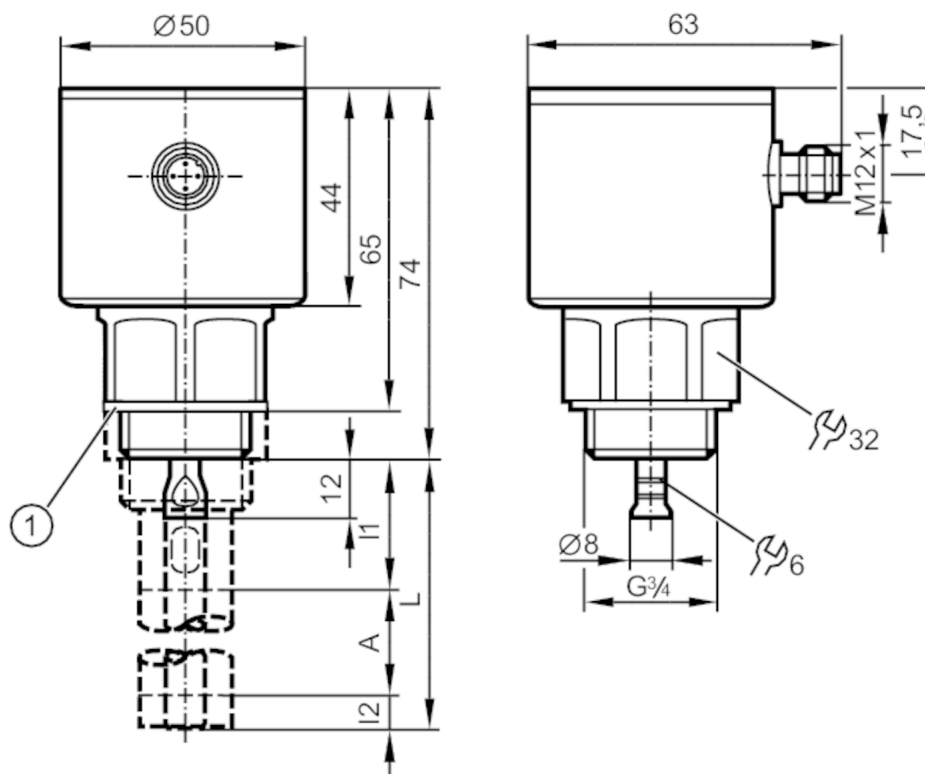


LR9020



Continuous level sensor (guided wave radar)

LR0000--BR34A1DKG/US



- 1 Sealing
- A active range
- I1 / I2 inactive ranges



Application

Media	hydrous coolants; oils; oil-based media; water; media similar to water
Dielectric constant of the medium	≥ 2 ; (for media with a dielectric constant of 2...20 (e.g. oils), a coaxial pipe is needed for operation)
Conditionally suitable for	See the operating instructions, chapter "Function and features".
Medium temperature [°C]	0...80; (90 < 1 h)
Tank pressure [bar]	-1...16
MAWP (for applications according to CRN) [bar]	25

Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 80
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 3

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
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Outputs		
Total number of outputs		2
Output signal		analogue signal; IO-Link
Number of digital outputs		1
Number of analogue outputs		1
Analogue current output	[mA]	4...20
Max. load	[Ω]	500
Analogue voltage output	[V]	0...10
Min. load resistance	[Ω]	2000
Overload protection		yes
Measuring/setting range		
Probe length L	[mm]	100...1600
Active range A	[mm]	L-40 (L-60); (when set to oil and oil based media)
Inactive range I1 / I2	[mm]	30 / 10 (30); (when set to oil and oil based media)
Accuracy / deviations		
Repeatability	[mm]	± 5
Switch point accuracy	[mm]	± (15 + 0,5 %); (% of the final value of the measuring range: L - 30 mm)
Characteristics deviation		± 10
Offset error	[mm]	10
Measuring sensitivity		16 mA ÷ MEW 10 V ÷ MEW
Resolution	[mm]	0.5 (L < 300 mm) 0.2% MEW (L > 300 mm)
Zero signal (voltage)	[V]	0...0.2
Zero signal (current)	[mA]	3.95...4.0
Full signal (voltage)	[V]	10...10.1
Full signal (current)	[mA]	20...20.2
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9 CDV
IO-Link device ID		0x000242
Profiles		no profile
SIO mode		no
Required master port type		A
Process data analogue		1
Min. process cycle time	[ms]	2.3
Operating conditions		
Ambient temperature	[°C]	0...60
Storage temperature	[°C]	-25...80
Protection		IP 68; IP 69K

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Tests / approvals

EMC	EN 61000-6-2	
	EN 61000-6-3	in a metal tank
	EN 61000-6-4	in a plastic tank
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	5 g (10...2000 Hz)
MTTF [years]	239	

Mechanical data

Weight [g]	353.4	
Materials	stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); FKM; PEI	
Materials (wetted parts)	stainless steel (1.4305 / 303); probe connection: stainless steel (1.4435 / 316L); PTFE; FKM; Sealing: NBR reinforced fibre	
Process connection	G 3/4 external thread	

Remarks

Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; Contacts: gold-plated



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Connection



OUT1: IO-Link

OUT2: analogue output

colours to DIN EN 60947-5-2

Core colours :

BK = black

BN = brown

BU = blue

WH = white