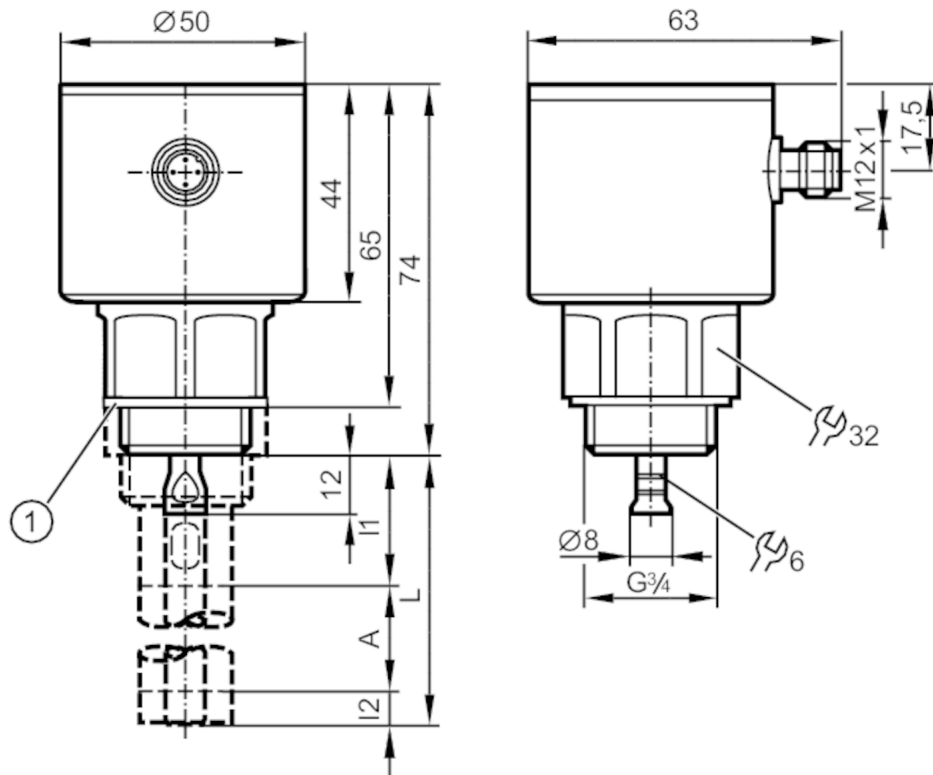


LR7020



Continuous level sensor (guided wave radar)

LR0000--BR34AQPKG/US



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



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2
Probe length L [mm]	100...2000
Process connection	G 3/4 external thread

Application

Special feature	Gold-plated contacts
Media	Liquids
Dielectric constant of the medium	≥ 1,8; (for media with a dielectric constant of 1.8...5 (e.g. oils), a coaxial pipe is needed for operation)
Recommended media	water; hydrous media; oils; oil-based media
Medium temperature [°C]	-25...80; (90 < 1 h)
Tank pressure [bar]	-1...16

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Electrical data		
Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 25
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	< 3
Measuring principle		guided wave radar
Inputs / outputs		
Number of inputs and outputs		Number of digital outputs: 2
Outputs		
Total number of outputs		2
Output signal		switching signal; IO-Link
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	200
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes
Measuring/setting range		
Probe length L	[mm]	100...2000
Active range A	[mm]	L-40; (when set to oil and oil based media: L-60)
Inactive range I1 / I2	[mm]	30 / 10; (when set to oil and oil based media: 30 / 30)
Sampling rate	[Hz]	4
Setting range		
Set point SP	[mm]	≥ 15...L-30
Note on setpoint SP		when set to oil and oil based media: 35...L-30
Reset point rP	[mm]	≥ 10...L-35
Note on reset point rP		when set to oil and oil based media: 30...L-35
In steps of	[mm]	5
Hysteresis	[mm]	> 5
Accuracy / deviations		
Repeatability	[mm]	± 5
Measuring error	[mm]	± 7
Offset error	[mm]	5
Resolution	[mm]	1
Temperature drift per 10 K		± 0.2 %

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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: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port type	A	
Process data analogue	3	
Process data binary	2	
Min. process cycle time [ms]	3.2	
Supported DeviceIDs	Type of operation	DeviceID
	Default	907

Operating conditions	
Ambient temperature [°C]	-25...60
Storage temperature [°C]	-40...85
Protection	IP 68; IP 69K; (7 days / 1 m water depth / 0.1 bar: IP 68)

Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	: in a closed metal tank
	DIN EN 61000-6-4	: in plastic or open metal tanks
Shock resistance	DIN EN 60068-2-27	50 g (11 ms) / 25 g (6 ms) with reference rod 0.5 m
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz) / 1 g (5...200 Hz) with reference rod 0.5 m
MTTF [years]		286
UL approval	UL Approval no.	H010
	File number UL	E174191

Mechanical data	
Weight [g]	484.4
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.

Electrical connection - plug

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



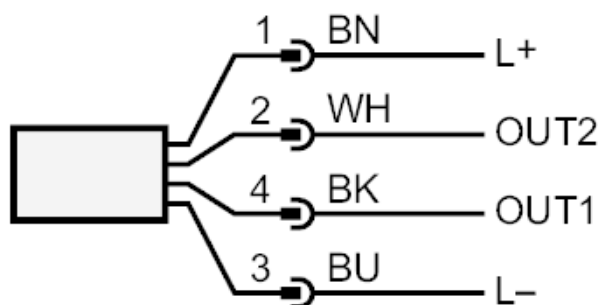
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Connection



OUT1: switching output or IO-Link

OUT2: switching output

colours to DIN EN 60947-5-2

Core colours :

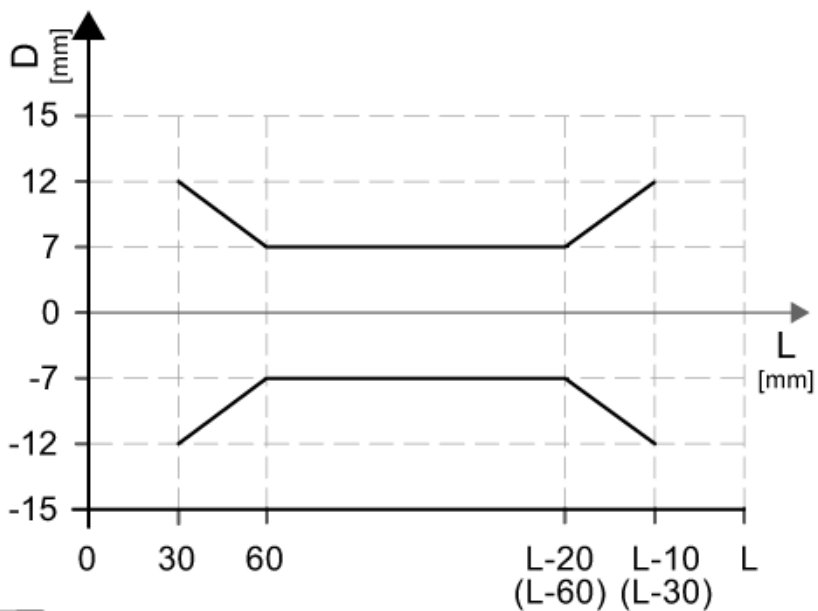
BK = black

BN = brown

BU = blue

WH = white

Diagrams and graphs



Measurement deviation D at the limits of the active rod range