



Conductivity meter, ELEMENT design

- Perfect for clean water and slightly concentrated liquids
- Compact measurement device for direct connection to PLC
- Parameterisation, calibration and transfer of parameterisation data all possible thanks to a removable display/configuration module
- Simulation of process values for diagnostics
- Universal process connection, three different cell constants to cover a wide range of applications such as reverse osmosis

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 8611 eCONTROL - Universal controller	▶
	Type 8619 multiCELL - Multi-channel and multi-function transmitter/controller	▶
	Type 8693 Digital electro-pneumatic process controller for integrated mounting on process control valves	▶
	Type 8802 ELEMENT continuous control valve systems - overview	▶
	Type S022 Insertion adaptor/fitting for ELEMENT analytical measurement devices	▶

Type description

The Bürkert conductivity meter Type 8222 is designed for measuring the conductivity of fluids.

The sensor element comprises a two-electrode cell and a Pt1000 temperature probe. The sensor itself is available with three different cell constants C. These with $C=0.01$ or 0.1 cm^{-1} are fitted with stainless steel electrodes and those with $C=1.0 \text{ cm}^{-1}$ are fitted with graphite electrodes.

Thus, due to the measurement device's design, Bürkert has simplified installation and maintenance work.

The device Type 8222 is available in two variants:

The first one, the so-called ELEMENT standard is proposed either with three adjustable outputs (two digital outputs and one analogue output) or with four adjustable outputs (two digital and two analogue) and can be equipped with a display. The display is only necessary for start-up, configuration (e.g. selection pH/ORP measurement, measurement range, units, calibration, thresholds, etc) or as a display of process values.

The second, the so-called ELEMENT neutrino is a 2-conductor device, without a display, with a 4...20 mA current output and is available with two variants of pipe connections, either with a G 1½" union nut for installation with an adaptor with a G 1½" external thread sensor connection or with a G ¾" external thread for screwing into an adaptor with a G ¾" internal thread sensor connection.

The device Type 8222 converts the measuring signal, shows different values in different measuring units in the ELEMENT standard device (if display is installed) and calculates the output signals, which are transferred in the ELEMENT standard device via one or two M12 plug connections or in the ELEMENT neutrino variant via an M12 plug connection or on a terminal strip via a cable gland.

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1. General technical data

1.1. About the device

The conductivity measurement device consists of a sensor available with three cell constants C plugged-in and pinned to the transmitter. The device is available in an ELEMENT standard variant or in an ELEMENT neutrino variant. Both are available with a G 1½" union nut process connection in PVC or PVDF. The ELEMENT neutrino variant is also proposed with a holder with G ¾" process connection.

1.2. All models

Note:

- The following data applies to all variants.
- If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

Product properties

Material

Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter [“2.3. Pressure equipment directive” on page 8](#).

Detailed information on the materials can be found in chapter [“3.2. Material specifications” on page 9](#).

Non wetted parts

Housing Stainless steel 1.4404 (316L), PPS

Wetted parts

Probe holder PVDF, stainless steel 1.4571 (316Ti)

Electrode For cell constant:

- C = 0.01 cm⁻¹: stainless steel 1.4571 (316Ti)
- C = 0.1 cm⁻¹: stainless steel 1.4571 (316Ti)
- C = 1 cm⁻¹: graphite

Compatibility Any pipe which is fitted with Bürkert S022 adaptor. See [data sheet Type S022](#) ▶ for more information.

Pipe diameter DN 25...DN 110 (DN 15...DN 20 under specific conditions)

Dimensions Detailed information can be found in chapter [“4. Dimensions” on page 10](#).

Probe With cell constant

- C = 0.01 cm⁻¹
- C = 0.1 cm⁻¹
- C = 1 cm⁻¹

Temperature sensor Pt1000 integrated within the holder

Measuring range

Conductivity measurement 0.05 µS/cm...10 mS/cm

Temperature measurement -20...+100 °C (-4...+212 °F)

Performance data

Conductivity measurement

Measurement deviation ± 3 % of measured value

Temperature measurement

Measurement deviation ± 1 °C (1.8 °F)

4...20 mA output uncertainty ± 1 % of range

Electrical data

Power source (not supplied) Limited power source according to UL/EN 60950-1 standards or limited energy circuit according to UL/EN 61010-1 §9.4

DC reverse polarity protection Yes

Overvoltage protection Yes

Voltage supply cable Shielded cable

Medium data

Fluid temperature	<p>Device with</p> <ul style="list-style-type: none"> • G 1½" PVC union nut connection: 0...+50 °C (+32...+122 °F) • G 1½" PVDF union nut connection (on request for ELEMENT neutrino variant): -20...+100 °C (-4...+212 °F) restricted by the used adaptor <p>Restriction with adaptor S022 in:</p> <ul style="list-style-type: none"> – PVC: 0...+50 °C (+32...+122 °F) – PP: 0...+80 °C (+32...+176 °F) – Metal: -20...+100 °C (-4...+212 °F)
Fluid pressure ^{1.)}	<p>Max. PN 16 (232 PSI)</p> <p>Detailed information can be found in chapter "5.1. Pressure temperature diagram" on page 12 (depends on selected probe).</p>

Process/Port connection & communication

Process connection	G 1½" internal thread for use with Type S022 adaptor See data sheet Type S022 ▶ for more information.
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Approvals and certificates**Directives**

CE directive	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)
Pressure equipment directive	Complying with Article 4, Paragraph 1 of 2014/68/EU directive Detailed information on the pressure equipment directive can be found in chapter "2.3. Pressure equipment directive" on page 8.
Certification	UL-Recognized for US and Canada

Environment and installation

Ambient temperature	Operation and storage: -10...+60 °C (+14...+140 °F)
Relative air humidity	≤ 85 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor (protect the device against electromagnetic interference, ultraviolet rays and against the effects of climatic conditions)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

1.) Not evaluated by UL

1.3. ELEMENT standard variant**Product properties****Material**

Detailed information on the materials can be found in chapter **"3.2. Material specifications"** on page 9.

Non wetted parts

Cover	Polycarbonate (PC), transparent (opaque on request)
Screw	Stainless steel 1.4401 (316 (A4))
Grounding terminal and screw	Stainless steel 1.4301 (304 (A2))
Union nut	PVC or PVDF
Display/configuration module	PC
Navigation key	PBT
Seal	EPDM, silicone
Fixed connector holder	PPS CF30
Fixed connector	Nickel-plated brass

Temperature compensation	<ul style="list-style-type: none"> • None or • According to a predefined graph <ul style="list-style-type: none"> – Linear or – NaCl or – Ultra pure water or • According to a graph defined especially for your process
Concentration	Conversion of conductivity to dissolved electrolyte concentration (Total dissolved solids (TDS)) by using a user adjustable factor.
Product accessories	
Display/configuration module	Grey dot matrix 128 x 64 with backlighting
Performance data	
Conductivity measurement	
Measuring range resolution	1 nS/cm
Temperature measurement	
Measuring range resolution	0.1 °C (0.18 °F)
Minimal scale range	10 °C (i.e. +10...+20 °C (+50...+68 °F) corresponding to 4...20 mA)
Electrical data	
Operating voltage	<ul style="list-style-type: none"> • 3 outputs transmitter (2-wire) variant: 14...36 V DC, filtered and regulated • 4 outputs transmitter (3-wire) variant: 12...36 V DC, filtered and regulated <p>Connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply</p>
Current consumption	<p>With sensor</p> <ul style="list-style-type: none"> • ≤1 A (with transistors load) • 3 outputs transmitter (2-wire) variant: ≤25 mA (at 14 V DC without transistors load, with current loop) • 4 outputs transmitter (3-wire) variant: ≤5 mA (at 12 V DC without transistors load, without current loop)
Output	
Digital output	<p>Transistor:</p> <ul style="list-style-type: none"> • Adjustable as sourcing or sinking (respectively both as PNP or NPN), open collector • Max. 700 mA • 0.5 A max. per transistor if the 2 transistor outputs are wired • NPN-output: 0.2...36 V DC • PNP-output: Power supply • Protected against overvoltage, polarity reversals and short circuit
Analogue output	<p>Current:</p> <ul style="list-style-type: none"> • 4...20 mA adjustable as sourcing or sinking (in the same mode as transistor) • Response time (10 %...90 %): 150 ms (standard) • 1 current output (3 outputs transmitter (2-wire) variant) Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 180 Ω at 14 V DC • 2 current outputs (4 outputs transmitter (3-wire) variant) Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC
Voltage supply cable	<p>For the female M12 connector and/or the male M12 connector (not supplied, to order separately, see chapter "10.5. Ordering chart accessories" on page 19) use a cable</p> <ul style="list-style-type: none"> • Ø 3...6.5 mm • Cross section of wires: max. 0.75 mm²
Process/Port connection & communication	
Electrical connection	<ul style="list-style-type: none"> • 3 outputs transmitter (2-wire) variant: 1 x 5 pin M12 male fixed connector • 4 outputs transmitter (3-wire) variant: 1 x 5 pin M12 male and 1 x 5 pin M12 female fixed connectors
Approvals and certificates	
Certificate	FDA declaration of conformity

Environment and installation

Degree of protection ^{1.)} according to IEC/EN 60529	With device wired and M12 cable plug(s) mounted and tightened and cover fully screwed down: IP65, IP67
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1.) Not evaluated by UL

1.4. ELEMENT neutrino variant



Product properties

Material

Detailed information on the materials can be found in chapter [“3.2. Material specifications” on page 9.](#)

Non wetted parts

Cover	Black PPS
Screw	Stainless steel
Union nut	PVC (PVDF on request)
Seal	EPDM
Fixed connector or cable gland	PA66
Temperature compensation	<ul style="list-style-type: none"> • None or • According to a predefined graph <ul style="list-style-type: none"> – NaCl or – Ultra pure water (only with C=0.01)

Electrical data

Operating voltage	12...36 V DC, filtered and regulated Connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply)
Current consumption	≤ 25 mA (with sensor)

Output

Analogue output	<p>Current</p> <ul style="list-style-type: none"> • 4...20 mA • Response time (10 %...90 %): 5 s (standard) • Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC
Voltage supply cable	<ul style="list-style-type: none"> • For the female M12 connector and/or the male M12 connector (not supplied, to order separately, see chapter “10.5. Ordering chart accessories” on page 19) use a cable <ul style="list-style-type: none"> – Ø 3...6.5 mm – Cross section of wires: max. 0.75 mm² • For terminal strip via a cable gland (measuring data acc. to CEI 664-1/VDE 0110 (4.97 use a cable): <ul style="list-style-type: none"> – Solid H05(07) V-U: 0.25...1.5 mm² – Flexible H05(07) V-K: 0.25...1.5 mm² – With wire end ferrule: 0.25...1.5 mm² – With plastic collar ferrule: 0.25...0.75 mm² – Diameter: 4...8 mm

Medium data

Fluid temperature	<ul style="list-style-type: none"> • Device with G 3/4" external threaded connection: -20...+100 °C (-4...+212 °F) restricted by the used adaptor • Restriction with adaptor S022 in PVC: 0...+50 °C (+32...+122 °F)
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Process/Port connection & communication

Process connection	G 3/4" external threaded for use with Type S022 adaptor See data sheet Type S022 ▶ for more information.
Electrical connection	<ul style="list-style-type: none"> • 1x5 pin free positionable M12 male fixed connector or • Terminal strip via 1x cable gland M16 x 1.5

Environnement et installation

Degree of protection ^{1.)}	<p>With device wired and M12 cable plug mounted and tightened or cable gland tightened or obturated and cover properly mounted and secured:</p> <ul style="list-style-type: none"> • IP65, IP67 (according to IEC/EN 60529) • NEMA 4X and NEMA 6P (according to NEMA250) (with device installed on the fitting) • UL50E
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1.) Not evaluated by UL

2. Approvals

2.1. Certification

Note:

The certification listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications. Not all available devices can be supplied with the certification below.

Certificate	Description
	<p>UL-Recognized for USA and Canada Products are UL-certified products and comply also with the following standards:</p> <ul style="list-style-type: none"> • UL 61010-1 • CAN/CSA-C22.2 No.61010-1
	<p>UL-Listed for USA and Canada Products are UL-listed products and comply also with the following standards:</p> <ul style="list-style-type: none"> • UL 61010-1 • CAN/CSA-C22.2 No.61010-1

2.2. Certificates

Note:

The certificate listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications. Not all available devices can be supplied with the certificate below.

Certificate	Description
FDA	The devices comply in their composition with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).

2.3. Pressure equipment directive

The device conforms to article 4, paragraph 1 of the pressure equipment directive 2014/68/EU under the following conditions:

Device used on a pipe

Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, DN = nominal diameter of the pipe

Type of fluid	Conditions
Fluid group 1, article 4, paragraph 1.c.i	$DN \leq 25$
Fluid group 2, article 4, paragraph 1.c.i	$DN \leq 32$ or $PS \cdot DN \leq 1000$
Fluid group 1, article 4, paragraph 1.c.ii	$DN \leq 25$ or $PS \cdot DN \leq 2000$
Fluid group 2, article 4, paragraph 1.c.ii	$DN \leq 200$ or $PS \leq 10$ or $PS \cdot DN \leq 5000$

Device used on a vessel

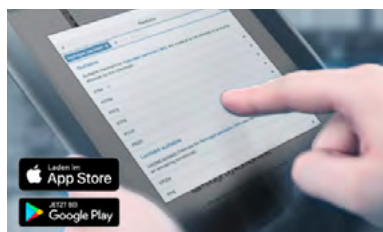
Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, V = vessel volume

Type of fluid	Conditions
Fluid group 1, article 4, paragraph 1.a.i	$V > 1 \text{ L}$ and $PS \cdot V \leq 25 \text{ bar} \cdot \text{L}$ or $PS \leq 200 \text{ bar}$
Fluid group 2, article 4, paragraph 1.a.i	$V > 1 \text{ L}$ and $PS \cdot V \leq 50 \text{ bar} \cdot \text{L}$ or $PS \leq 1000 \text{ bar}$
Fluid group 1, article 4, paragraph 1.a.ii	$V > 1 \text{ L}$ and $PS \cdot V \leq 200 \text{ bar} \cdot \text{L}$ or $PS \leq 500 \text{ bar}$
Fluid group 2, article 4, paragraph 1.a.ii	$PS > 10 \text{ bar}$ and $PS \cdot V \leq 10000 \text{ bar} \cdot \text{L}$ or $PS \leq 1000 \text{ bar}$

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp



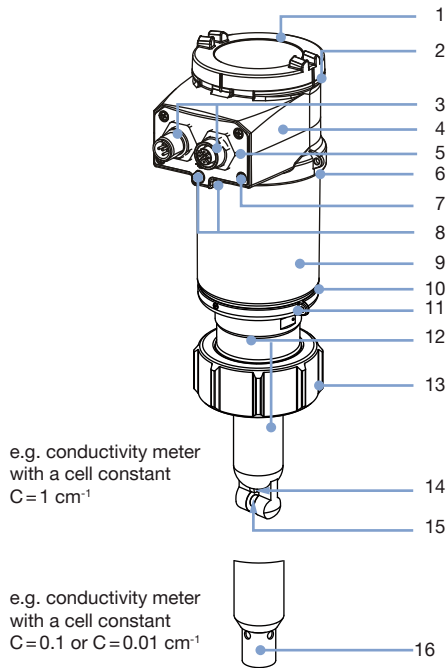
Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

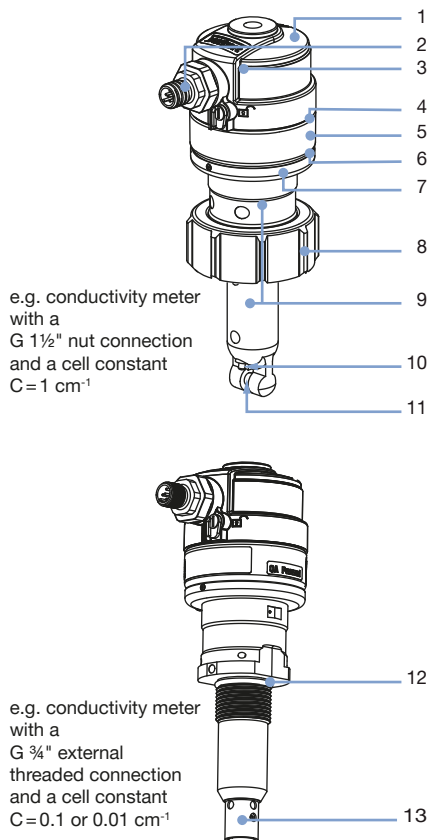
3.2. Material specifications

ELEMENT standard variant



No.	Element	Material
1	Cover	PC
2	Seal	Silicone
3	Fixed connector (female /male M12)	Nickel-plated brass
4	Housing (top)	PPS
5	Fixed connector holder	PPS CF30
6	Seal	EPDM
7	Screws	Stainless steel 1.4301 (304 (A2))
8	Grounding terminal and screw	Stainless steel 1.4401 (316 (A4))
9	Housing (body)	Stainless steel 1.4404 (316L)
10	Seal	EPDM
11	Housing (base)	PPS
12	Probe holder	PVDF
13	Union nuts	PVC or PVDF
14	Pt probe ($C = 1 \text{ cm}^{-1}$)	Stainless steel 1.4571 (316Ti)
15	Electrode ($C = 1 \text{ cm}^{-1}$)	Graphite
16	Pt Probe, electrode ($C = 0.1$ or 0.01 cm^{-1})	Stainless steel 1.4571 (316Ti)

ELEMENT neutrino variant



No.	Element	Material
1	Cover	Black PPS
2	M12 fixed connector/cable gland	PA66
3	Seal	EPDM
4	Seal	EPDM
5	Housing (body)	Stainless steel 1.4404 (316 L)
6	Seal	EPDM
7	Housing (base)	PPS
8	Union nuts	PVC (or PVDF on request)
9	Probe holder	PVDF
10	Pt probe ($C = 1 \text{ cm}^{-1}$)	Stainless steel 1.4571 (316Ti)
11	Electrode ($C = 1 \text{ cm}^{-1}$)	Graphite
12	Seal	EPDM
13	Pt Probe, electrode ($c = 0.1$ or 0.01 cm^{-1})	Stainless steel 1.4571 (316Ti)

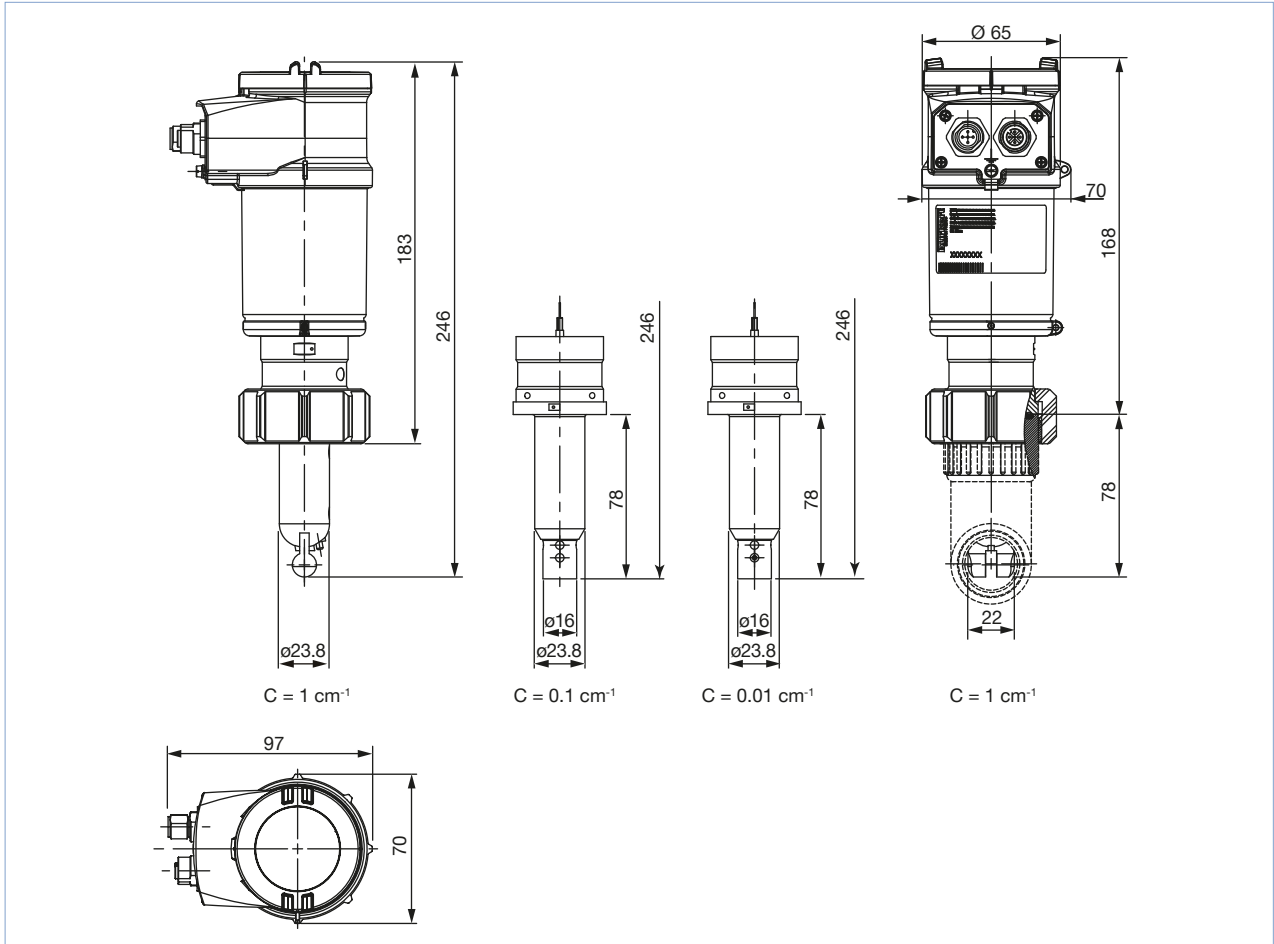
DTS 1000114221 EN Version: Q Status: RL (released | freigegeben | validé) printed: 11.05.2022

4. Dimensions

4.1. ELEMENT standard variant

Note:

Specifications in mm

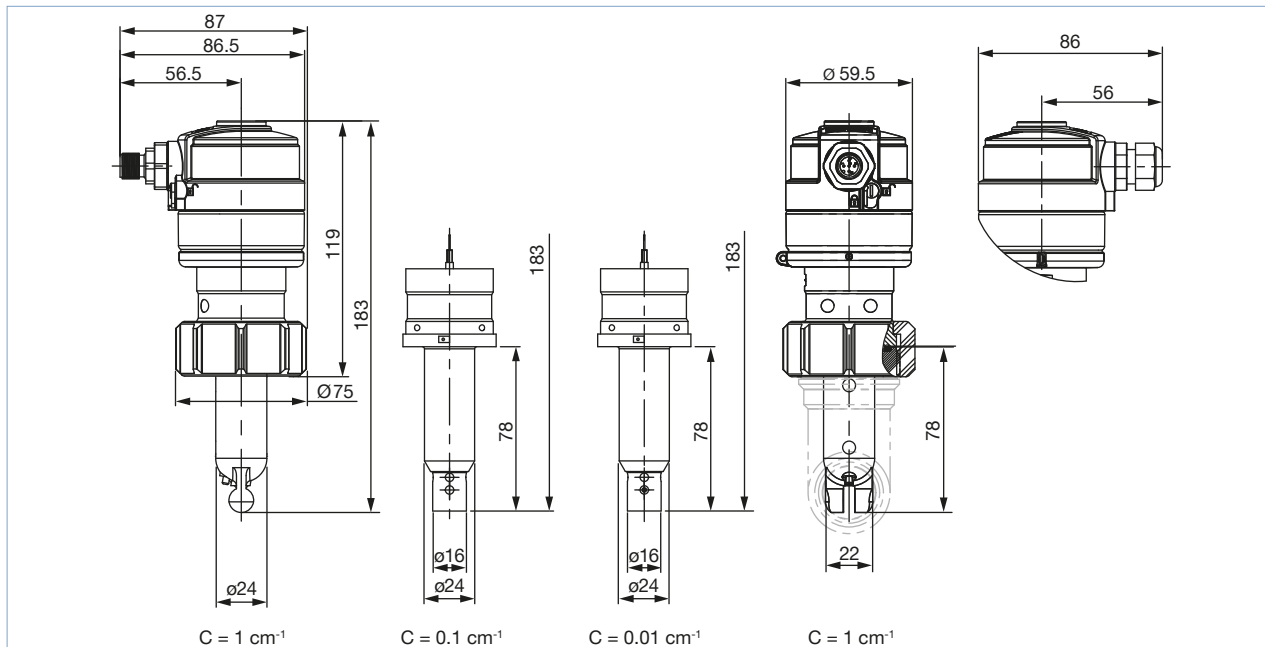


4.2. ELEMENT neutrino variant

With a G 1½" union nut connection

Note:

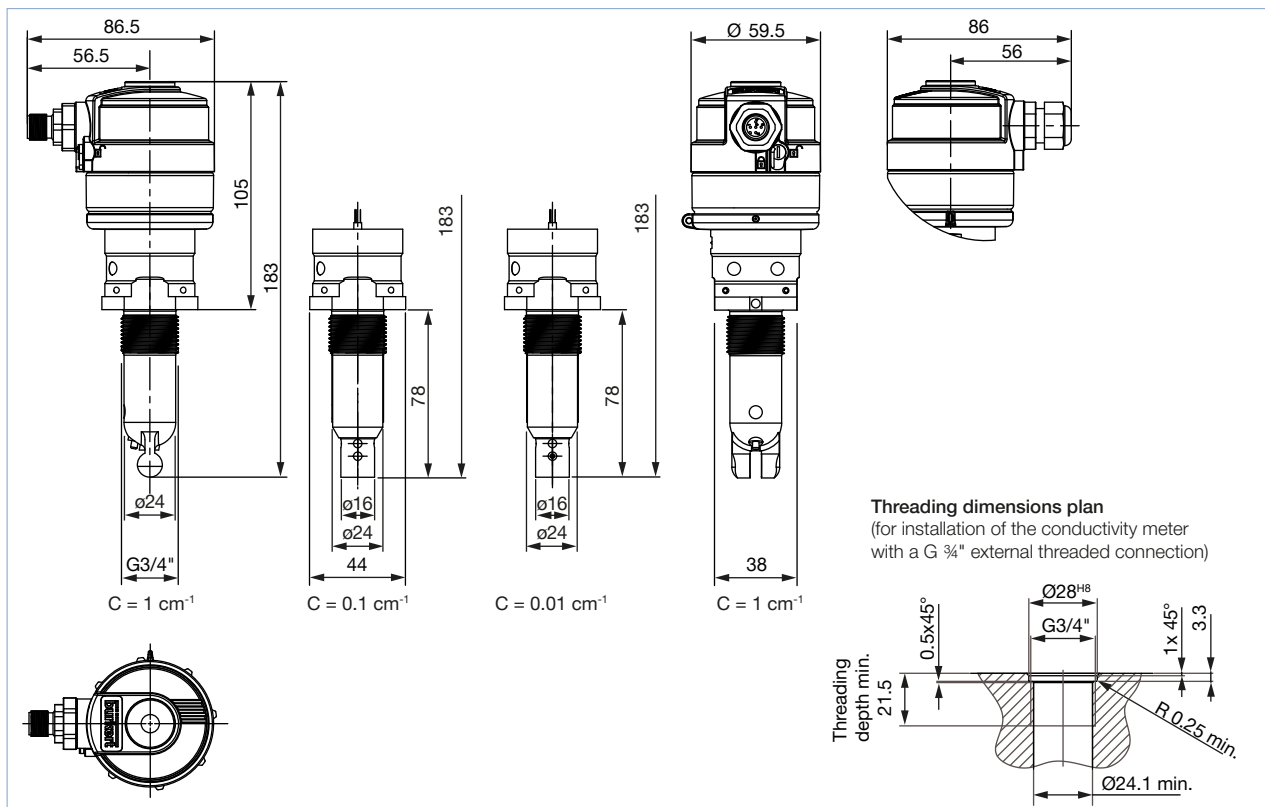
Specifications in mm



With a G ¾" external threaded connection

Note:

Specifications in mm

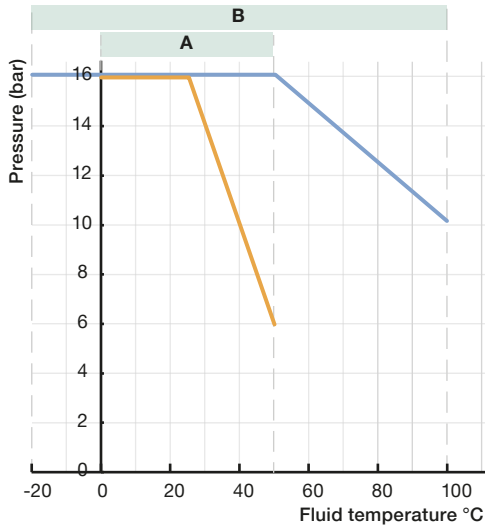


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5. Performance specifications

5.1. Pressure temperature diagram

ELEMENT standard and ELEMENT neutrino variants

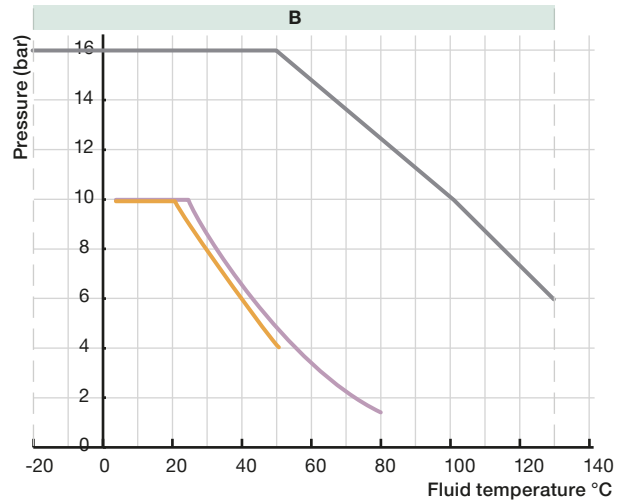
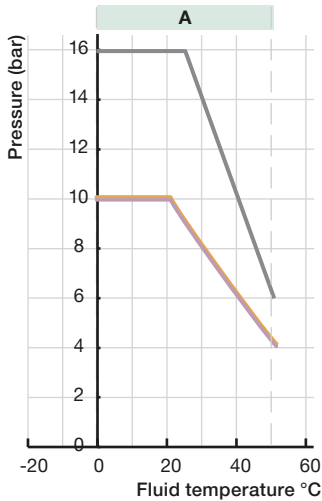


Application range of 8222 ELEMENT standard and neutrino versions
 A: device with PVC union nut
 B: device with
 - a PVDF union nut connection
 (on request for ELEMENT neutrino version) or
 - with a G 3/4" external threaded connection
 (only for ELEMENT neutrino version)

The measures have been made at an ambient temperature of 60 °C

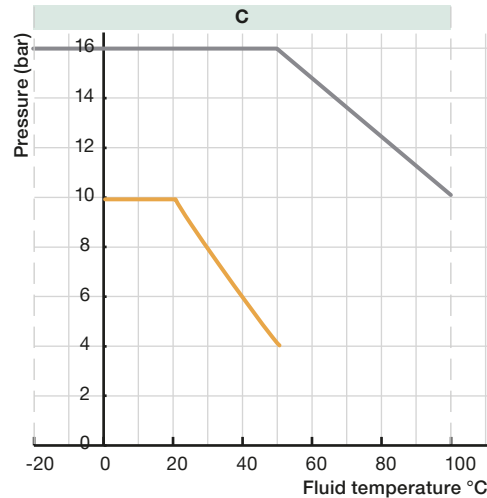
— PVDF — PVC

ELEMENT standard and ELEMENT neutrino variants installed with an S022 adaptor



Application range of 8222 ELEMENT standard and neutrino version with S022 adaptor,
 A: device with PVC union nut
 B: device with PVDF union nut
 (on request, for ELEMENT neutrino version)
 C: device with a G 3/4" external threaded connection
 (only for ELEMENT neutrino version)

— PVC — PP — Metal



6. Product installation

6.1. Installation notes

The 8222 ELEMENT standard or neutrino conductivity meter can be installed into any adaptor with G 1½" external threaded sensor connection by just fixing the main union nut. The ELEMENT neutrino conductivity meter with G ¾" external threaded connection can be installed into any adaptor with G ¾" internal threaded (detailed information on threading dimensions plan can be found in chapter "With a G ¾" external threaded connection" on page 11).

Select and install the required adaptor onto the pipe according to specific requirements of the sensor and material (temperature and pressure). For a mounting on a tank or a direct mounting on a pipe (DN 100 or DN 110), an adaptor with a G 1½" external threaded sensor connection or with a G ¾" internal threaded sensor connection (depending on conductivity meter variant) must be installed.

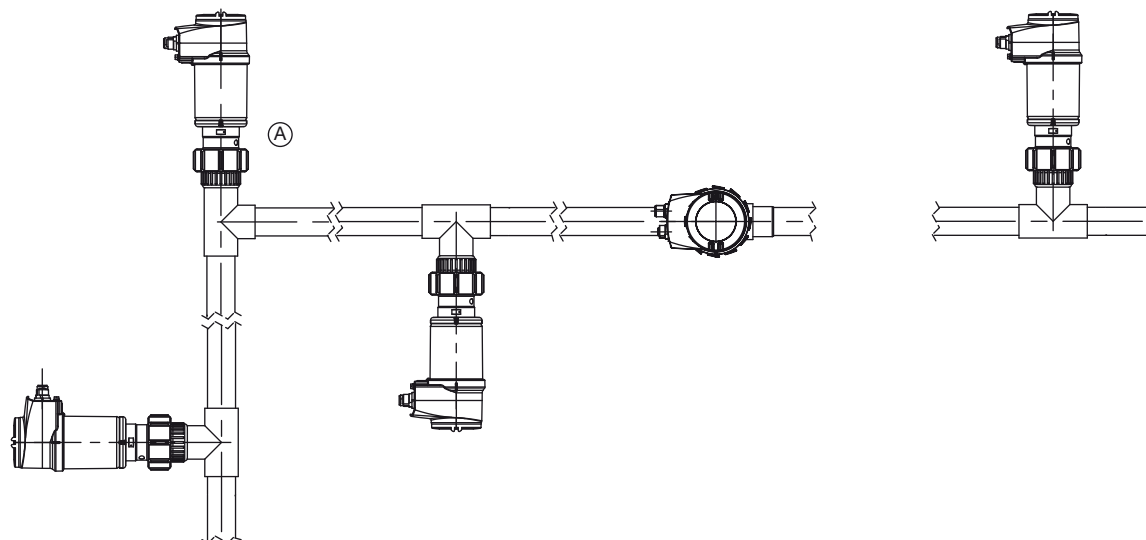
See **data sheet Type S022** ▶ for more information about adaptor.

Install cautiously the device on the fitting. It can be installed in any position (**prefer "A" mounting to install a 8222 neutrino with sensor C=0.1 or C=0.01 cm⁻¹**).

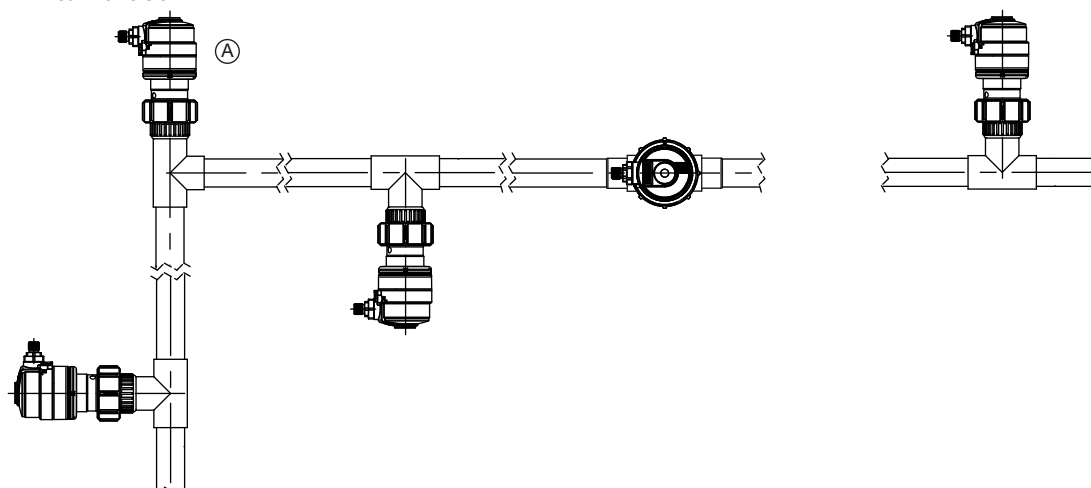
In order obtain reliable measurements air bubbles must be avoided.

Please ensure that the mounting location provides a continuous and complete immersion of the probe in the flow stream.

ELEMENT standard version



ELEMENT neutrino version



The device must be protected from constant heat radiation and other environmental influences, such as direct exposure to sunlight.

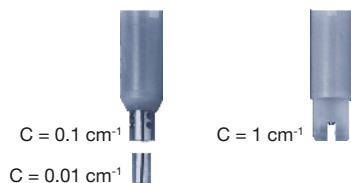
7. Product operation

7.1. Measuring principle

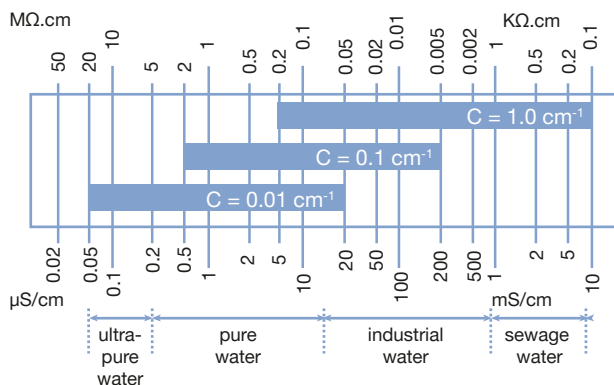
Conductivity is defined by the property of a solution to conduct electrical current. The charge carriers are ions (e.g. dissolved salts or acids). In the case of this device, the measurement cell consists of two electrodes which are set at a fixed distance apart and with a known specified surface. The measured current is a direct function of the quantity of ions contained in the solution, and with help of Ohm's law the conductivity is calculated.

There are countless types of conductivity probes whose measurement values vary by a great margin - depending on the electrode assembly. To compensate for the geometry of the conductivity cell a cell constant is used: $\text{Conductivity [S/cm]} = \text{Measurement [S]} \times \text{Cell constant [1/cm]}$.

The conductivity transmitter can be fitted with 3 different measuring cells with constants $C=0.01$; 0.1 and 1.0 cm^{-1} .



The sensor is selected according to the measuring range and medium by using the table below.



The meter is either a two wire device (3 outputs transmitter ELEMENT standard variant or ELEMENT neutrino variant) or a three wire device (4 outputs transmitter ELEMENT standard variant) which requires a power supply of 14 V DC (3 outputs transmitter ELEMENT standard variant) or 12 V DC (4 outputs transmitter ELEMENT standard variant or ELEMENT neutrino variant) up to 36 V DC and delivers a 4...20 mA standard signal proportional to the conductivity and/or to the temperature of the fluid as output signal.

The measurement range on which the 4...20 mA output must match is selectable for

- the ELEMENT standard variant through a display/configuration module and
- the ELEMENT neutrino variant through a rotary switch. This measurement range can also be customized on request (contact your nearest Bürkert office).

The electrical connection is provided via one or two M12 fixed connectors for the ELEMENT standard variant or via one free positionable M12 male fixed connectors or terminal strip through cable gland for the ELEMENT neutrino variant.

8. Product design and assembly

8.1. Product assembly

Note:

The 8222 device can easily be installed into piping systems or vessels by using the S022 adaptor/fitting

- with G 1½" external threaded sensor connection for ELEMENT standard and neutrino variant or
- with G ¾" internal threaded connection for only ELEMENT neutrino variant.

See **data sheet Type S022** ▶ for more information.

The conductivity meter consists of a sensor available with three different cell constants C, plugged-in and pinned to an enclosure with cover, containing the electronic module. The sensor holder comprises a cell with two electrodes and a Pt1000 temperature sensor.

A removable display/configuration module complements the ELEMENT standard device variant. The conductivity meter can operate independently of this module, but it will be required for configuration of the device (i.e. set parameters, restore default parameters, configure information to be displayed, enter access codes, adjust 4...20 mA output(s) ...) and also for visualizing continuously the measured and processed data.

Removable display/configuration module
(separately available)

Conductivity meter Type 8222
ELEMENT standard version

Insertion adaptor Type S022
with G 1½" external threaded sensor connection

Conductivity meter Type 8222
ELEMENT neutrino version

- with G 1½" union nut connection

- with G ¾" external threaded connection

Insertion adaptor Type S022
with G ¾" internal threaded sensor connection

Complete ELEMENT device
standard version
for conductivity measurement

Fitting
(example only)

Complete ELEMENT device
neutrino version
for conductivity measurement

Fitting
(example only)

Complete ELEMENT device
neutrino version
for conductivity measurement


9. Networking and combination with other Bürkert products

Example:



10. Ordering information

10.1. Bürkert eShop – Easy ordering and quick delivery



Bürkert eShop – Easy ordering and fast delivery

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10.2. Recommendation regarding product selection

Note:

- A complete conductivity measurement equipment consists of an conductivity meter Type 8222 (ELEMENT standard or ELEMENT neutrino variant), a removable display/configuration module (only for ELEMENT standard variant) and a Bürkert Insertion adaptor Type S022 with a G 1½" external threaded (for ELEMENT standard or ELEMENT neutrino variant) or G ¾" internal threaded sensor connection (only for ELEMENT neutrino variant).
- When you order a standard variant device without display/configuration module, please take care that you also order at least one display/configuration module for parametrising the device (see chapter **"10.5. Ordering chart accessories"** on page 19).


See **data sheet Type S022** ▶ for more information.

Two or three different components must be ordered in order to select a complete device. The following information is required:

- **Article no.** of the desired 8222 conductivity meter ELEMENT standard variant without display/configuration module or ELEMENT neutrino variant (see chapter **"10.4. Ordering chart"** on page 17)
- **Article no.** of the removable display/configuration module, if necessary for the ELEMENT standard variant (see chapter **"10.5. Ordering chart accessories"** on page 19)
- **Article no.** of the selected S022 Insertion adaptor with G 1½" external threaded (for ELEMENT standard or ELEMENT neutrino variant with union nut) or G ¾" internal threaded sensor connection (only for ELEMENT neutrino variant to be screwed). See **data sheet Type S022** ▶.

Visit product website ▶

10.3. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

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10.4. Ordering chart

ELEMENT standard variant

Note:

- All settings as well as the digital output have to be adjusted with the optional available display/configuration module (to be ordered separately).
- All following Article no.s. have a transparent cover as standard and an integrated Pt1000.

Operating voltage	Output	Sensor variant	Nut material	UL certification	Electrical connection ^{1.)}	Article no.
14...36 V DC	3 outputs: 2x transistors NPN/PNP + 1 x 4...20 mA (2 wires)	C = 0.01 cm ⁻¹	PVC	– UL-Recognized	5 pin M12 male fixed connector	559618
			PVDF	– UL-Recognized		562394
			PVC	– UL-Recognized		559620
			PVDF	– UL-Recognized		562396
		C = 0.1 cm ⁻¹	PVC	– UL-Recognized		559614
			PVDF	– UL-Recognized		559624
			PVC	– UL-Recognized		559616
			PVDF	– UL-Recognized		559626
		C = 1.0 cm ⁻¹	PVC	– UL-Recognized		559610
			PVDF	– UL-Recognized		559638
			PVC	– UL-Recognized		559612
			PVDF	– UL-Recognized		559622
12...36 V DC	4 outputs: 2x transistors NPN/PNP + 2 x 4...20 mA (3 wires)	C = 0.01 cm ⁻¹	PVC	– UL-Recognized	5 pin M12 male and 5 pin M12 female fixed connectors	559619
			PVDF	– UL-Recognized		562395
			PVC	– UL-Recognized		559621
			PVDF	– UL-Recognized		562397
		C = 0.1 cm ⁻¹	PVC	– UL-Recognized		559615
			PVDF	– UL-Recognized		559625
			PVC	– UL-Recognized		559617
			PVDF	– UL-Recognized		559627
		C = 1.0 cm ⁻¹	PVC	– UL-Recognized		559611
			PVDF	– UL-Recognized		559639
			PVC	– UL-Recognized		559613
			PVDF	– UL-Recognized		559623

1.) Order separately (see chapter "10.5. Ordering chart accessories" on page 19): M12 cable plugs (only female for one 4...20 mA output, 1 male + 1 female for two 4...20 mA outputs flowmeter)















Further versions on request	
<p>Additional</p> <ul style="list-style-type: none"> • Pre-parameterized devices with configuration: 2- or 4-outputs, filter, temperature compensation, threshold, etc. • With display/configuration module 	<p>Certification and Calibration Calibration certificates</p>

ELEMENT neutrino variant

Operating voltage	Output	Sensor variant	UL certification	Electrical connection ^{1.)}	Article no.
With a G 1½" union nut connection in PVC					
12...36 V DC	1 × 4...20 mA (2 wires)	C = 0.01 cm ⁻¹	–	5 pin M12 male fixed connector	561661 
			UL-Recognized		562545 
			–	Cable gland	561662 
			UL-Recognized		562546 
		C = 0.1 cm ⁻¹	–	5 pin M12 male fixed connector	561663 
			UL-Recognized		562547 
			–	Cable gland	561664 
			UL-Recognized		562548 
		C = 1.0 cm ⁻¹	–	5 pin M12 male fixed connector	561665 
			UL-Recognized		562549 
			–	Cable gland	561666 
			UL-Recognized		562550 
With a G 1½" union nut connection in PVDF					
12...36 V DC	1 × 4...20 mA (2 wires)	C = 0.01 cm ⁻¹	–	5 pin M12 male fixed connector	562503 
			UL-Recognized		On request
			–	Cable gland	562652 
			UL-Recognized		567396 
		C = 0.1 cm ⁻¹	–	5 pin M12 male fixed connector	562478 
			UL-Recognized		On request
			–	Cable gland	562479 
			UL-Recognized		567357 
		C = 1.0 cm ⁻¹	–	5 pin M12 male fixed connector	562271 
			UL-Recognized		On request
			–	Cable gland	562653 
			UL-Recognized		568024 
With a G ¾" external threaded connection					
12...36 V DC	1 × 4...20 mA (2 wires)	C = 0.01 cm ⁻¹	–	5 pin M12 male fixed connector	561667 
			UL-Recognized		562551 
			–	Cable gland	561668 
			UL-Recognized		562552 
		C = 0.1 cm ⁻¹	–	5 pin M12 male fixed connector	561669 
			UL-Recognized		562553 
			–	Cable gland	561670 
			UL-Recognized		562554 
		C = 1.0 cm ⁻¹	–	5 pin M12 male fixed connector	561671 
			UL-Recognized		562555 
			–	Cable gland	561672 
			UL-Recognized		562556 

1.) Order separately (see chapter "10.5. Ordering chart accessories" on page 19): M12 female cable plug

10.5. Ordering chart accessories

Description	Article no.
For all variants	
Calibration solution, 300 ml, 5 µS/cm	440015 
Calibration solution, 300 ml, 15 µS/cm	440016 
Calibration solution, 300 ml, 100 µS/cm	440017 
Calibration solution, 300 ml, 706 µS/cm	440018 
Calibration solution, 300 ml, 1413 µS/cm	440019 
5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917116 
5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438680 
For ELEMENT standard variant	
Removable display/configuration module (with instruction sheet)	559168 
Opaque cover with seal (1 screw cover with EPDM seal + 1 quarter turn closing cover with silicone seal)	560948 
Transparent cover with seal (1 screw cover with EPDM seal + 1 quarter turn closing cover with silicone seal)	561843 
5 pin M12 male straight cable plug with plastic threaded locking ring, to be wired	560946 
5 pin M12 male straight cable plug moulded on cable (2 m, shielded)	559177 
For ELEMENT neutrino variant	
EPDM seal for cover/housing sealing	561752 
EPDM seal for conductivity meter with G 3/4" external thread/S022 adaptor sealing ^{1.)}	561955 

1.) Important!

Only use this o-ring to ensure the sealing between the conductivity meter with a G 3/4" external threaded connection and the S022 Insertion adaptor

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