

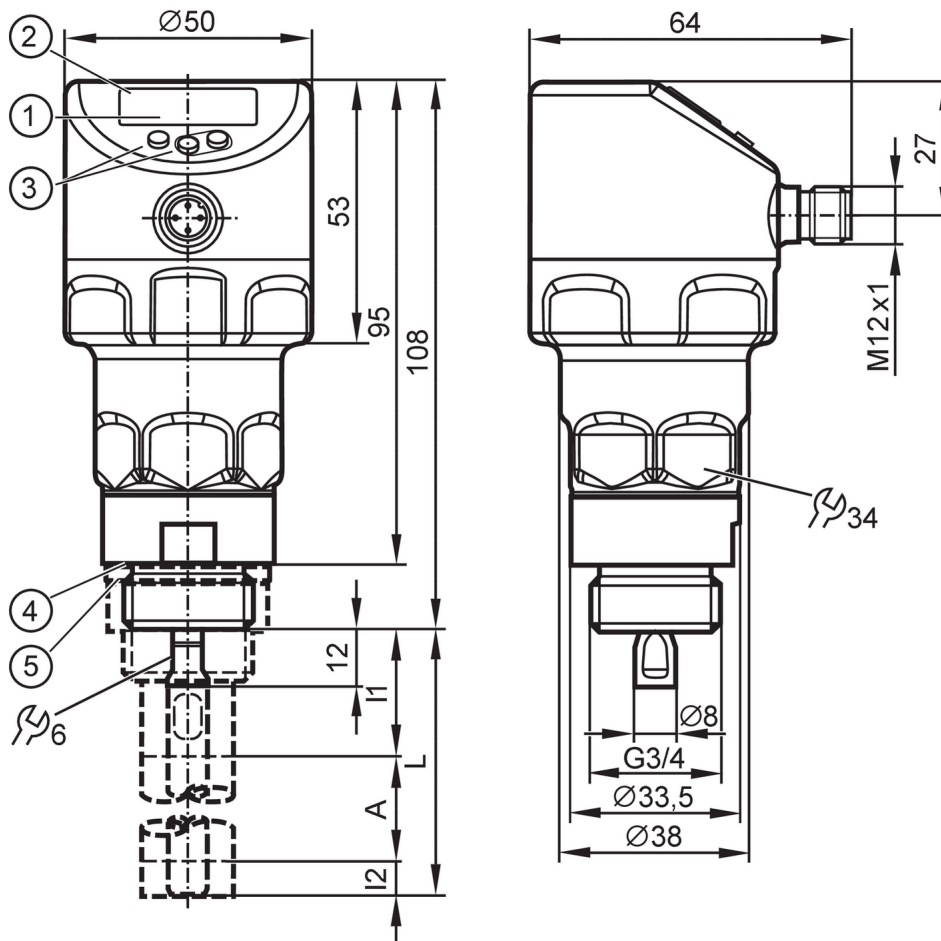
LR2050



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 zone
- I1 / I2 Inactive ranges



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog 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; water-based media; oils; oil-based media
Process temperature [°C]	-20...100; (see note under remarks)

LR2050



Continuous level sensor (guided wave radar)

LR0000B-ER34AKSKG/JS

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

LR2050



Continuous level sensor (guided wave radar)

LR0000B-ER34AKSKG/US

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 class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time	[ms]	2.3
Supported DeviceIDs	Type of operation	DeviceID
	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
Material		stainless steel (1.4404 / 316L); PEI; PFA; PBT; FKM
Materials (wetted parts)		stainless steel (1.4404 / 316L); stainless steel (1.4435 / 316L); 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

LR2050



Continuous level sensor (guided wave radar)

LR0000B-ER34AKSKG/US

Remarks

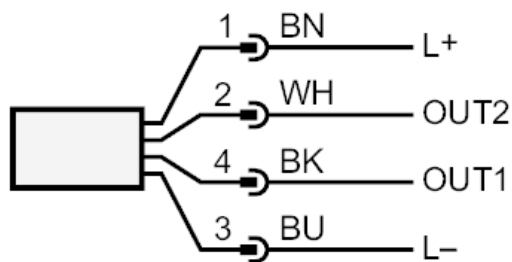
Notes	For high process temperatures: The temperature at the process connection is decisive. The actual medium temperature may be higher.
Pack quantity	1 pcs.

Electrical connection

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



Connection



OUT1: Switching output IO-Link
OUT2: Switching output analog output
Colors to DIN EN 60947-5-2
Core colors :
BK = black
BN = brown
BU = blue
WH = white

LR2050



Continuous level sensor (guided wave radar)

LR0000B-ER34AKSKG/US

Diagrams and graphs

Measurement deviation D at the limits of the active rod range

