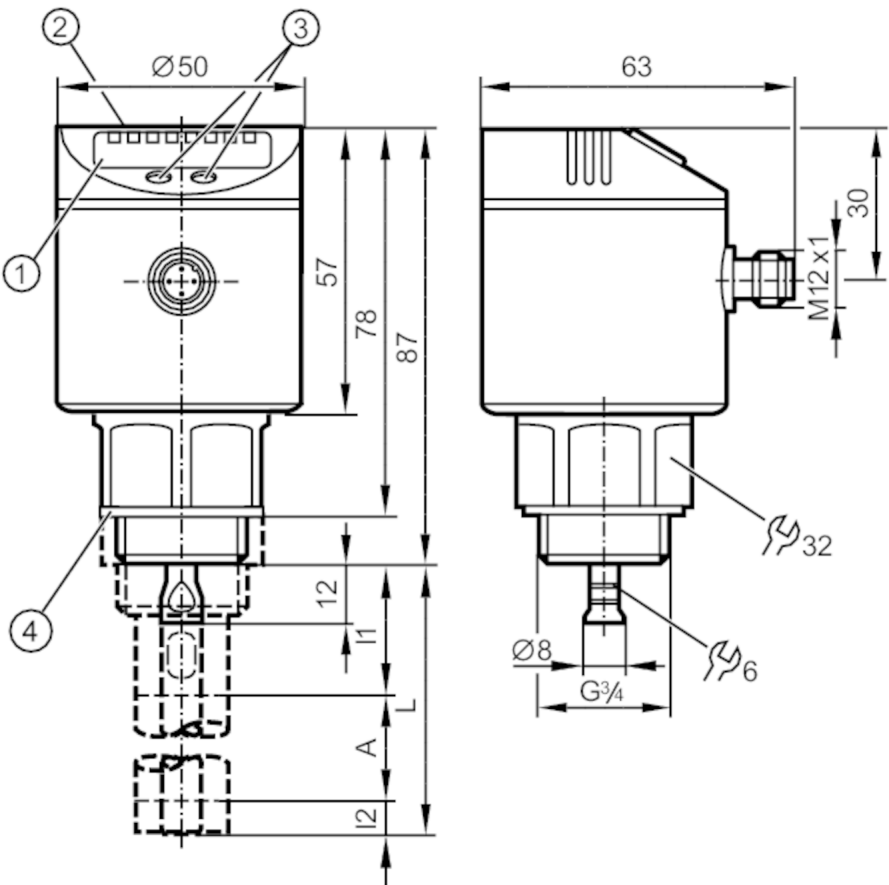




Continuous level sensor (guided wave radar)

LR0000B-BR34AMPKG/US

Please see the technical note under "Downloads"  
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
- 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]               | 100...1600                                                                                                   |
| Process connection                | threaded connection G 3/4 external thread                                                                    |
| Application                       |                                                                                                              |
| System                            | 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                                                              |
| Cannot be used for                | See the operating instructions, chapter "Function and features".                                             |

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|                                                 |        |                                                           |
|-------------------------------------------------|--------|-----------------------------------------------------------|
| Process temperature                             | [°C]   | -25...80; (90 < 1 h ; see note under remarks)             |
| Pressure rating                                 | [bar]  | 16                                                        |
| Vacuum resistance                               | [mbar] | -1000                                                     |
| MAWP (for applications according to CRN)        | [bar]  | 16                                                        |
| <b>Electrical data</b>                          |        |                                                           |
| 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                                         |
| <b>Inputs / outputs</b>                         |        |                                                           |
| Number of inputs and outputs                    |        | Number of digital outputs: 1; Number of analog outputs: 1 |
| <b>Outputs</b>                                  |        |                                                           |
| Total number of outputs                         |        | 2                                                         |
| Output signal                                   |        | switching signal; analog signal; IO-Link                  |
| Electrical design                               |        | PNP                                                       |
| 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]   | 200                                                       |
| Number of analog outputs                        |        | 1                                                         |
| Analog current output                           | [mA]   | 4...20, invertible; (scalable)                            |
| Max. load                                       | [Ω]    | 500                                                       |
| Analog voltage output                           | [V]    | 0...10, invertible; (scalable)                            |
| Min. load resistance                            | [Ω]    | 2000                                                      |
| Short-circuit protection                        |        | yes                                                       |
| Type of short-circuit protection                |        | thermal, pulsed                                           |
| Overload protection                             |        | yes                                                       |
| <b>Measuring/setting range</b>                  |        |                                                           |
| 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                                                         |
| <b>Setting range</b>                            |        |                                                           |
| 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                                                       |

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| Accuracy / deviations      |                          |                                                                                                                             |
|----------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Repeatability              | [mm]                     | ± 5                                                                                                                         |
| Measuring error            | [mm]                     | ± 7                                                                                                                         |
| Offset error               | [mm]                     | 5                                                                                                                           |
| Resolution                 | [mm]                     | 1                                                                                                                           |
| Zero signal (voltage)      | [V]                      | 0                                                                                                                           |
| Zero signal (current)      | [mA]                     | 4.0                                                                                                                         |
| Full signal (voltage)      | [V]                      | 10                                                                                                                          |
| 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 CDV                                                                                                             |
| SIO mode                   |                          | yes                                                                                                                         |
| Required master port class |                          | A                                                                                                                           |
| Process data analog        |                          | 1                                                                                                                           |
| Process data binary        |                          | 1                                                                                                                           |
| Min. process cycle time    | [ms]                     | 2.3                                                                                                                         |
| Supported DeviceIDs        | <b>Type of operation</b> | <b>DeviceID</b>                                                                                                             |
|                            | default                  | 344                                                                                                                         |
| Operating conditions       |                          |                                                                                                                             |
| Ambient temperature        | [°C]                     | -25...60                                                                                                                    |
| Storage temperature        | [°C]                     | -40...80                                                                                                                    |
| Protection                 |                          | IP 67                                                                                                                       |
| 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]                  | 196                                                                                                                         |
| UL approval                | UL approval number       | H006                                                                                                                        |
|                            | File number UL           | E174191                                                                                                                     |
| Mechanical data            |                          |                                                                                                                             |
| Weight                     | [g]                      | 378.4                                                                                                                       |
| Dimensions                 | [mm]                     | Ø 50 / L = 99                                                                                                               |
| Material                   |                          | stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); FKM; PBT; PC; PEI; TPE-V                                   |
| Materials (wetted parts)   |                          | stainless steel (1.4305 / 303); probe connection: stainless steel (1.4435 / 316L); PTFE; FKM; sealing: NBR fiber-reinforced |
| Process connection         |                          | threaded connection G 3/4 external thread                                                                                   |

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Displays / operating elements

|         |                   |                               |
|---------|-------------------|-------------------------------|
| Display | Display unit      | 3 x LED, green                |
|         | Switching status  | 1 x LED, yellow               |
|         | Level             | alphanumeric display, 4-digit |
|         | Parameter setting | alphanumeric display, 4-digit |

Remarks

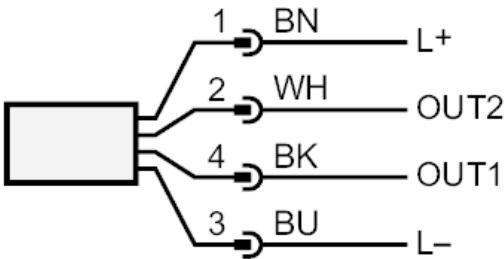
|               |                                                                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes         | Please see the technical note under "Downloads"; 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 or IO-Link  
OUT2: analog output  
Colors to DIN EN 60947-5-2  
Core colors :  
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

