

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.



## Graduated measuring ranges 0.01 $\mu\text{S/cm}$ – 2,000 $\text{mS/cm}$

After pH, electrolytic conductivity is the second most important measured variable in chemical process analysis. It characterises the ability of an aqueous solution to conduct electrical current. This allows all processes involving salts, acids and bases to be accurately monitored and controlled.

The field of application covers everything from fairly simple water treatment tasks through to complex industrial process waters with stringent requirements in terms of temperature, pressure, contamination tolerance and chemical resistance (e.g. to concentrated sulphuric acid or hydrofluoric acid).

## Your benefits

- 27 different sensor types tailored to different requirements and offering optimum performance for money: measuring range, temperature, chemical resistance, contamination tolerance and process integration
- From simple conductometric sensors to high-end sensors based on the inductive measurement principle
- Precise and reliable measurement enables efficient processes and maximum process reliability
- Long service lives and short maintenance intervals reduce downtime and increase the availability of the measured values
- Complete pre-assembled kits containing fitting and sensor for easy, fast and error-free installation
- Prompt delivery for quick replacement

## Field of application

- Metering and dilution of chemicals
- Measuring the concentration of aggressive chemicals
- Washing and cleaning processes, especially CIP (cleaning in place) processes in the food and beverage industry
- Blowdown control in cooling towers
- Control of ultra-clean, clean and potable water generation processes
- Waste water

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Technical Data

### 2-Electrode Conductivity Sensors

Conductive conductivity sensors measure the electrolytic conductivity indirectly via the charge transfer between two probes immersed in the medium to be measured. The sensor types with cell constants  $k = 0.01$  and  $k = 0.1 \text{ cm}^{-1}$  are especially suitable for the measurement of the lowest electrolytic conductivities of  $< 1 \text{ }\mu\text{S/cm}$  in pure and ultra-pure water.

The sensor types with cell constants  $k=1 \text{ cm}^{-1}$  are used in numerous kinds of water without film-forming ingredients up to 20 mS/cm. The cost-effective sensor range LF(T) is used in clear, chemically uncontaminated water.

The sensor ranges LM(P), CK and CKPt can also be used in chemically contaminated kinds of water and a high temperatures.

### Conductivity Sensor LMP 001

Sensor for the measurement of the lowest electrolytic conductivities for clear and also chemically contaminated water. With integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above  $0.01 \text{ }\mu\text{S/cm}$
- Cost-effective sensor for clear, chemically contaminated water
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.01...50 $\mu\text{S/cm}$
<b>Cell constant k</b>	$0.01 \text{ cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0...70 °C
<b>Max. pressure</b>	16.0 bar up to 50 °C,
<b>Sensors</b>	Stainless steel 1.4571
<b>Shaft material</b>	PP
<b>Thread</b>	3/4"
<b>Length when fitted</b>	71 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Clean water applications, monitoring ion exchangers and reverse osmosis systems.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

#### Order no.

LMP 001	1020508
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LMP 001-HT

Sensor for the measurement of the lowest electrolytic conductivity for clear and also chemically contaminated water. For high temperatures, with integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.01  $\mu\text{S}/\text{cm}$
- Cost-effective sensor for clear, chemically contaminated water
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- Temperature resistance up to 100 °C

<b>Measuring range</b>	0.01...50 $\mu\text{S}/\text{cm}$
<b>Cell constant k</b>	0.01 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0...120 °C
<b>Max. pressure</b>	16.0 bar up to 100 °C,
<b>Sensors</b>	Stainless steel 1.4571
<b>Shaft material</b>	PVDF
<b>Thread</b>	3/4"
<b>Length when fitted</b>	71 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	General applications at higher temperatures, clean water applications, condensate.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LMP 001-HT	1020509
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# DULCOTEST<sup>®</sup> Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST<sup>®</sup> sensors.

## Conductivity Sensor LMP 01

Sensor for the measurement of low electrolytic conductivities for clear and also chemically contaminated water. With integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1  $\mu\text{S}/\text{cm}$
- Cost-effective sensor for clear, chemically contaminated water
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.1...500 $\mu\text{S}/\text{cm}$
<b>Cell constant k</b>	0.10 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 70 °C
<b>Max. pressure</b>	16.0 bar up to 50 °C,
<b>Sensors</b>	Stainless steel 1.4571
<b>Shaft material</b>	PP
<b>Thread</b>	3/4"
<b>Length when fitted</b>	46 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Monitoring ion exchangers, reverse osmosis systems and desalination systems.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LMP 01

1020510

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LMP 01-TA

Sensor for the measurement of low electrolytic conductivities for clear and also chemically contaminated water. With integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1  $\mu\text{S}/\text{cm}$
- Cost-effective sensor for clear, chemically contaminated water
- Simple installation in tanks and containers by sensor ready mounted in the immersion tube
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.1...500 $\mu\text{S}/\text{cm}$
<b>Cell constant k</b>	0.10 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 70 °C
<b>Max. pressure</b>	16.0 bar up to 50 °C,
<b>Sensors</b>	Stainless steel 1.4571
<b>Shaft material</b>	PP
<b>Thread</b>	M 28 x 1.5 for immersion assembly TA-LM
<b>Fitting length</b>	Max. 1 m
<b>Installation</b>	Immersion through an immersion tube
<b>Electrical connection</b>	5 m fixed cable
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Monitoring ion exchangers, reverse osmosis systems and desalination systems.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

		<b>Order no.</b>
<b>LMP 01-TA</b>	Sensor integrated in immersion fitting	1020512
<b>LMP 01-FE</b>	Replacement sensor for LMP 01-TA with 5 m fixed cable	1020626

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LMP 01-HT

Sensor for the measurement of low electrolytic conductivities for clear and also chemically contaminated water. For high temperatures, with integrated temperature measurement and DIN 4-pin plug. For operation with the controllers DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1  $\mu\text{S}/\text{cm}$
- Cost-effective sensor for clear, chemically contaminated water
- Temperature resistance up to 100 °C
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.1 ... 500 $\mu\text{S}/\text{cm}$
<b>Cell constant k</b>	0.10 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 120 °C
<b>Max. pressure</b>	16.0 bar up to 100 °C,
<b>Sensors</b>	Stainless steel 1.4571
<b>Shaft material</b>	PVDF
<b>Thread</b>	3/4"
<b>Length when fitted</b>	46 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	General applications at higher temperatures: industrial, process water, condensate.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LMP 01-HT	1020511
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFT 1 FE

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and fixed cable connector. For operation with controllers Compact D1Ca and DMTa

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S/cm}$
- Cost-effective sensor for all clear uncontaminated water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- Fixed cable on the sensor head for difficult ambient conditions

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 80 °C
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: open outlet or return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	5 m fixed cable (4 x 0.5 mm <sup>2</sup> )
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	D1Ca, DMTa
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFT 1 FE

1001374

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFTK 1 FE-5m-shd

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and fixed cable connector (5 m). For operation with controllers Compact DCCa, DMTa

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S/cm}$
- Cost-effective sensor for all clear uncontaminated water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 1000 for precise temperature compensation in limited temperature ranges replaces separate temperature sensor and the corresponding sensor fitting
- Fixed cable on the sensor head for difficult ambient conditions

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 1000
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	5 m fixed cable (4 x 0.25 mm <sup>2</sup> ), screened
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFTK 1 FE-5m-shd	1046132
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFTK 1 FE-3m-shd

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and fixed cable connector (3 m). For operation with controllers Compact DCCa, DMTa

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S/cm}$
- Cost-effective sensor for all clear uncontaminated water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 1000 for precise temperature compensation in limited temperature ranges replaces separate temperature sensor and the corresponding sensor fitting
- Fixed cable on the sensor head for difficult ambient conditions

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1}$ $\pm 5\%$
<b>Temperature measurement</b>	Pt 1000
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	3 m fixed cable (4 x 0.25 mm <sup>2</sup> ), screened
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFTK 1 FE-3m-shd	1046010
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LF 1 DE

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. For applications with a constant temperature, with DIN 4-pin plug. For operation with controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S/cm}$
- Cost-effective sensor for all clear uncontaminated water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Cost-effective version without integral temperature measurement with constant temperature of the medium to be measured
- DIN 4-pin plug for simple installation

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	None, only for applications with constant temperature
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes

### Order no.

LF 1 DE

1001375

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFT 1 DE

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and DIN 4-pin plug. For operation with controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S/cm}$
- Cost-effective sensor for all clear, uncontaminated types of water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- DIN 4-pin plug for simple installation

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable water, cooling water, industrial process water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFT 1 DE

1001376

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFTK 1 DE

Cost-effective sensor for the measurement of the electrolytic conductivity in clear, uncontaminated water with integral temperature measurement and DIN 4-pin plug. For operation with controllers Compact DCCa, DMTa

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S}/\text{cm}$
- Cost-effective sensor for all clear uncontaminated water
- Flexible process connection by the use of sensor fittings for standard pH sensors
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- DIN 4-pin plug for simple installation

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 1000
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	PG 13.5
<b>Fitting length</b>	120 mm $\pm 3$ mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFTK 1 DE

1002822

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFT 1 1/2"

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and DIN 4-pin plug and 1/2-inch screw thread. For operation with controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 10 µS/cm
- Cost-effective sensor for all clear, uncontaminated types of water
- Hydraulic connector with 1/2" thread as an alternative to the corresponding standard design with PG 13.5 thread
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- DIN 4-pin plug for simple installation

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	1/2"
<b>Fitting length</b>	120 mm ±3 mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFT 1 1/2"	1001378
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LFTK 1 1/2"

Cost-effective sensor for the measurement of electrolytic conductivity in clear, uncontaminated water. With integrated temperature measurement and DIN 4-pin plug and 1/2-inch screw thread. For operation with controllers Compact DCCa, DMTa

### Your benefits

- Measured variable: electrolytic conductivity above 10 µC/cm
- Cost-effective sensor for all clear, uncontaminated types of water
- Hydraulic connector with 1/2" thread as an alternative to the corresponding standard design with PG 13.5 thread
- Special graphite electrodes, optimised for a highly dynamic measuring range: 0.01-20 mS/cm
- Integrated Pt 1000 for precise compensation in limited temperature ranges and with longer cables. Replaces separate temperature sensor and the corresponding sensor fitting
- DIN 4-pin plug for simple installation

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	Pt 1000
<b>Medium temperature</b>	0 ... 80 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 25 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	Epoxy
<b>Thread</b>	1/2"
<b>Fitting length</b>	120 mm ±3 mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial water. Sensors of the LF series have only limited applicability for taking measurements in cleaning solutions containing surfactants and media containing solvents.
<b>Resistance to</b>	Unsuitable for chemically contaminated water and water containing film-forming ingredients
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LFTK 1 1/2"	1002823
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor CK 1

Sensor for the measurement of the electrolytic conductivity in clear, chemically contaminated water with high but constant temperature with DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 10 µS/cm
- Resistant to water ingredients in target applications thanks to injection-moulded design without adhesive or seals
- High temperature resistance up to 150 °C

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	None, only for applications with constant temperature
<b>Medium temperature</b>	0 ... 150 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 20 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	PES
<b>Thread</b>	R 1"
<b>Length when fitted</b>	79 mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Cooling, industrial, process water, tank and pipe, cleaning systems in breweries, dairies, media separation.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes

### Order no.

CK 1	305605
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor CKPt 1

Sensor for the measurement of the electrolytic conductivity for clear, chemically contaminated water and higher temperatures. With integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 10  $\mu\text{S}/\text{cm}$
- Resistant to water ingredients in target applications thanks to injection-moulded design without adhesive or seals
- High temperature resistance up to 150 °C
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.01...20 mS/cm
<b>Cell constant k</b>	1.00 $\text{cm}^{-1} \pm 5\%$
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 150 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 20 °C)
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	PES
<b>Thread</b>	R 1"
<b>Length when fitted</b>	79 mm
<b>Installation</b>	Bypass: with or without return of the sample water into the process line, inline: direct installation into the pipework; fixed or replaceable (replaceable fitting), tank, channel: Immersion in the immersion tube
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Cooling, industrial, process water, tank and pipe cleaning systems in breweries and dairies, separation of media.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

CKPt 1	305606
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LM 1

Sensor for the measurement of the electrolytic conductivity for clear and also chemically contaminated water. With DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1 mS/cm
- Cost-effective sensor for clear, chemically contaminated water
- Resistant to the constituents in the water of the target application

<b>Measuring range</b>	0.1...20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	None, only for applications with constant temperature
<b>Medium temperature</b>	0 ... 70 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 50 °C)
<b>Sensors</b>	Graphite
<b>Shaft material</b>	PP
<b>Thread</b>	3/4"
<b>Length when fitted</b>	46 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial, process water, feed chemical separation.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes

### Order no.

LM 1

740433

# DULCOTEST<sup>®</sup> Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST<sup>®</sup> sensors.

## Conductivity Sensor LM 1-TA

Sensor for the measurement of the electrolytic conductivity for clear and also chemically contaminated water. Completely mounted in an immersion fitting. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1 mS/cm
- Cost-effective sensor for clear, chemically contaminated water
- Resistant to the ingredients in the water of the target applications
- Simple installation in tanks, containers etc. by sensor ready mounted in the immersion tube

<b>Measuring range</b>	0.1 ... 20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	None, only for applications with constant temperature
<b>Medium temperature</b>	0 ... 70 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 50 °C)
<b>Sensors</b>	Graphite
<b>Shaft material</b>	PP
<b>Thread</b>	M 28 x 1.5 for TA-LM in-line probe fitting
<b>Fitting length</b>	Max. 1 m
<b>Installation</b>	Tank, channel: Immersion through an immersion tube
<b>Electrical connection</b>	5 m fixed cable, screened
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial, process water, media separation.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes

		<b>Order no.</b>
<b>LM 1-TA</b>	Sensor integrated in immersion fitting	1020528
<b>LM 1-FE</b>	Replacement sensor for LM 1-TA	1020627

# DULCOTEST<sup>®</sup> Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST<sup>®</sup> sensors.

## Conductivity Sensor LMP 1

Sensor for the measurement of the electrolytic conductivity for clear and also chemically contaminated water. With integrated temperature measurement with DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1 mS/cm
- Cost-effective sensor for clear, chemically contaminated water
- Resistant to the ingredients in the water of the target applications
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting

<b>Measuring range</b>	0.1 ... 20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 70 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 50 °C)
<b>Sensors</b>	Graphite
<b>Shaft material</b>	PP
<b>Thread</b>	3/4"
<b>Length when fitted</b>	46 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial, process water, media separation.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LMP 1	1020513
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor LMP 1-TA

Sensor for the measurement of the electrolytic conductivity for clear and also chemically contaminated water. With integrated temperature measurement, ready mounted in an immersion fitting. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1 mS/cm
- Cost-effective sensor for clear, chemically contaminated water
- Resistant to the ingredients in the water of the target applications
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- Simple installation in tanks, containers etc. by sensor ready mounted in the immersion tube

<b>Measuring range</b>	0.1...20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 70 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 50 °C)
<b>Sensors</b>	Graphite
<b>Shaft material</b>	PP
<b>Thread</b>	M 28 x 1.5 for TA-LM in-line probe fitting
<b>Length when fitted</b>	1 m
<b>Installation</b>	Tank, channel: Immersion through an immersion tube
<b>Electrical connection</b>	5 m fixed cable, screened
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Potable, cooling, industrial, process water, media separation.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes

		<b>Order no.</b>
<b>LMP 1-TA</b>	sensor integrated in immersion fitting	1020525
<b>LMP 1-FE</b>	Replacement sensor for LMP 1-TA	1020727

# DULCOTEST<sup>®</sup> Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST<sup>®</sup> sensors.

## Conductivity Sensor LMP 1-HT

Sensor for the measurement of the electrolytic conductivity for clear and also chemically contaminated water. For high temperatures, with integrated temperature measurement and DIN 4-pin plug. For operation with the controllers Compact DCCa, DMTa, D1Ca

### Your benefits

- Measured variable: electrolytic conductivity above 0.1 mS/cm
- Cost-effective sensor for clear, chemically contaminated water
- Resistant to the ingredients in the water of the target applications
- Integrated Pt 100 for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- Temperature resistance up to 100 °C

<b>Measuring range</b>	0.1 ... 20 mS/cm
<b>Cell constant k</b>	1.00 cm <sup>-1</sup> ±5%
<b>Temperature measurement</b>	Pt 100
<b>Medium temperature</b>	0 ... 120 °C (at 1 bar)
<b>Max. pressure</b>	16.0 bar, (at 100 °C)
<b>Sensors</b>	Graphite
<b>Shaft material</b>	PVDF
<b>Thread</b>	3/4"
<b>Length when fitted</b>	46 mm
<b>Installation</b>	Inline: direct installation into the pipework, bypass: with or without return of the sample water into the process line
<b>Electrical connection</b>	DIN 4-pin angle plug
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	General applications at higher temperatures process water, process water from electroplating, media separation, with CIP (cleaning in place).
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	Compact DCCa, DACb, DMTa, D1Ca, AEGIS II
<b>Measuring principle, technology</b>	Conductive, 2 electrodes. Integrated temperature measurement

### Order no.

LMP 1-HT	1020524
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity sensor CCT 1-mA

Sensor for the measurement of electrolytic conductivities for clear and also chemically contaminated water. With integrated temperature measurement and factory-calibrated 4...20 mA output signal. For operation with the controllers diaLog DAC, AEGIS® II, DULCOMARIN®.

### Your benefits

- Measured variable: electrolytic conductivity up to 20 mS/cm
- Fail-safe 4-20 mA output signal for flexible connection to measuring equipment with standard 4...20 mA input
- Integrated temperature sensor for temperature compensation replaces separate temperature sensor and the corresponding sensor fitting
- Simple connection to a process with the ProMinent bypass fittings DGM, DLGIII and INLI

<b>Measuring range</b>	0.2...20 mS/cm
<b>Temperature measurement</b>	NTC, integrated
<b>Medium temperature</b>	0 ... 50 °C(at 1 bar)
<b>Max. pressure</b>	8.0 bar, (at 25 °C)
<b>Sensor head</b>	PMMA
<b>Sensors</b>	Special graphite
<b>Shaft material</b>	PVC
<b>Fitting length</b>	51 mm / 71 mm
<b>Installation</b>	Bypass via sensor fittings DGM, DLGIII or installation into G1" PP pipe via INLI sensor fitting
<b>Electrical connection</b>	4-wire cable, 0.25 mm <sup>2</sup> , cable diameter 5.7
<b>Power supply DC</b>	12...36 V DC
<b>Voltage 4 ... 20 mA loop</b>	4... 20 mA loop + 7.5 V
<b>Output signal</b>	4 ... 20 mA, temperature-compensated, factory-calibrated, galvanically isolated
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Cooling, industrial, process water, general water with higher salt content up to 20 mS/cm.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account the compatibility of the material
<b>Measuring and control equipment</b>	diaLog DAC, D1Cb, D1Cc, AEGIS II, DULCOMARIN®
<b>Measuring principle</b>	Conductive, 2 electrodes. Integrated temperature measurement, integrated 4...20 mA transducer

	Order no.
CCT 1-mA-20 mS/cm	1081545

# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Inductive Conductivity Sensors

Inductive conductivity sensors consist of a transducer, encapsulated in an inert material. The electrolytic conductivity is measured inductively without direct contact with the medium.

The sensors are used to measure electrolytic conductivity over a wide measuring range, even in heavily contaminated and/or aggressive media and, as such, offer particularly low maintenance operation. The sensors are particularly suitable for measuring high conductivities, as no electrode polarisation occurs. The inductive conductivity sensors are operated using the Compact controller DCCa xx L6 ... The controller includes the testing and calibration kit (Order no. 1026958).

## Conductivity sensor ICT 5

Cost-effective inductive conductivity sensor, suitable for high electrolytic conductivities above 200 µS/cm. Also suitable for chemically contaminated water and film-forming media. For installation in pipework

### Your benefits

- Measured variable: electrolytic conductivity. The inductive (non-contact) measuring principle permits applications in chemically contaminated types of water and in film-forming media
- Complete with injection moulded PP sensor head, no apparent bonds, seals
- Measurements at high conductivity values of up to 2,000 mS/cm are possible without interfering polarisation by means of the high measuring range dynamics of the inductive measuring principle
- Simple installation in PVC pipework by bonding the DN 40 adhesive connector supplied into a standard T-piece and screwing in the sensor using the union nut supplied.
- A DN 40 welded connector is optionally available for use in PP pipework

<b>Measuring range</b>	0.2...2,000 mS/cm
<b>Cell constant k</b>	6.25 cm <sup>-1</sup>
<b>Measuring accuracy</b>	±1% based on the measured value, below 3 mS/cm: ±30 µS/cm
<b>Temperature sensor</b>	Pt 1000, wetted material Stainless steel 1.4301
<b>Process chemical temperature</b>	-10...80 °C for installation in PVC pipes, -10...80 °C for installation in PP pipes
<b>Max. pressure</b>	10.0 bar up to 20 °C, 6.0 bar up to 60 °C, 0.0 bar at 80 °C
<b>Min. pressure</b>	-0,1 bar (-10 ... 80 °C)
<b>Sensor material</b>	PP
<b>Seals</b>	EPDM
<b>Electrical connection</b>	10 m fixed cable, 7x 0.35 mm <sup>2</sup> via a terminal
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Contaminated waste water, blowdown control in cooling towers, control of electroplating and rinsing baths, cleaning in Place (CIP), product monitoring, sea water, brine swimming pools.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account compatibility to PP/EPDM, deposit-forming media
<b>Installation</b>	With union nut, PVC, 1 1/2 inch female thread, including DN 40 bonded nozzle with 1 1/2 inch external thread for fitting in DN 40 PVC standard pipes (included in the scope of delivery). The corresponding set-in nozzle for fitting in PP standard pipe is available as an accessory
<b>Measuring and control equipment</b>	Compact controller DCCa
<b>Measuring principle, technology</b>	Inductive, 2 coils. Integrated temperature measurement

### Order no.

ICT 5	1095248
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# DULCOTEST<sup>®</sup> Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST<sup>®</sup> sensors.

## Conductivity Sensor ICT 5-IMA

Cost-effective inductive conductivity sensor, suitable for high electrolytic conductivities above 200  $\mu\text{S}/\text{cm}$ . Also suitable for chemically contaminated water and film-forming media. Completely integrated in an immersion pipe

### Your benefits

- Measured variable: electrolytic conductivity. The inductive (non-contact) measuring principle permits applications in chemically contaminated types of water and in film-forming media
- Complete with injection moulded PP sensor head, no apparent bonds, seals
- Measurements at high conductivity values of up to 2,000  $\text{mS}/\text{cm}$  are possible without interfering polarisation by means of the high measuring range dynamics of the inductive measuring principle
- Simple installation in tanks, containers etc. thanks to sensor ready mounted in the immersion tube

<b>Measuring range</b>	0.2...2,000 $\text{mS}/\text{cm}$
<b>Cell constant k</b>	6.25 $\text{cm}^{-1}$
<b>Measuring accuracy</b>	$\pm 2\%$ based on the measured value $\pm 30 \mu\text{S}/\text{cm}$
<b>Temperature sensor</b>	Pt 1000, wetted material Stainless steel 1.4301
<b>Process chemical temperature</b>	-10...60 $^{\circ}\text{C}$
<b>Max. pressure</b>	0.0 bar
<b>Min. pressure</b>	-0,1 bar (-10 ... 60 $^{\circ}\text{C}$ )
<b>Sensor material</b>	PP
<b>Immersion pipe material</b>	PP
<b>Sensor guard material</b>	SS 1.4301, AISI 304
<b>Seals</b>	EPDM
<b>Electrical connection</b>	10 m fixed cable, 7x 0.35 $\text{mm}^2$ via a terminal
<b>Enclosure rating</b>	IP 65
<b>Typical applications</b>	Contaminated waste water, blowdown control in cooling towers, control of electroplating and rinsing baths, cleaning in Place (CIP), product monitoring, sea water, brine swimming pools.
<b>Resistance to</b>	Ingredients in the water of the target application, taking into account compatibility to PP/EPDM, deposit-forming media
<b>Installation</b>	Immersion with immersion length 1 m
<b>Measuring and control equipment</b>	Compact controller DCCa
<b>Measuring principle, technology</b>	Inductive, 2 coils. Integrated temperature measurement

### Order no.

ICT 5-IMA

on request



# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity Sensor ICT 2

High-performance inductive conductivity sensor with high dynamic measuring range. Also suitable for types of water with aggressive chemicals and film-forming components. Permitted temperatures up to 125 °C. For installation in pipework, tanks and for immersion in storage tanks

### Your benefits

- Measured variable: electrolytic conductivity. The inductive (non-contact) measuring principle permits applications in chemically contaminated types of water and in film-forming media
- There is no need for adhesive or seals as the sensor is fully embedded in PFA
- Measurements at high conductivity values of up to 2,000 mS/cm are possible without interfering polarisation by means of the high measuring range dynamics of the inductive measuring principle
- Flexible connection to the processes is possible via a flange or immersion pipe with optional accessories

<b>Measuring range</b>	0.02...2,000 mS/cm
<b>Cell constant k</b>	1.98 cm <sup>-1</sup>
<b>Measuring accuracy</b>	± (5 µS/cm + 0.5% of the measured value) at T < 100 °C ± (10 µS/cm + 0.5% of the measured value) at T > 100 °C
<b>Temperature compensation</b>	Pt 100, class A, completely extrusion-coated
<b>Process chemical temperature</b>	0...125 °C for use together with D1C, temperature compensation is limited to 100 °C
<b>Max. pressure</b>	16.0 bar
<b>Material</b>	PFA, completely extrusion-coated
<b>Electrical connection</b>	5 m fixed cable, 6x 0.35 mm <sup>2</sup> via a terminal
<b>Enclosure rating</b>	IP 67
<b>Typical applications</b>	Production processes in the chemical industry, phase separation of product mixtures, determination of concentrations of aggressive chemicals.
<b>Resistance to</b>	Electrolytic conductivity > 20 mS/cm, PFA-compatible aggressive chemicals (no concentrated lyes), deposit-forming media
<b>Installation</b>	Fitting in pipes, tanks (sideways): G 3/4 stainless steel thread (1.4571) or flange fitting: With the accessories: Stainless steel flange ANSI 2 inch 300 lbs, SS 316L (adaptable to DIN counter flange DN 50 PN 16).
<b>Measuring and control equipment</b>	Compact controller DCCa
<b>Measuring principle, technology</b>	Inductive, 2 coils. Integrated temperature measurement

### Order no.

ICT 2	1023352
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# DULCOTEST® Conductivity Sensors

Online measurement of electrolytic conductivity – with the reliable DULCOTEST® sensors.

## Conductivity sensor ICT 8-mA

Inductive sensor for the measurement of electrolytic conductivity. Suitable for contaminated water. With integrated temperature correction and factory-calibrated 4...20 mA output signal. For operation with the controllers diaLog DAC, D1Cb, D1Cc, AEGIS® II, DULCOMARIN®.

### Your benefits

- Measured variable: electrolytic conductivity up to 200 mS/cm without polarisation effect
- The inductive (non-contact) measuring principle permits applications in water with solids content and in film-forming media
- Fail-safe 4-20 mA output signal for flexible connection to measuring equipment with standard 4...20 mA input
- Integrated temperature correction replaces separate temperature sensor and sensor fitting

<b>Measuring range</b>	three configurable measuring ranges 0.2...2.0 mS/cm / 0.5...20 mS/cm / 1...200 mS/cm
<b>Temperature correction</b>	integrated in the sensor electronics, temperature co-efficient: 1.7%/K
<b>Medium temperature / pressure</b>	max. 50 °C at 1 bar
<b>Sensor material</b>	PP
<b>Seals</b>	EPDM
<b>Installation length</b>	75
<b>Electrical connection</b>	Fixed cable, 6-wire (6x0.25 mm <sup>2</sup> ). The cable length is: 2 m cable between the sensor and 4-20 mA cable transmitter and 10 m between the cable transmitter and monitor.
<b>Typical applications</b>	Desalination control in cooling towers, contaminated waste water, control of electroplating and rinsing baths, salt water desalination, adjustment of the salt content in swimming pool water
<b>Resistance to</b>	Water ingredients in the target application, taking into account compatibility to PP/EPDM and combating film-forming media
<b>Installation</b>	1/2" male thread (BSP) for mounting by flange, installation in PVC pipes, DN 50 by means of installation adapter ICT8, DN 50, PVC, order no. 1106570, immersion using an immersion pipe, 1 m, order no. 1105964
<b>Measuring and control equipment</b>	diaLog DAC, D1Cb, D1Cc, AEGIS II
<b>Measuring principle, technology</b>	Inductive, 2 coils. Integrated temperature measurement, integrated 4...20 mA transducer

	Order no.
ICT 8 -mA-200 mS/cm	1098530