Measurement output	0/4 - 20 mA (max. 600 Ω) proportional to measurement
Temperature output	0/4-20 mA (max. 600 Ω), for all scales from 0 to 100 $^\circ\text{C}$
Main power supply	230 V AC / 50-60 Hz (others on request) - Consumption 10 VA
Models	Panel mounting, 96x144 mm, Front IP65, rear back screw terminal IP40 Wall mounting, IP65, cable glands, screw terminal
OPTION (RS 422 + Logger)	
Interface	RS422 output, J-BUS link - Binary slave mode - 2400 to 9600 bauds
Data Logger	Record of cycle average measurement, programmable cycle time 150 000 records max. on memory card.

CODE NUMBERS AND REFERENCES

Code	Reference	Description
364 520	BAMOPHAR 364 E	Panel mounting, box 96x144 mm, Front IP65, rear back connector IP40
364 521	BAMOPHAR 364 E/A	Panel mounting, box 96x144 mm - Extension, blind monitor; Front IP65, rear back connector IP40
364 522	BAMOPHAR 364 E LOG BUS	Panel mounting, box 96x144 mm/ RS422 + logger/ Front IP65, rear back connector IP40
364 523	BAMOPHAR 364 D/A	DIN Rail mounting/ Extension, blind monitor/ IP40
364 560	BAMOPHAR 364 M	Wall mounting, Box IP 65, screw connectors, cable glands
364 561	BAMOPHAR 364 M/A	Wall mounting, box IP 65/ Extension, blind monitor/ screw connectors, cable glands
364 562	BAMOPHAR 364 M LOG BUS	Wall mounting, box IP 65/ RS 422 + logger/ screw connectors, cable glands

DIMENSIONS



BamoPHAR ... E, E/A, D/A, E LOG BUS

BamoPHAR ... M, M/A, M LOG BUS

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Conductivity meter for
inductive probe
BAMOPHAR 364

01-03-2017

D-364.04-EN-AB

364-04/2

Inductive conductivity, PEEK probe TCL S50 series



- Measuring range from 10 $\mu\text{S/cm}$ up to 2000 mS/cm
- Construction: PEEK
- Wide chemical compatibility
- Temperature max. 125 °C
- Low fouling probe
- Built-in Pt100 sensor

APPLICATIONS

TCL S50 probe is designed for applications where high chemical resistance or high operating temperature are necessary:

- WWTP survey
- Concentration monitoring of acid and base (e.g.: NaOH, HNO₃, H₂SO₄ ...)
- Quality survey of chemicals in tank or pipeline
- Phase separation of mixture liquid/liquid

DESCRIPTION

TCL S50 probe is well adapted for measurement between 10 $\mu\text{S/cm}$ up to 2000 mS/cm .

It uses inductive measurement that offers many advantages. There is a total galvanic insulation between measuring loop and the liquid for reliable measurements on numerous chemicals.

PEEK material allows a wide range of chemical compatibilities and a long lifetime. Probe may also work at high temperature up to 125 °C.

Immersion measurement

The probe is fixed to end of probe holder for immersion, length from 500 to 2000 mm, with optional flange fitting.

On-line measurement:

Probe is mounted on a Te, ND 50 mm.

Complete measuring system includes:

- Inductive probe TCL S50, cable output.
- Fitting for: or immersion or on-line application.
- Converter: factory calibrated.
- Monitor BAMOPHAR TOR 364 (doc 364-04)

Monitors BAMOPHAR

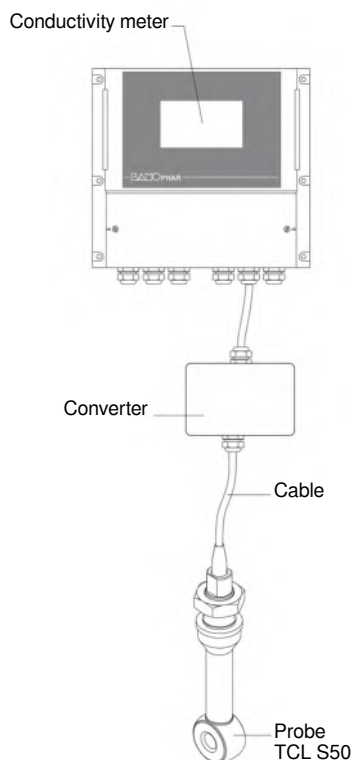
BAMOPHAR 364 is designed for use of inductive probes.

Available ranges:

- 0- 2 mS/cm
- 0- 20 mS/cm
- 0- 200 mS/cm
- 0- 2000 mS/cm

Temperature compensation is done by BAMOPHAR, offering also an output 4-20mA, copy of temperature measurement.

Factory calibrations are done on each measuring system for a quick and easy start up on site.



Complete system

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Inductive conductivity, PEEK
probe
TCL S50 series

03-07-2018

D-364.05-EN-AF

RES

364-05/1

TECHNICAL FEATURES

Measuring range	Conductivity: 10 μ S/cm up to 2000 mS/cm
Cell constant	c = 1.98 cm ⁻¹
Probe material	PEEK
Seal	FPM
Fitting	3/4" BSP
Ambient temperature	-10 ... +70 °C
Liquid temperature	-20 ... +125 °C
Temperature sensor	Built-in Pt 100 sensor (Class A - acc. IEC 60751)
Pressure	20 bar max.
Protection	IP 67 (NEMA 6)
	IP 68 with immersion probe holder
Output cable version	5 m long cable

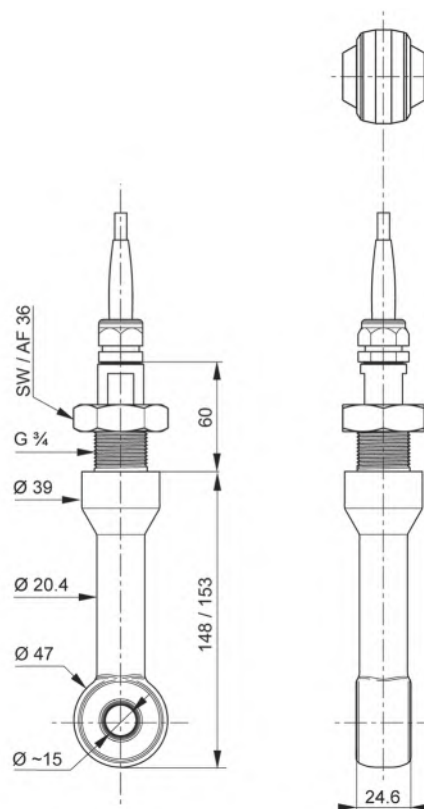
CODE NUMBER AND REFERENCE

Code	Reference	Description
364 058	TCL S50	Inductive conductivity probe, PEEK, 3/4" BSP, 5 m cable output

NOTE:

Complete system always integrates a box for converter between the probe and the monitor BAMOPHAR 364.
The box will be fitted in factory on the top of probe holder (Immersion and Te holders).
Between the box and the monitor a specific cable C8B must be used (code 368108)

DIMENSIONS



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Inductive conductivity, PEEK
probe
TCL S50 series

03-07-2018

D-364.05-EN-AF

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364-05/2