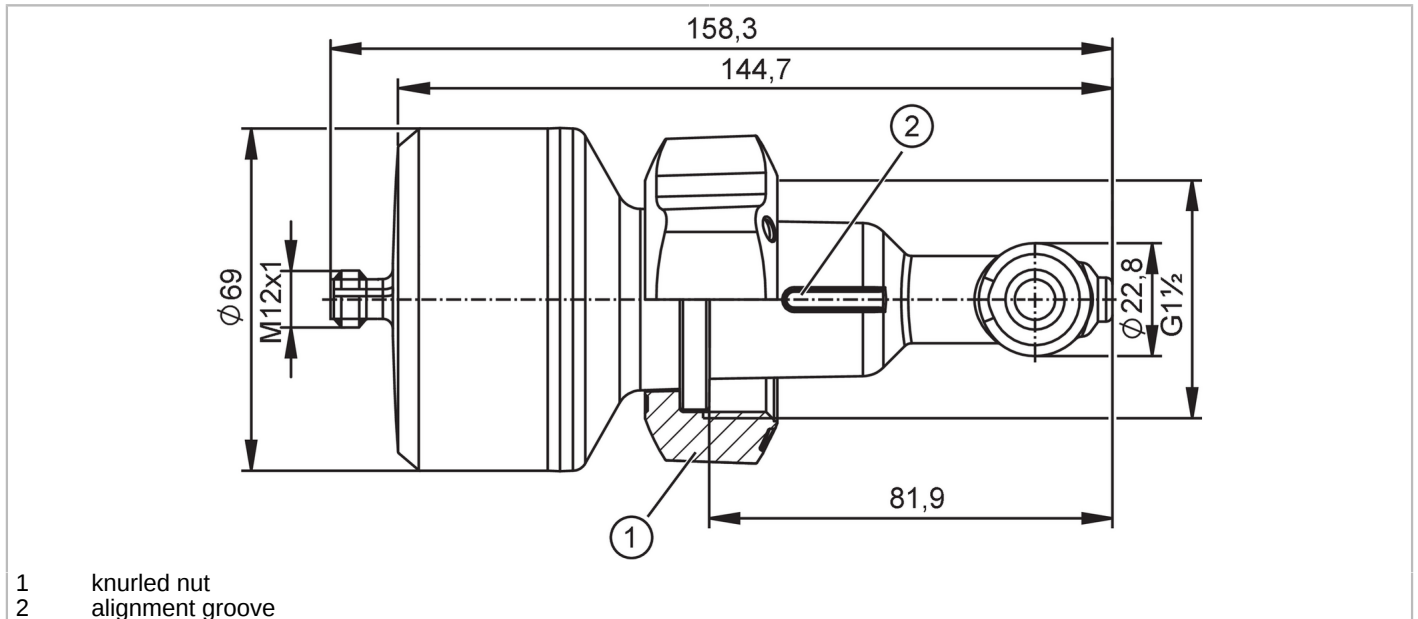


LDL400



Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN



Product characteristics

Number of inputs and outputs	Number of analog 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	10 bar 1 MPa
Note on pressure rating	at medium temperature 20°C
Vacuum resistance	-1000 mbar -0.1 MPa

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 analog outputs: 1
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Outputs

Total number of outputs	1
Output signal	analog signal; IO-Link
Output function	selectable conductivity / temperature / NaCl concentration
Number of analog outputs	1

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Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500

Measuring/setting range

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
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Konzentrationsmessung NaCl

Measuring range	[%]	0...25
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Accuracy / deviations

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

Konzentrationsmessung NaCl

Accuracy		DIN EN 60746-3 ; ± 2.5 % MW
Resolution	[%]	1

Reaction times

Conductivity measurement

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

Response time	[s]	< 120; (T09)
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Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 4.3.2	Measuring and Switching Sensor, floating point, 2 channel
	Common - I&D	Identification and Diagnosis
	Extension	Quantity detection, switches when value exceeds the setpoint
	Function	ProductURI
SIO mode	no	

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Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN

Required master port class	A	
Process data analog	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; memory; 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	
UL approval	File number UL	E364788

Mechanical data		
Weight [g]	404.4	
Material	housing: PP fiber-reinforced; knurled nut: PP fiber-reinforced	
Materials (wetted parts)	housing: PP fiber-reinforced; knurled nut: PP fiber-reinforced; O-ring: EPDM	
Process connection	threaded connection G 1 1/2 Internal thread	
Surface characteristics Ra/Rz of the wetted parts	Ra < 0.8 µm	

Remarks		
Remarks	MW = Measured value	
	Maritime Type approval (IACS MR scheme) restriction: The operating voltage of the sensor must be well protected against surges caused by lightning, for example by operating with SELV/PELV power supplies.	
	1 pcs.	
Pack quantity	1 pcs.	

Electrical connection

Connector: 1 x M12 (EN 61067-2-101); coding: A; Contacts: 4, gold-plated



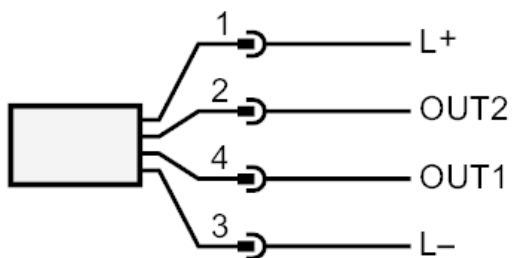
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Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN

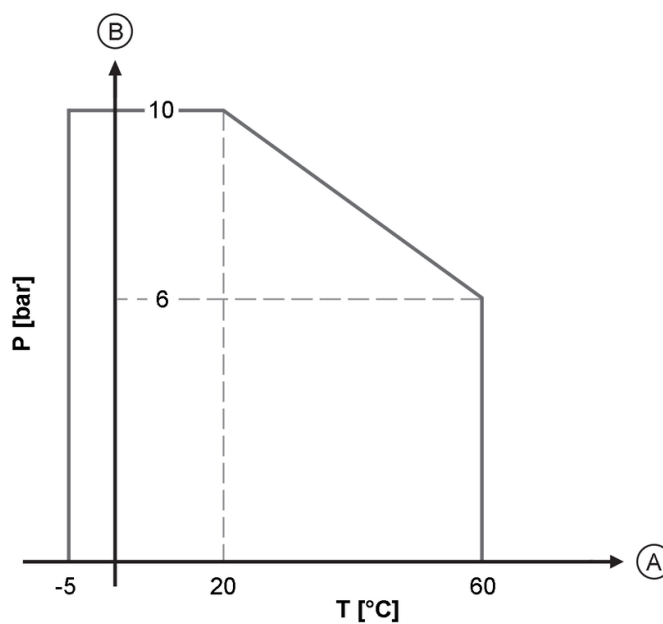
Connection



OUT1: IO-Link
OUT2: analog output

Diagrams and graphs

Characteristic curve for derating



A Medium temperature

B Pressure rating