

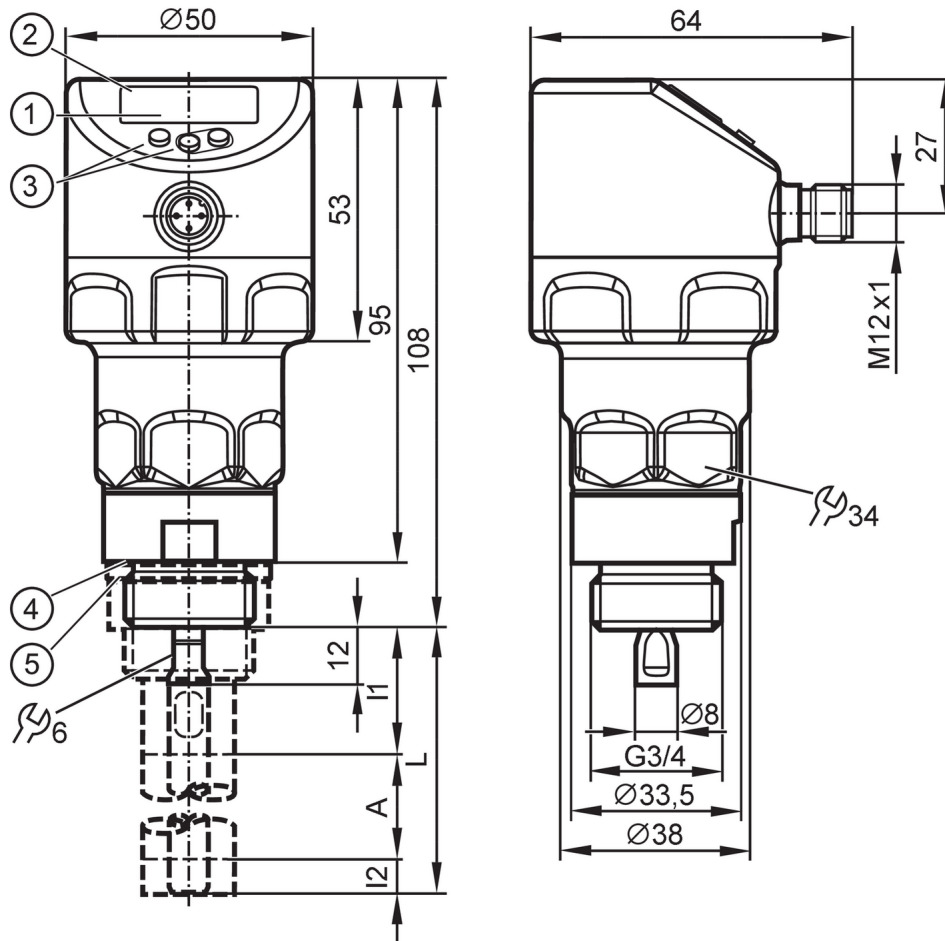
# LR2050



## Continuous level sensor (guided wave radar)

LR0000B-ER34AKSKG/US

For high process temperatures: The temperature at the process connection is decisive. The actual medium temperature may be higher.



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / switching status
- 3 programming buttons
- 4 Sealing
- 5 additional sealing for use with coaxial pipe
- A active range
- I1 / I2 inactive ranges



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
Probe length L [mm]	150...2000
Process connection	threaded connection G 3/4 external thread

### Application

Special feature	Gold-plated contacts
Application	for industrial applications
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
Process temperature [°C]	-20...100; (see note under remarks)

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Pressure rating	16 bar	1.6 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa
MAWP for applications according to CRN [bar]		16

### Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 50
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: 1; Number of analogue outputs: 1
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### Outputs

Total number of outputs	2
Output signal	switching signal; analogue signal; IO-Link
Electrical design	PNP/NPN
Number of digital outputs	1
Output function	normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	150; (200 (...60 °C))
Number of analogue outputs	1
Analogue current output [mA]	4...20, invertible; (scalable)
Max. load [Ω]	500
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes

### Measuring/setting range

Probe length L [mm]	150...2000
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)
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]	1
Hysteresis [mm]	> 5

### Accuracy / deviations

Measuring error [mm]	± 7
Offset error [mm]	5

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Resolution	[mm]	1
Zero signal (current)	[mA]	4.0
Full signal (current)	[mA]	20
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	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
SIO mode	yes	
Required master port type	A	
Process data analogue	1	
Process data binary	2	
Min. process cycle time	[ms]	2.3
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	479

### Operating conditions

Ambient temperature	[°C]	-40...80
Storage temperature	[°C]	-40...100
Protection		IP 68; IP 69K

### 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) / 20 g (6 ms) with reference rod 0.5 m
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz) / 1 g (5...200 Hz) with reference rod 0.5 m
MTTF	[years]	216

### Mechanical data

Weight	[g]	367.4
Dimensions	[mm]	Ø 50 / L = 119
Materials		stainless steel (316L/1.4404); PEI; PFA; PBT; FKM
Materials (wetted parts)		stainless steel (316L/1.4404); stainless steel (316L/1.4435); PTFE; FKM
Process connection		threaded connection G 3/4 external thread

### Displays / operating elements

Display	Display unit	3 x LED, green
	switching status	2 x LED, yellow
	level	alphanumeric display, 4-digit
	parameter setting	alphanumeric display, 4-digit

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### Remarks

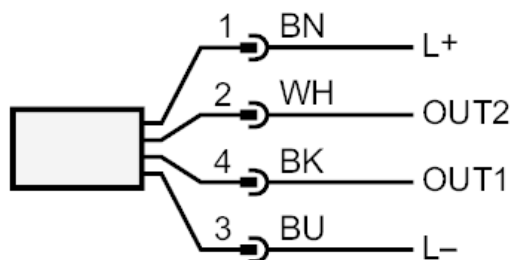
Notes	For high process temperatures: The temperature at the process connection is decisive. The actual medium temperature may be higher.
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



### Connection



OUT1: switching output IO-Link  
OUT2: switching output analogue output  
colours to DIN EN 60947-5-2  
Core colours :  
BK = black  
BN = brown  
BU = blue  
WH = white

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### Diagrams and graphs

Measurement deviation D at the limits of the active rod range

