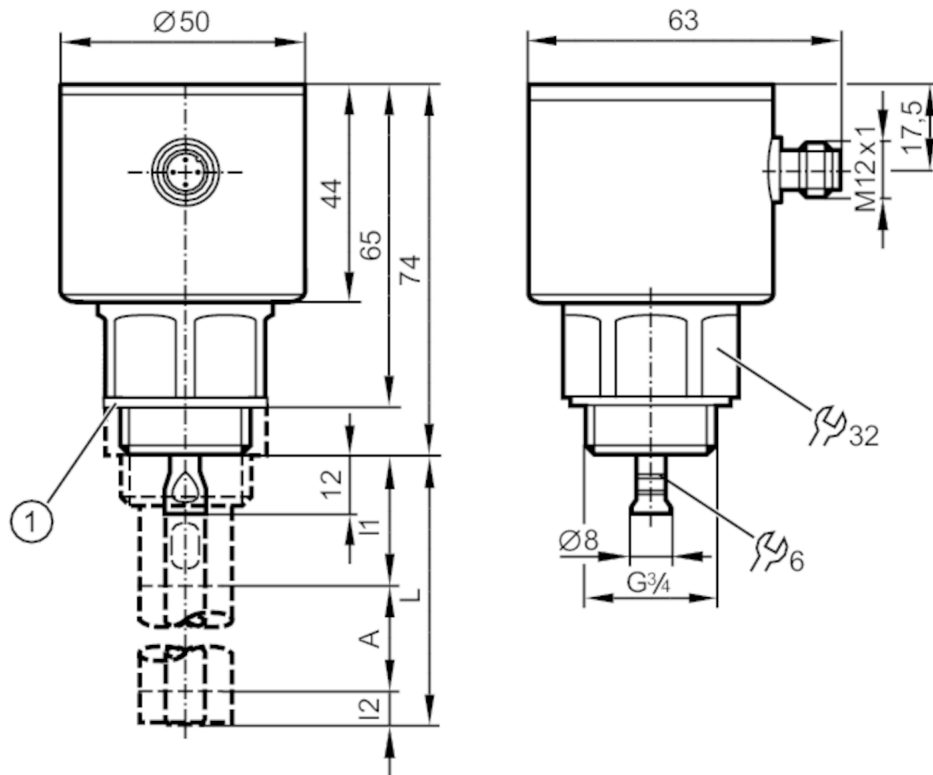


# LR9020



## Continuous level sensor (guided wave radar)

LR0000--BR34A1DKG/US



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



### Product characteristics

Number of inputs and outputs	Number of analogue outputs: 1
Probe length L [mm]	100...1600
Process connection	G 3/4 external thread

### Application

Special feature	Gold-plated contacts
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	-1...16 bar      -0.1...1.6 MPa
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

# LR9020



## Continuous level sensor (guided wave radar)

LR0000--BR34A1DKG/US

Measuring principle	guided wave radar	
<b>Inputs / outputs</b>		
Number of inputs and outputs	Number of analogue outputs: 1	
<b>Outputs</b>		
Total number of outputs	1	
Output signal	analogue signal; IO-Link	
Number of analogue outputs	1	
Analogue current output [mA]	4...20	
Max. load [ $\Omega$ ]	500	
Analogue voltage output [V]	0...10	
Min. load resistance [ $\Omega$ ]	2000	
Overload protection	yes	
<b>Measuring/setting range</b>		
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)	
<b>Accuracy / deviations</b>		
Repeatability [mm]	$\pm 5$	
Switch point accuracy [mm]	$\pm (15 + 0,5 \%)$ ; (% of the final value of the measuring range: L - 30 mm)	
Offset error [mm]	10	
Measuring sensitivity	16 mA $\div$ MEW 10 V $\div$ 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	
Characteristics deviation	$\pm 10$	
<b>Interfaces</b>		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9 CDV	
Profiles	no profile	
SIO mode	no	
Required master port type	A	
Process data analogue	1	
Min. process cycle time [ms]	2.3	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	578
<b>Operating conditions</b>		
Ambient temperature [ $^{\circ}\text{C}$ ]	0...60	
Storage temperature [ $^{\circ}\text{C}$ ]	-25...80	

# LR9020



## Continuous level sensor (guided wave radar)

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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

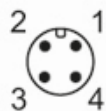
Weight [g]	470.9
Dimensions [mm]	Ø 50 / L = 86
Materials	stainless steel (304/1.4301); stainless steel (316L/1.4404); FKM; PEI
Materials (wetted parts)	stainless steel (303/1.4305); probe connection: stainless steel (316L/1.4435); PTFE; FKM; Sealing: NBR reinforced fibre
Process connection	G 3/4 external thread

### Remarks

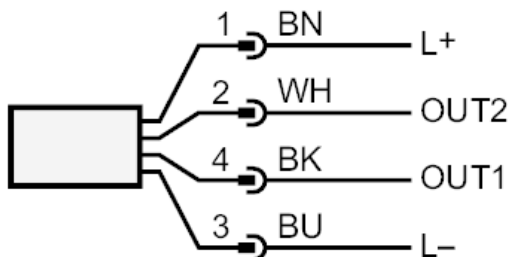
Pack quantity	1 pcs.
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### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



OUT1: IO-Link  
 OUT2: analogue output  
 colours to DIN EN 60947-5-2  
 Core colours :

BK = black  
 BN = brown  
 BU = blue  
 WH = white