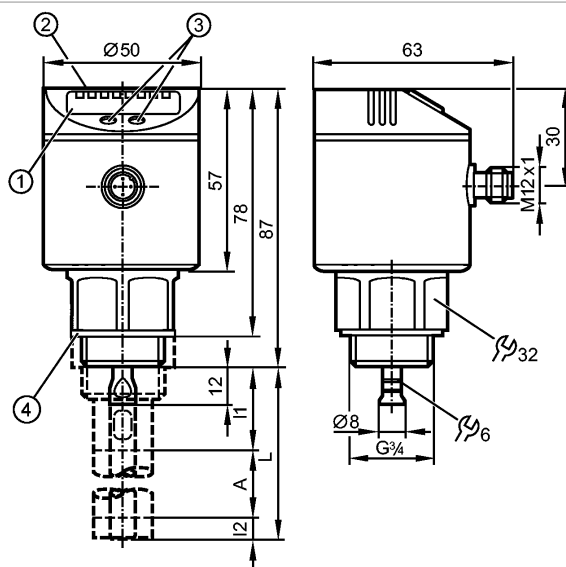


LR3000

LR0000B-BR34AMPKG/US

Level sensors



- 1: 4-digit alphanumeric display
- 2: LEDs (display unit / switching status)
- 3: Programming buttons
- 4: sealing
- A: Active zone
- I1 / I2: Inactive ranges



Made in Germany

Product characteristics

Electronic level sensor

Quick disconnect

Process connection: G 3/4 A

Communication interface: IO-Link 1.1 (COM2 slave, 38.4 kBaud)

Guided wave radar

Freely rotatable housing 360°

Probe length: L = 100...1600 mm

2 Output

OUT1 = Switching output

OUT2 = Analog output

4-digit alphanumeric display

Application

Application	Hydrous coolants, oils, oil-based media, water, media similar to water
Cannot be used for:	fats, granulates, bulk materials, acids, alkalis; hygienic and electroplating applications; heavily foaming media
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 PNP
Operating voltage [V]	18...30 DC
Current consumption [mA]	< 80
Protection class	III

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Level sensors

Reverse polarity protection	yes
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Outputs

Output	2 Output OUT1 = Switching output OUT2 = Analog output
Output function	normally open / closed programmable; 4...20 mA or 0...10 V
Current rating [mA]	200
Voltage drop [V]	< 2.5
Short-circuit protection	thermal, pulsed
Overload protection	yes
Analog output	I: 4...20 mA / U: 0...10 V
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)*
Setting range	
Set point, SP [mm]	≥ 15 (35)* / ≤ L-30
Reset point, rP [mm]	≥ 10 (30)* / ≤ L-35
in steps of [mm]	5
Hysteresis [mm]	≥ 5

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]	3.6...4.0 / 0...0.2
Vollsignal[mA] / [V]	20...20.8 / 10.0...10.3

Reaction times

Power-on delay time [s]	≤ 3
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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	344 d / 00 01 58 h
Profiles	no profile
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	1

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Level sensors

Min. process cycle time	[ms]	2.3
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Environment

Ambient temperature	[°C]	0...60
Storage temperature	[°C]	-25...80
Maximum vessel pressure	[bar]	-1...4
Protection		IP 67

Tests / approvals

EMC		IEC 60947-1
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]	174.71

Mechanical data

Process connection		G ¾ A
Materials (wetted parts)	stainless steel (303S22); probe connection: stainless steel 316L / 1.4435; PTFE; FKM; sealing: Tesnit	
Housing materials	stainless steel (304S15); FKM; PBT; PC; PEI; TPE / V; PTFE	
Weight	[kg]	0.388

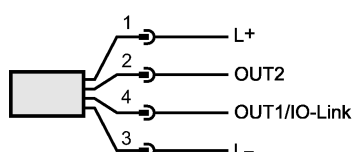
Displays / operating elements

Display	Display unit 3 x LED green Switching status 1 x LED yellow Level 4-digit alphanumeric display Programming 4-digit alphanumeric display
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Electrical connection

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



Programming of the switching outputs:

Hno = hysteresis / NO

Hnc = hysteresis / NC

Fno = window / NO

Fnc = window / NC

Accessories

Accessories (optional)	Probe, part no. E43203...E43205 / E43207...E43210; Coaxial tube, part no. E43211...E43221, E43223, E43224; Matching accessories online next to the Datasheet → Accessories
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Remarks

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