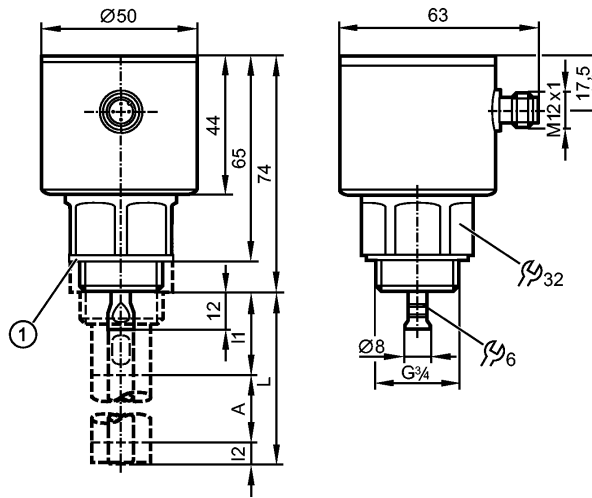


LR9020

LR0000--BR34A1DKG/US

Level sensors



1: sealing
 A: Active zone
 I1 / I2: Inactive ranges



Product characteristics

Electronic level sensor
Quick disconnect
Process connection: G 3/4 A
Guided wave radar
Freely rotatable housing 360°
Probe length: L = 100...1600 mm
2 outputs OUT1 = IO-Link OUT2 = analogue output

Application

Application	Hydrous coolants, oils, oil-based media, water, media similar to water
Conditionally suitable for:	See the operating instructions, chapter "Function and features".
Medium temperature [°C]	0...80 (90 < 1 h)
Maximum speed of the change of level [mm/s]	100
Dielectric constant medium	≥ 2 for media with a dielectric constant 2...20 (e.g. oils) a coaxial pipe is required for operation (see below: accessories (optional))

Electrical data

Electrical design	DC
Operating voltage [V]	18...30 DC
Current consumption [mA]	< 80
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 outputs OUT1 = IO-Link OUT2 = analogue output
Overload protection	yes
Analog output	I: 4...20 mA / U: 0...10 V

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Level sensors

Max. load	[Ω]	I: 500
Min. load	[Ω]	U: 2000
Measuring / setting range		
Probe length L	[mm]	100...1600
Active range A	[mm]	L-40 (L-60)*
Inactive range I1 / I2	[mm]	30 / 10 (30)*
Accuracy / deviations		
Deviations (in mm)		
Switch point accuracy		± (15 + 0.5 % MEW**)
Repeatability		± 5
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 [mA] / [V]		3.95...4.0 / 0...0.2
Vollsignal[mA] / [V]		20...20.2 / 10...10.1
Reaction times		
Power-on delay time	[s]	≤ 3
Interfaces		
IO-Link Device		
Transfer 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		yes
Required master port class		A
Process data analogue		1
Process data binary		1
Min. process cycle time	[ms]	2.3
Environment		
Ambient temperature	[°C]	0...60
Storage temperature	[°C]	-25...80
Maximum vessel pressure	[bar]	-1...4
Protection		IP 68 / IP 69K
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]	208
Mechanical data		
Process connection		G ¾ A

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Level sensors

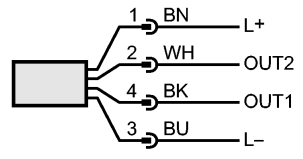
Materials (wetted parts)	303 / 1.4305 (V2A); probe connection: 1.4435 (V4A / 316L); PTFE; FKM; sealing: NBR-PPTA 20
Housing materials	304 / 1.4301 (V2A); stainless steel (316L / 1.4404); FKM; PEI
Weight [kg]	0.353

Electrical connection

Connection	M12 connector (according to EN 61076-2-101); gold-plated contacts
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Wiring

- Core colors
- BK black
 - BN brown
 - BU blue
 - WH white



OUT1: IO-Link
 OUT2: 4...20 mA / 0...10 V
 Colours to DIN EN 60947-5-2

Accessories

Accessories (optional)	Matching accessories online next to the Datasheet → Accessories
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Remarks

Remarks	<p>*) when set to oil and oil based media</p> <p>**) MEW = final value of the measuring range in mm; MEW = L - 30 mm</p>
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Pack quantity [piece]	1
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