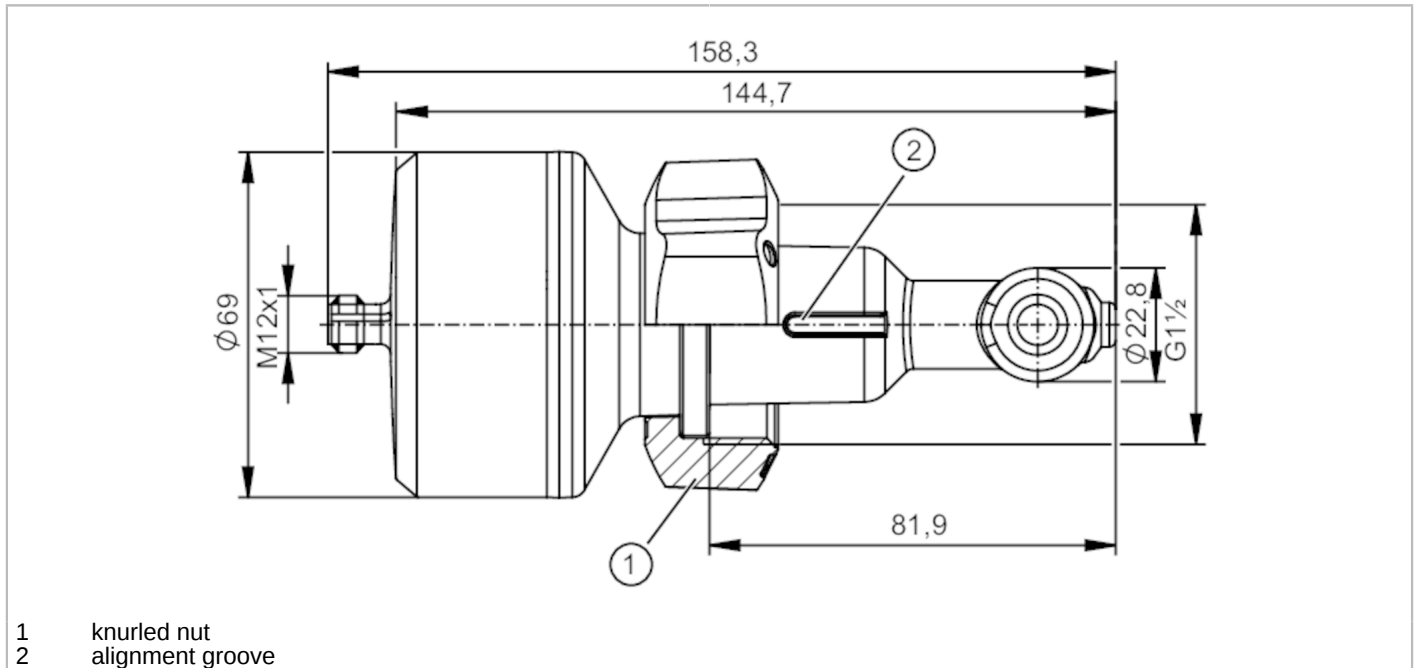


# LDL400



## Inductive conductivity sensor

IND CONDUCTIVITY IND G1 1/2 UN



- 1 knurled nut
- 2 alignment groove



Product characteristics	
Number of inputs and outputs	Number of analog outputs: 1
Process connection	threaded connection G 1 1/2 Internal thread
Application	
System	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
Outputs	
Total number of outputs	1
Output signal	analog signal; IO-Link
Output function	selectable conductivity / temperature / NaCl concentration

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## Inductive conductivity sensor

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Number of analog outputs		1
Analog 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	[%]	(4...14 %) pure water	0,4
Accuracy	[%]	(14...25 %) pure water	1
Accuracy	[%]	(0...12 %) water with conductivity 1000 μS/cm	0,4
Accuracy	[%]	(0...4 %) pure water	0,1
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

### Reaction 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

IND CONDUCTIVITY IND G1 1/2 UN

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
Required master port class		A
Process data analog		1
Min. process cycle time [ms]		6.4
IO-Link process data (cyclical)	<b>Function</b>	<b>bit length</b>
	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	<b>Type of operation</b>	<b>DeviceID</b>
	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	
Pack quantity	1 pcs.	

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## Inductive conductivity sensor

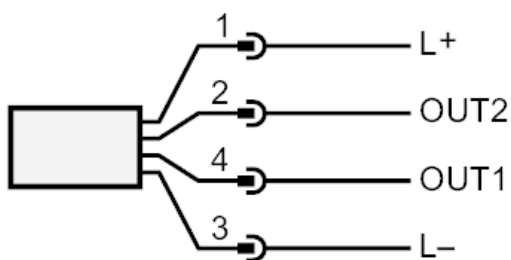
IND CONDUCTIVITY IND G1 1/2 UN

### Electrical connection

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



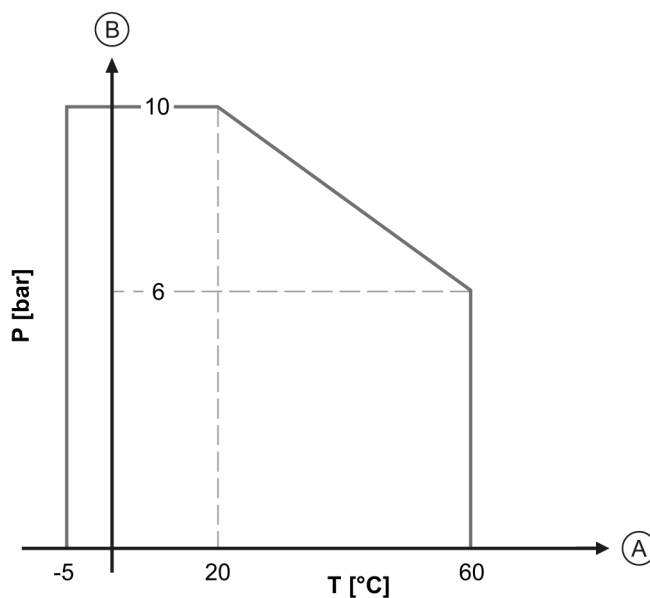
### Connection



OUT1: IO-Link  
OUT2: analog output

### Diagrams and graphs

Characteristic curve for derating



- A Medium temperature
- B Pressure rating