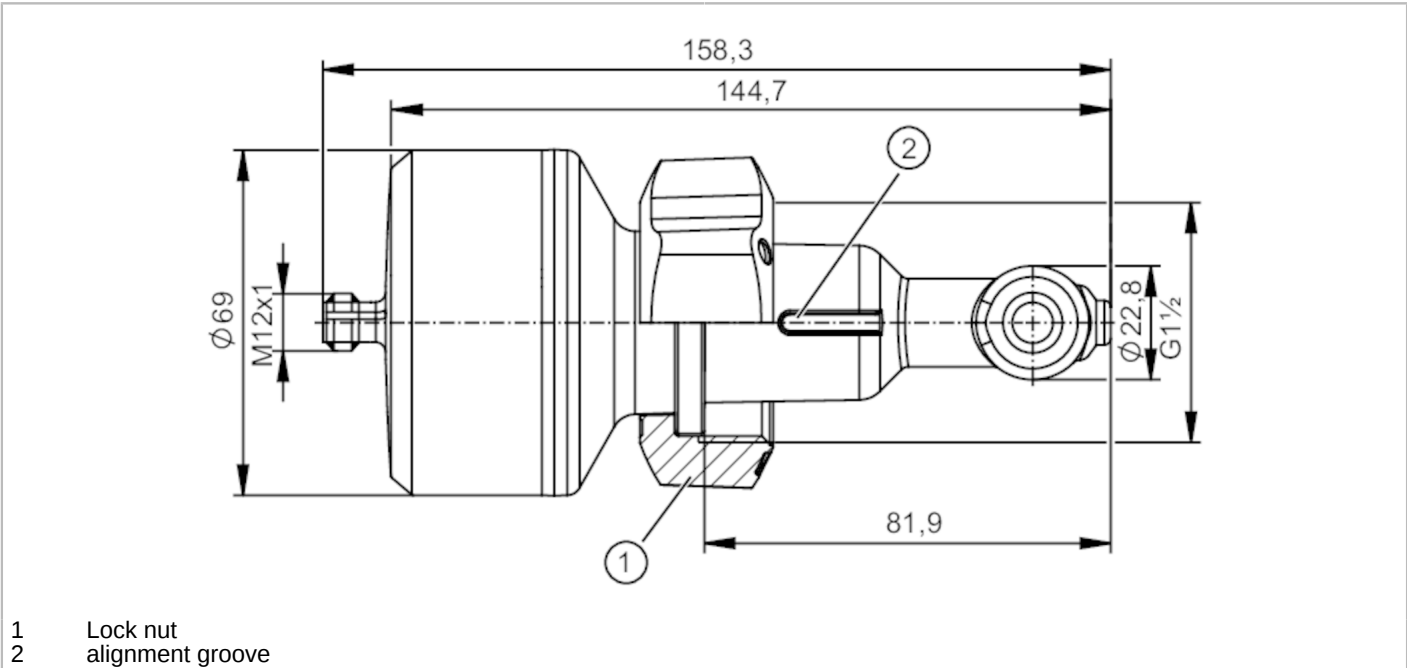


LDL400



Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN



Product characteristics		
Number of inputs and outputs	Number of analogue outputs: 1	
Process connection	threaded connection G 1 1/2 internal thread	
Application		
Special feature	Gold-plated contacts	
Media	conductive liquids	
Note on media	water	
Cannot be used for	See the operating instructions, chapter "Function and features".	
Medium temperature	[°C]	-5...60
Pressure rating	[bar]	10
Note on pressure rating	at medium temperature 20°C	
Vacuum resistance	[mbar]	-1000
Electrical data		
Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 100
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	2
Measuring principle		inductive
Inputs / outputs		
Number of inputs and outputs	Number of analogue outputs: 1	
Outputs		
Total number of outputs	1	
Output signal	analogue signal; IO-Link	
Output function	selectable conductivity / temperature / NaCl concentration	

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Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN

Number of analogue outputs	1
Analogue current output [mA]	4...20; (scalable)
Max. load [Ω]	500

Measuring/setting range

concentration measurement NaCl	
Measuring range [%]	0...25; (Medium temperature: 20...50 °C)
conductivity measurement	
Measuring range [μS/cm]	100...2000000
Resolution [μS/cm]	0...10.000 1
	10.000...100.000 10
	100.000...2.000.000 100
temperature measurement	
Measuring range [°C]	-25...100

Accuracy / deviations

concentration measurement NaCl	
Accuracy [%]	(0...4 %) pure water 0,1
	(4...14 %) pure water 0,4
	(14...25 %) pure water 1
	(0...12 %) water with conductivity 1000 μS/cm 0,4
Resolution [%]	0,1
conductivity measurement	
Accuracy (in the measuring range)	2 % MW ± 25 μS/cm
Drift [%/K]	0,1 %/K MW
Repeatability	1 % MW ± 25 μS/cm
Long-term stability	0,5 % MW ± 25 μS/cm
temperature measurement	
Accuracy [K]	20...50 °C (Medium temperature) < ± 0,5 K
	-25...100 °C (Medium temperature) < ± 1,5 K
Repeatability [K]	0,2
Resolution [K]	0.1

Response times

conductivity measurement	
Response time [s]	< 2; (T09; Damping = 0); for conductance values <1000 μS/cm < 5s; (T09; Damping = 0)
temperature measurement	
Response time [s]	< 120; (T09)

Interfaces

Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9

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Inductive conductivity sensor

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Profiles	Function class		Designation
	0x0019		Measuring and Switching Sensor, floating point, 2 channel
	0x4000		Identification and Diagnosis
	0x8014		Quantity detection
	0x8101		Locator
SIO mode	no		
Required master port type	A		
Process data analogue	1		
Min. process cycle time [ms]	6.4		
IO-Link process data (cyclical)	function	bit length	
	conductivity	32	
	temperature	32	
	status	4	
	binary switching information	4	
IO-Link functions (acyclical)	NaCl concentration; Speicher; operating hours counter; internal temperature; simulation function		
Supported DeviceIDs	Type of operation	DeviceID	
	default	1593	
Operating conditions			
Ambient temperature [°C]	-25...50		
Storage temperature [°C]	-25...75		
Protection	IP 68; IP 69K; (7 days / 3 m water depth / 0.3 bar: IP 68)		
Tests / approvals			
EMC	DIN EN 61326-1	group 1: class B	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)	
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)	
MTTF [years]	127		
Mechanical data			
Weight [g]	404.4		
Materials	housing: PP reinforced fibre; Lock nut: PP reinforced fibre		
Materials (wetted parts)	housing: PP reinforced fibre; Lock nut: PP reinforced fibre; O-ring: EPDM		
Process connection	threaded connection G 1 1/2 internal thread		
Surface characteristics Ra/Rz of the wetted parts	Ra: < 0.8		
Remarks			
Remarks	MW = measured value		
Pack quantity	1 pcs.		

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Inductive conductivity sensor

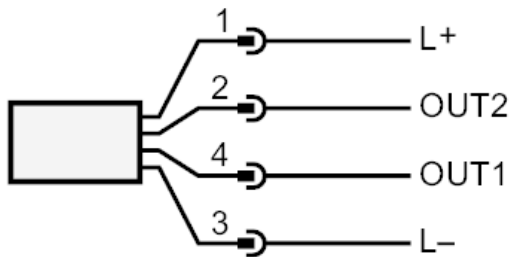
IND CONDUCTIVITY IND G1 1/2 UN

Electrical connection

Connector: 1 x M12 (EN 61067-2-101); coding: A; Contacts: gold-plated



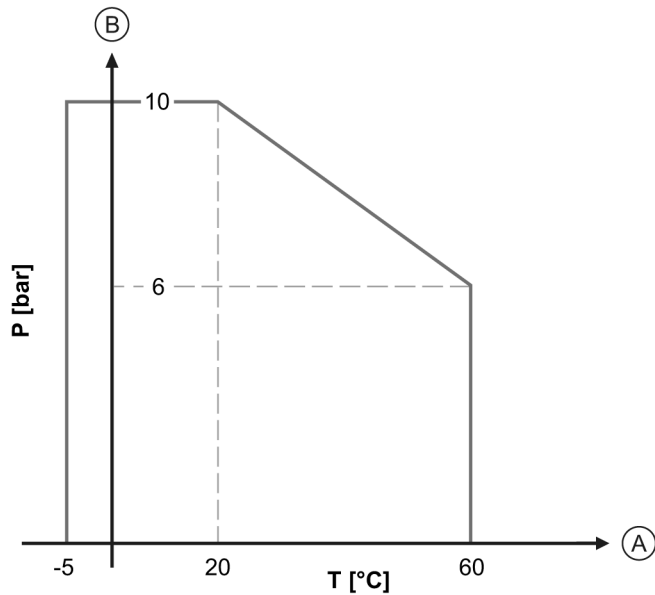
Connection



OUT1: IO-Link
OUT2: analogue output

Diagrams and graphs

characteristic line for derating



A Medium temperature
B Pressure rating