

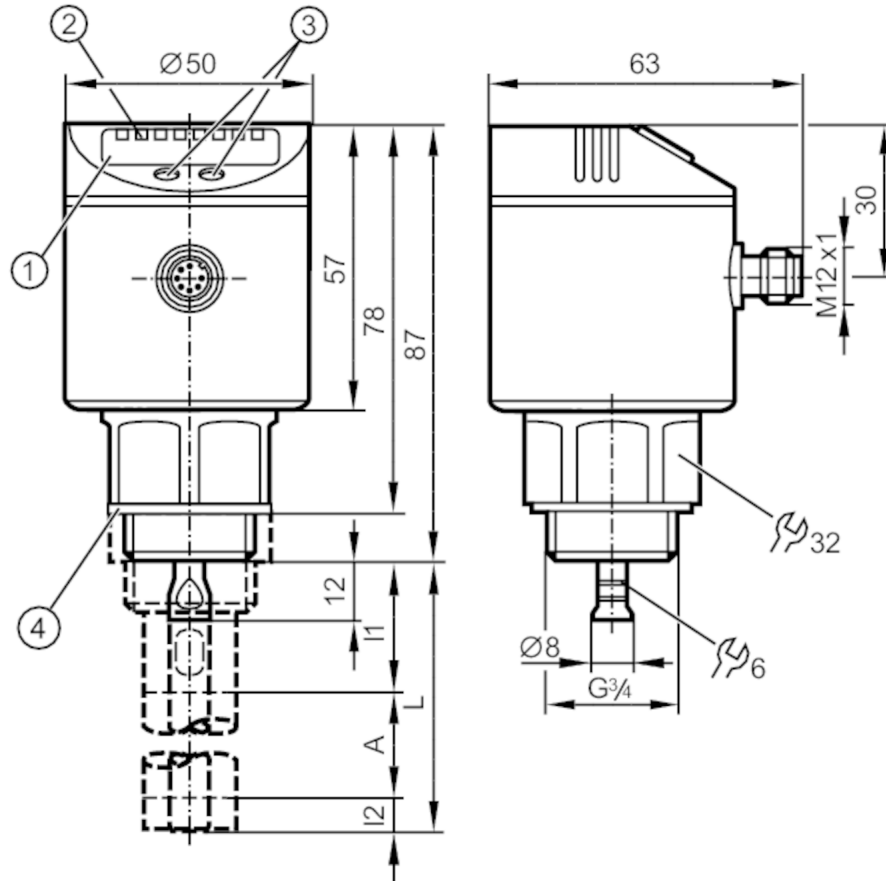
LR8010



Continuous level sensor (guided wave radar)

LR0000B-BR34AVPKG/US

For 8-wire cordsets the core colors are not standardized.
Please note the wiring of the sensor and the cordsets (see data sheet).



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / Switching status
- 3 Programming buttons
- 4 sealing
- A Active zone
- I1 / I2 Inactive ranges



Product characteristics

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

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Application	
System	gold-plated contacts
Installation	Operation only in conjunction with rod and coaxial pipe.
Media	hydrous coolants; oils; oil-based media; water; media similar to water
Dielectric constant of the medium	≥ 2
Cannot be used for	See the operating instructions, chapter "Function and features".
Medium temperature [°C]	0...80
Tank pressure [bar]	-0.5...4
Electrical data	
Operating voltage [V]	18...30 DC
Current consumption [mA]	< 30
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: 4
Outputs	
Total number of outputs	4
Output signal	switching signal
Electrical design	PNP
Number of digital outputs	4
Output function	normally open / closed; (configurable)
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	thermal, pulsed
Overload protection	yes
Measuring/setting range	
Probe length L [mm]	100...1600
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

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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
Overflow switch point OP	[mm]	70...L-30
Hysteresis, OP	[mm]	10
Accuracy / deviations		
Repeatability	[mm]	± 5
Measuring error	[mm]	± 7
Offset error	[mm]	5
Resolution	[mm]	1
Temperature drift per 10 K		± 0.2 %
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9
Profiles		no profile
SIO mode		yes
Required master port class		A
Process data analog		1
Process data binary		4
Min. process cycle time	[ms]	2.3
Supported DeviceIDs	Type of operation	DeviceID
	default	1250
Operating conditions		
Ambient temperature	[°C]	0...60
Storage temperature	[°C]	-25...80
Protection		IP 67
Tests / approvals		
Approval		WHG; General building authority approval; overflow prevention
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]	198

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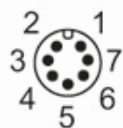
Mechanical data	
Weight [g]	402
Material	stainless steel (1.4404 / 316L); stainless steel (1.4301 / 304); FKM; PBT; PC; PEI; TPE-V
Materials (wetted parts)	sensor:: stainless steel (1.4305 / 303); stainless steel (1.4435 / 316L); PTFE; FKM; NBR fiber-reinforced; Probe:: stainless steel (1.4404 / 316L); Coaxial tubes for level sensors:: stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); stainless steel (1.4310 / 301); PPS fiber-reinforced
Process connection	G 3/4 external thread

Displays / operating elements		
Display	Display unit	3 x LED, green
	Switching status	4 x LED, yellow
	Level	alphanumeric display, 4-digit
	Parameter setting	alphanumeric display, 4-digit

Remarks	
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



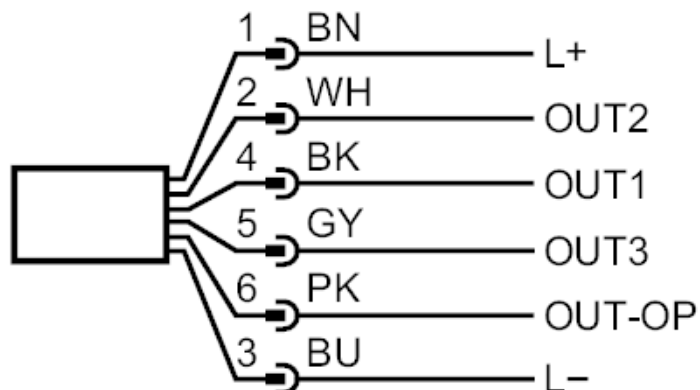
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Connection



- OUT1: IO-Link / Switching output
- OUT2: Switching output
- OUT3: Switching output
- OUT-OP: Switching output overflow prevention

Colors to DIN EN 60947-5-2

Core colors :

- BN = brown
- WH = white
- BK = black
- GY = grey
- PK = pink
- BU = blue

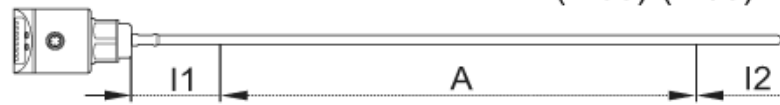
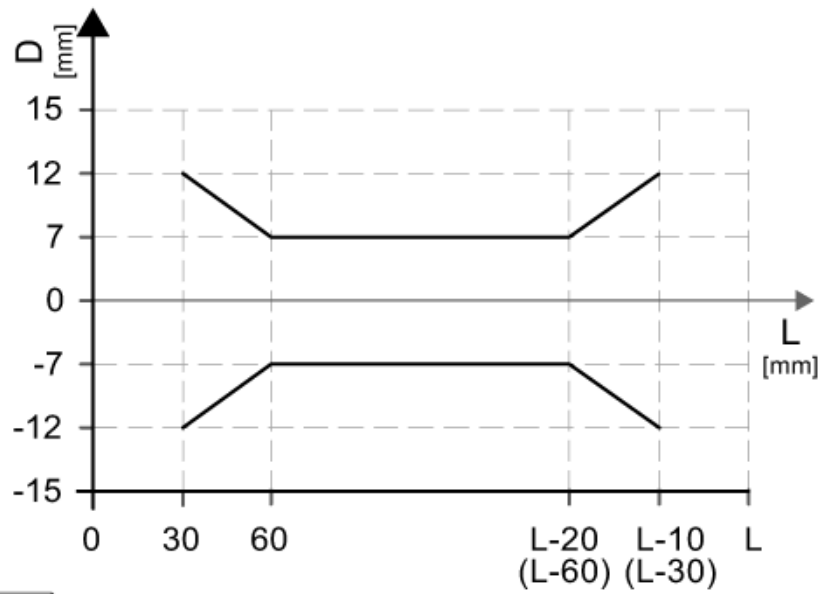
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Diagrams and graphs



Measurement deviation D at the limits of the active rod range