

Conductivity transmitter LMIT 10

ONE unit for CIP applications, concentration monitoring and make-up

- ▲ Inductive conductivity measurement with automatic switching between 4 selectable measuring ranges (0 - 500 $\mu\text{S/cm}$... 0 - 1000 mS/cm)
- ▲ Temperature measurement from -20 °C to +150 °C, 4 selectable temperature compensation ranges
- ▲ Display of concentration for selected chemicals (stored concentration curves)
- ▲ Two design variants: Compact device and wall-mounted device with separate measuring probe
- ▲ Two electrically isolated current outputs 0/4 - 20 mA for conductivity and temperature
- ▲ IO-Link interface
- ▲ Permanently lit display
- ▲ Measuring cell body made of PEEK in hygienic design (from a single mould, without gluing and joining points)
- ▲ 3-A Sanitary Standards, FDA-compliant, EHEDG-certified, UL-approved



The **LMIT 10** conductivity meter was designed for analysing liquid media. The device can display both the measured conductivity and a calculated chemical concentration and meets the highest industrial standards thanks to its robust, hygienic design.

Two different mounting versions with integrated or remote measuring cell allow flexible installation and a wide range of applications, such as:

- ▲ Phase separation during CIP applications
- ▲ Concentration monitoring for detergent and disinfectant solutions
- ▲ Monitoring of water quality
- ▲ Quality control for liquid products
- ▲ Process control by online measuring
- ▲ Contamination monitoring of food

For the necessary temperature compensation, a temperature sensor integrated in the measuring probe permanently measures the temperature as well as the conductivity. The incoming data for conductivity and temperature are automatically offset against each other, taking into account adjustable temperature compensation factors. The compensated conductivity value determined in this way can then be converted directly into concentration and displayed using stored concentration curves for various chemicals.

The display values for conductivity and temperature or concentration and temperature can be transferred to a higher-level controller via two configurable current outputs or optionally via the integrated IO-Link interface.

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Technical Data

Transmitter

Housing material:	Stainless steel (1.4301)
Display / operation:	Graphic display with touch operation
Protection class:	IP 67 to DIN 40050
Housing feed-throughs:	2 M16x1.5 cable glands
Sensor connection: (only for wall-mounted version)	AFI special connector system

Sensor

Type:	Cylindrical calotte with 6.6 mm measuring channel diameter
Material:	PEEK
Pressure resistance:	< 25 bar
Temperature stability:	Up to max. 140 °C for short period up to max. 150 °C
Temperature sensor:	PT 100, 1.4404, PEEK coated
Process connection:	G1"a (clamping ring - fastening possible with additional adapter)
Connection cable length (only for wall-mounted version)	5 m (optional 10 m)

Power supply

Supply voltage:	15 ... 35 V DC
Max. power consumption:	150 mA
Electrical connection:	Screw terminals

Conductivity measurement

Measuring principle:	Induction method
Reference temperature:	25 °C (movable)
Measuring range:	4 measuring ranges (each selectable from 14 possible variants)
Preset measuring ranges:	0 - 500 µS/cm 0 - 2 mS/cm 0 - 20 mS/cm 0 - 200 mS/cm
Accuracy:	+/- 1.5%
Repeat accuracy:	< 0.5%
Min. measurable conductivity:	50 µS/cm
Response time:	t ₉₀ < 2 sec.
Temperature compensation:	4 compensation ranges (each selectable between 0.0 ... 5.0 % / K)
Product display:	4 selectable media (selectable from product list)

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Temperature measurement

Measuring principle:	Resistance measurement with PT 100 DIN using 3 wire connection method; linearization acc. to DIN IEC 751
Measuring range:	Range freely programmable between - 20 ... 150 °C
Preset measuring range:	0 ... 150 °C
Accuracy:	+/- 0.4 K
Response time:	t ₉₀ < 15 sec. for flowing medium

Measured value outputs

<u>Current output conductivity:</u>	4 ... 20 mA, electrically isolated
Electrical connection:	Screw terminals
<u>Current output temperature:</u>	4 ... 20 mA, electrically isolated
Electrical connection:	Screw terminals

Alarm output

Relay contact:	zero-potential changeover contact (max. 30 VDC / 1 A; 125 VAC / 0.3 A)
Function (reversible):	in case alarm relay has fallen (factory setting) or risen
Electrical connection:	plug-in screw terminals

Ambient conditions

Ambient temperature:	- 30 ... 80 °C
Type of protection:	IP 67
Humidity:	< 98% RH, condensing
Insulation voltage:	500 V AC
Permitted vibration:	13.2 - 150 Hz

Stored product data

H2SO4 40%	Ansep ALU	COSA ZIP 72	Horolith BSR	MIP 100	Oxonia act S	Tresolin CIP
HNO3 48%	Ansep ZIP	COSA ZIP 77	Horolith CIP	MIP ALU	Oxysan CM	Trimeta DUO
NaOH	Aquanta OP	COSA ZIP 92	Horolith FL	MIP EA		Trimeta OP
	Aquanta PA	COSA ZIP 95	Horolith KEG	MIP HP	Polix XT	Trimeta PLUS
	Aquanta PC	COSA PUR 83	Horolith MSW	MIP LF-T		Trimeta PSF
	Aquanta SI	COSA PUR 84	Horolith PA	MIP RC	Risil MAT	
	Aquanta XTR		Horolith PM	MIP SP		
			Horolith TR			
			Horolith USP			
			Horolith V			

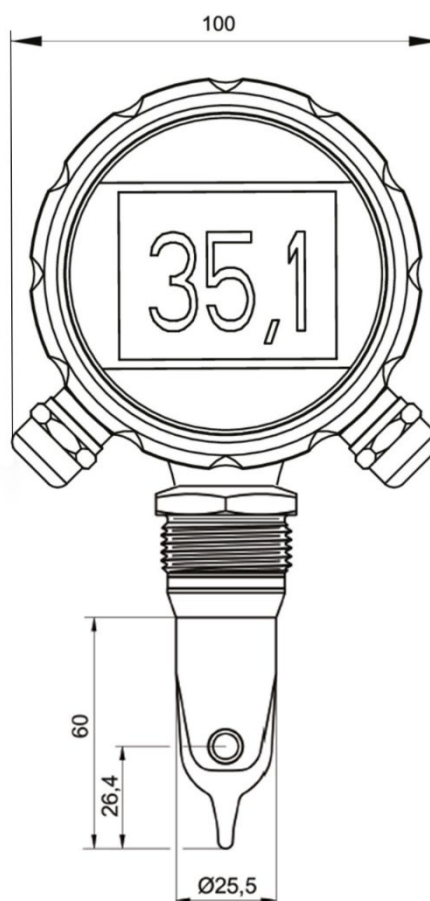
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Dimensions:

Compact version, sensor L: 37 mm



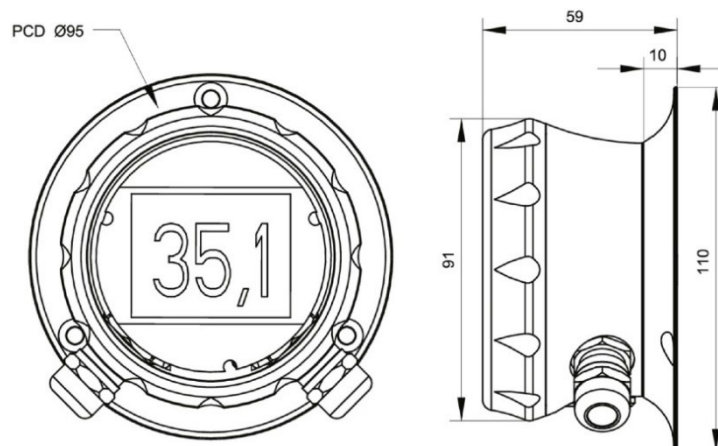
Compact version, sensor L: 60 mm



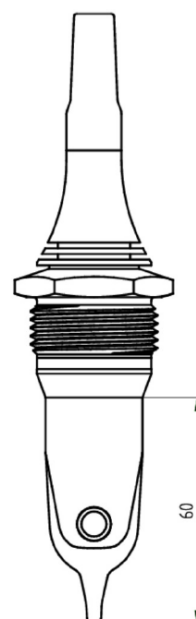
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Dimensions:

Wall mounted version



with sensor L: 37 mm



with sensor L: 60 mm

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Order data / accessories



Order data

	Article	Material no.
	LMIT 10 devices	
	for DN40 or DN50 flow fittings	
	Compact version, sensor L: 37 mm	10241306
	Wall-mounted version, cable L: 5 m, sensor L: 37 mm	10241304
	Wall-mounted version, cable L: 10 m, sensor L: 37 mm	10241305
	for flow fittings from DN65	
	Compact version, sensor L: 60 mm	10240835
	Wall-mounted version, cable L: 5 m, sensor L: 60 mm	10240833
	Wall-mounted version, cable L: 10 m, sensor L: 60 mm	10240834
	Power supply unit 240 V AC Primary voltage 240 V AC (cable length: 1.5 m) Secondary voltage 24 V AC (cable length: 4.5 m) Type of protection IP 65	418931008
	Adapter for clamping ring attachment Varivent adapter	10240864
	Conductivity simulator LMIT10 calibration box	10240221
	Additional accessories	
	USB-C IO-Link Master	10241222
	Adapter cable IO-Link Master	10241223