

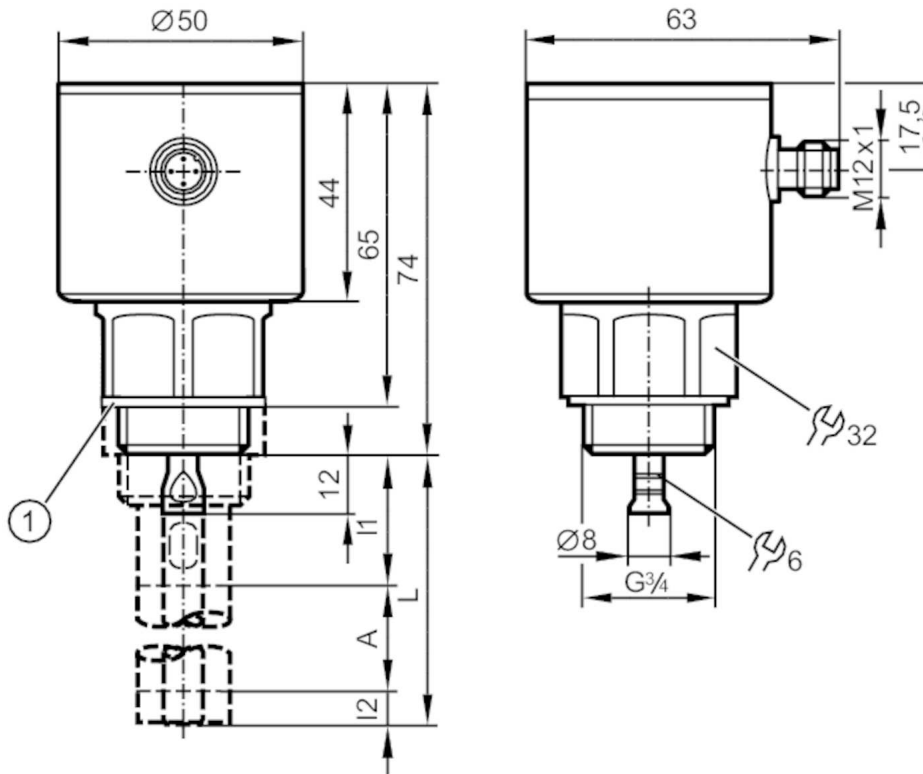
LR7020



Continuous level sensor (guided wave radar)

LR0000--BR34AQPKG/US

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



- 1 sealing
- A Active zone
- I1 / I2 Inactive ranges



Product characteristics

| | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2 |
| Probe length L [mm] | 100...2000 |
| 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 |
| Process temperature [°C] | -25...80; (90 < 1 h ; see note under remarks) |
| Pressure rating [bar] | 16 |
| Vacuum resistance [mbar] | -1000 |

Electrical data

| | |
|--------------------------|------------|
| Operating voltage [V] | 18...30 DC |
| Current consumption [mA] | < 25 |

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| | |
|-----------------------------|-------------------|
| 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: 2 |
|------------------------------|------------------------------|

Outputs

| | |
|--|--|
| Total number of outputs | 2 |
| Output signal | switching signal; IO-Link |
| Electrical design | PNP/NPN |
| Number of digital outputs | 2 |
| 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 | yes (non-latching) |
| Overload protection | yes |

Measuring/setting range

| | |
|-----------------------------|---|
| Probe length L [mm] | 100...2000 |
| 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 |

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 |

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 | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis |

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| | | |
|------------------------------|-------------------------------------|------------------------|
| SIO mode | yes | |
| Required master port class | A | |
| Process data analog | 3 | |
| Process data binary | 2 | |
| Min. process cycle time [ms] | 3.2 | |
| Supported DeviceIDs | Type of operation default | DeviceID 907 |

Operating conditions

| | |
|--------------------------|--|
| Ambient temperature [°C] | -25...60 |
| Storage temperature [°C] | -40...85 |
| Protection | IP 68; IP 69K; (7 days / 1 m water depth / 0.1 bar: IP 68) |

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] | 286 | |
| UL approval | UL approval number | H010 |
| | File number UL | E174191 |

Mechanical data

| | |
|--------------------------|---|
| Weight [g] | 484.4 |
| Material | stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); FKM; PEI |
| 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 |

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 - plug

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



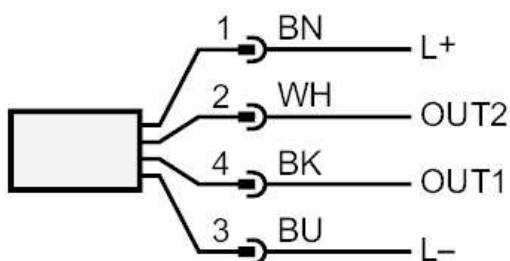
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Connection



OUT1: switching output or IO-Link
OUT2: Switching output

Colors to DIN EN 60947-5-2

Core colors :

BK = black
BN = brown
BU = blue
WH = white

Diagrams and graphs

Measurement deviation D at the limits of the active rod range

