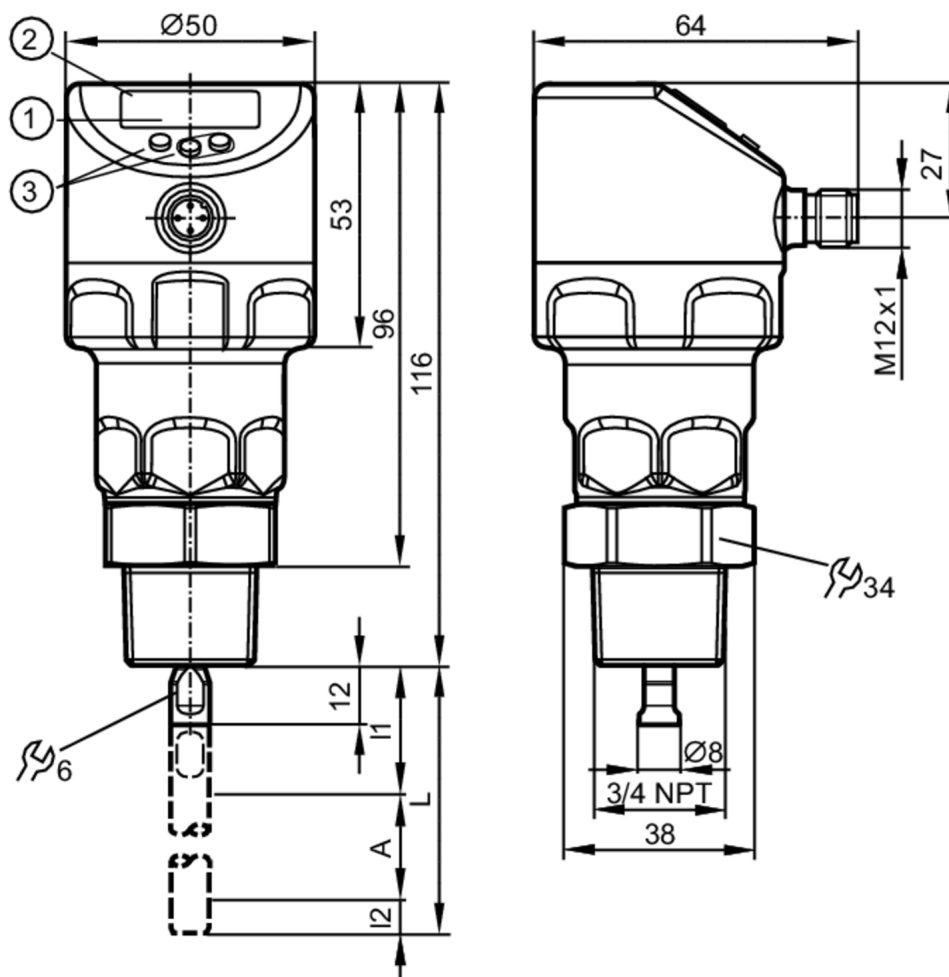


# LR2350



### Continuous level sensor (guided wave radar)

LR0000BSEN34AKSKG/US



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / switching status
- 3 programming buttons
- A active range
- I1 / I2 inactive ranges



| Application                                    |                      |
|------------------------------------------------|----------------------|
| Media                                          | Liquids              |
| Dielectric constant of the medium              | > 5                  |
| Recommended media                              | water; hydrous media |
| Medium temperature [°C]                        | -20...100            |
| Tank pressure [bar]                            | -1...16              |
| MAWP (for applications according to CRN) [bar] | 25                   |



## Continuous level sensor (guided wave radar)

LR0000BSEN34AKSKG/US

| 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                                                         |
| Inputs / outputs                                |                           |                                                             |
| Number of inputs and outputs                    |                           | Number of digital outputs: 1; Number of analogue outputs: 1 |
| 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)                              |
| 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                                                        |
| Inactive range I1 / I2                          | [mm]                      | 30 / 10                                                     |
| Sampling rate                                   | [Hz]                      | 4                                                           |
| Setting range                                   |                           |                                                             |
| Set point SP                                    | [mm]                      | ≥ 15 ...L-30                                                |
| Reset point rP                                  | [mm]                      | ≥ 10 ...L-35                                                |
| In steps of                                     | [mm]                      | 1                                                           |
| Hysteresis                                      | [mm]                      | > 5                                                         |
| Accuracy / deviations                           |                           |                                                             |
| Measuring error                                 |                           |                                                             |
|                                                 | [% of the measured value] | ± 7 mm                                                      |
| Offset error                                    | [mm]                      | 5                                                           |
| Resolution                                      | [mm]                      | 1                                                           |
| Zero signal (current)                           | [mA]                      | 4.0                                                         |
| Full signal (current)                           | [mA]                      | 20                                                          |
| Temperature drift per 10 K                      |                           | ± 0,2 %                                                     |
| Temperature drift per 10 K                      |                           | ± 0.2 %                                                     |

# LR2350



## Continuous level sensor (guided wave radar)

LR0000BSEN34AKSKG/US

| Interfaces                                |                                                                              |                                                                    |
|-------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Communication interface                   | IO-Link                                                                      |                                                                    |
| Transmission type                         | COM2 (38,4 kBaud)                                                            |                                                                    |
| IO-Link revision                          | 1.1                                                                          |                                                                    |
| SDCI standard                             | IEC 61131-9                                                                  |                                                                    |
| IO-Link device ID                         | 0x0002DA                                                                     |                                                                    |
| Profiles                                  | Smart Sensor: Process Data Variable; Device Identification, 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                                                                |
| 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 metal tank                                                  |
|                                           | DIN EN 61000-6-4                                                             | : in a plastic tank                                                |
| Shock resistance                          | DIN EN 60068-2-27                                                            | 50 g (11 ms) / 20 g (6 ms)<br>with reference rod 0.5 m             |
| Vibration resistance                      | DIN EN 60068-2-6                                                             | 20 g (10...2000 Hz) / 1 g (5...200<br>Hz) with reference rod 0.5 m |
| MTTF                                      | [years]                                                                      | 216                                                                |
| Mechanical data                           |                                                                              |                                                                    |
| Weight                                    | [g]                                                                          | 450.4                                                              |
| Materials                                 | 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                        | 3/4" NPT                                                                     |                                                                    |
| 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                                      |
| Remarks                                   |                                                                              |                                                                    |
| Pack quantity                             | 1 pcs.                                                                       |                                                                    |
| Electrical connection - plug              |                                                                              |                                                                    |
| Connector: 1 x M12; Contacts: gold-plated |                                                                              |                                                                    |

# LR2350



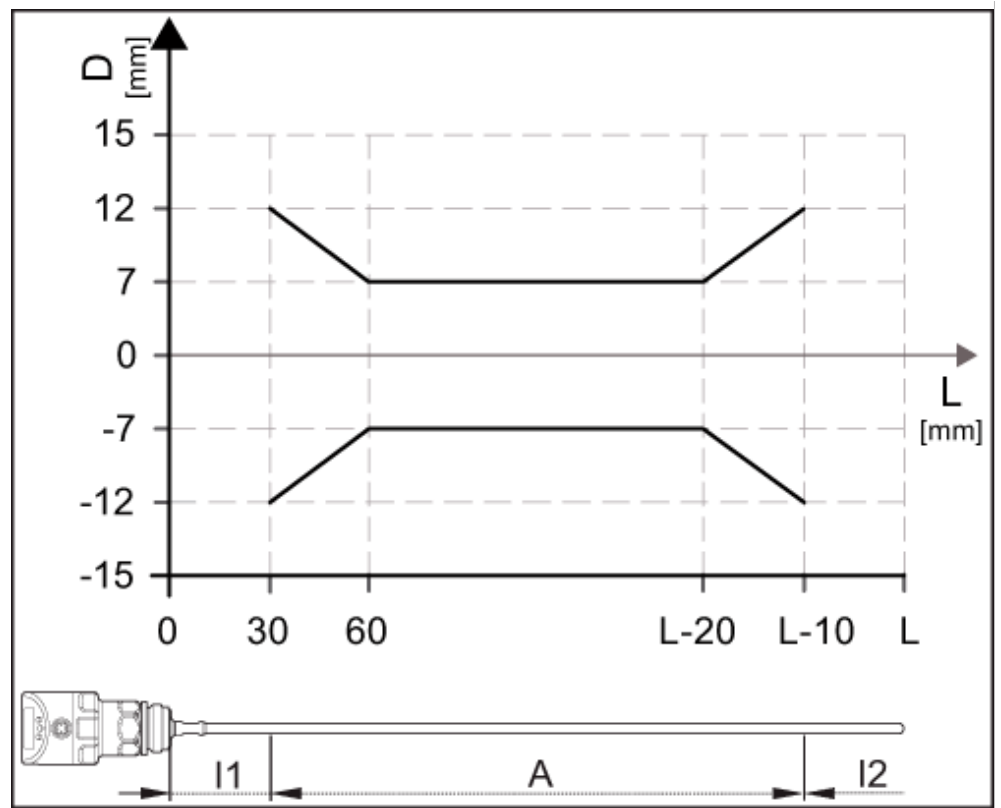
## Continuous level sensor (guided wave radar)

LR0000BSEN34AKSKG/US



### Diagrams and graphs

Measurement deviation  $D$  at the limits of the active rod range



# LR2350



## Continuous level sensor (guided wave radar)

LR0000BSEN34AKSKG/US

Measurement deviation D at the limits of the active rod range

