

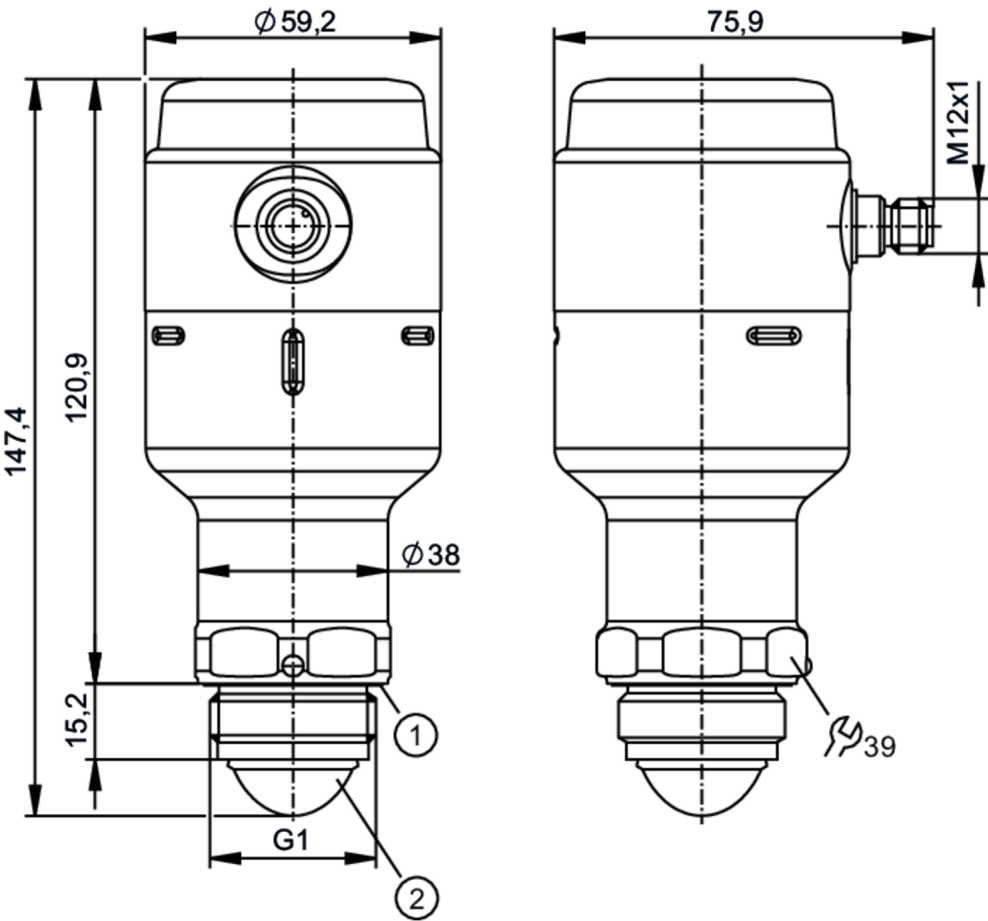
# LW2720



## Continuous level sensor

NON-CONTACT LEVEL TRANSMITTER

An IO-Link master and a parameter setting software (e.g. moneo or LR DEVICE) are required for initial set-up.



- 1 Sealing
- 2 antenna



### Product characteristics

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |
| Process connection           | G 1 Aseptoflex Vario                                        |

### Application

|                                                |                                      |
|------------------------------------------------|--------------------------------------|
| Special feature                                | Gold-plated contacts                 |
| Dielectric constant of the medium              | $\geq 2$                             |
| Recommended media                              | water; hydrous media                 |
| Medium temperature [°C]                        | -40...150; (see diagram:)            |
| Maximum speed of the change of level [mm/s]    | 200                                  |
| Pressure rating [bar]                          | 8                                    |
| Note on pressure rating                        | 0 bar at medium temperature < - 20 C |
| Vacuum resistance [mbar]                       | -1000                                |
| MAWP (for applications according to CRN) [bar] | 8                                    |



## Continuous level sensor

NON-CONTACT LEVEL TRANSMITTER

|                                                 |                                                                                                                        |                                                      |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Radio approval for                              | EU/RED; United Kingdom; South Korea; USA; Canada; Australia; New Zealand; Vietnam; Singapore; Argentina                |                                                      |
| Note on radio approval                          | The list of countries applying the European Radio Equipment Directive 2014/53/EU (RED) can be found under “Downloads”. |                                                      |
| Electrical data                                 |                                                                                                                        |                                                      |
| Operating voltage                               | [V]                                                                                                                    | 18...30 DC                                           |
| Current consumption                             | [mA]                                                                                                                   | < 80                                                 |
| Protection class                                |                                                                                                                        | III                                                  |
| Reverse polarity protection                     |                                                                                                                        | yes                                                  |
| Power-on delay time                             | [s]                                                                                                                    | < 15                                                 |
| Measuring principle                             |                                                                                                                        | FMCW (80 GHz technology); frequency range 77 - 81 Hz |
| 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; (2 parameterisable)                                                                                                 |                                                      |
| Output function                                 | normally open / normally closed; (parameterisable)                                                                     |                                                      |
| Max. voltage drop switching output DC           | [V]                                                                                                                    | 2.5                                                  |
| Permanent current rating of switching output DC | [mA]                                                                                                                   | 50                                                   |
| Number of analogue outputs                      | 1                                                                                                                      |                                                      |
| Analogue current output                         | [mA]                                                                                                                   | 4...20, invertible; (scalable)                       |
| Max. load                                       | [Ω]                                                                                                                    | 43,5 * (Ub – 18) + 600 Ω                             |
| Short-circuit protection                        | yes                                                                                                                    |                                                      |
| Type of short-circuit protection                | pulsed                                                                                                                 |                                                      |
| Overload protection                             | yes                                                                                                                    |                                                      |
| Measuring/setting range                         |                                                                                                                        |                                                      |
| Measuring range                                 | [m]                                                                                                                    | 10; (see diagram:)                                   |
| Sampling rate                                   | [Hz]                                                                                                                   | > 3                                                  |
| Accuracy / deviations                           |                                                                                                                        |                                                      |
| Accuracy                                        |                                                                                                                        | ± 2 mm                                               |
| Resolution                                      | [mm]                                                                                                                   | 1                                                    |
| Zero signal (current)                           | [mA]                                                                                                                   | 3.8                                                  |
| Full signal (current)                           | [mA]                                                                                                                   | 20.5                                                 |
| Temperature drift per 10 K                      |                                                                                                                        | ± 1 mm                                               |
| Response times                                  |                                                                                                                        |                                                      |
| Response time                                   | [ms]                                                                                                                   | 330                                                  |
| Interfaces                                      |                                                                                                                        |                                                      |
| Communication interface                         | IO-Link                                                                                                                |                                                      |
| Transmission type                               | COM2 (38,4 kBaud)                                                                                                      |                                                      |
| IO-Link revision                                | 1.1                                                                                                                    |                                                      |

# LW2720



## Continuous level sensor

NON-CONTACT LEVEL TRANSMITTER

|                              |                                                            |                 |
|------------------------------|------------------------------------------------------------|-----------------|
| SDCI standard                | IEC 61131-9                                                |                 |
| Profiles                     | Smart Sensor ED2: SSCs (0x8001), Measuring Sensor (0x000A) |                 |
| SIO mode                     | yes                                                        |                 |
| Required master port type    | A                                                          |                 |
| Process data analogue        | 1                                                          |                 |
| Process data binary          | 2                                                          |                 |
| Min. process cycle time [ms] | 6                                                          |                 |
| Supported DeviceIDs          | <b>Type of operation</b>                                   | <b>DeviceID</b> |
|                              | default                                                    | 1324            |

|                             |               |  |
|-----------------------------|---------------|--|
| <b>Operating conditions</b> |               |  |
| Ambient temperature [°C]    | -40...80      |  |
| Note on ambient temperature | see diagram:  |  |
| Storage temperature [°C]    | -40...90      |  |
| Protection                  | IP 68; IP 69K |  |

|                          |                   |                                                                                                |
|--------------------------|-------------------|------------------------------------------------------------------------------------------------|
| <b>Tests / approvals</b> |                   |                                                                                                |
| EMC                      | DIN EN 61326-1    | group 1: Class A (IO-Link active); B (IO-Link not active, with analogue and switching outputs) |
| Shock resistance         | DIN EN 60068-2-27 | 50 g (11 ms) / 20 g (6 ms)                                                                     |
| Vibration resistance     | IEC 61298-3       | 2 g (10...1000 Hz)                                                                             |
| MTTF [years]             | 330               |                                                                                                |

|                                                   |                                              |  |
|---------------------------------------------------|----------------------------------------------|--|
| <b>Mechanical data</b>                            |                                              |  |
| Weight [g]                                        | 727.15                                       |  |
| Materials                                         | stainless steel (316L/1.4404); PA; FKM; FVMQ |  |
| Materials (wetted parts)                          | PTFE; EPDM                                   |  |
| Process connection                                | G 1 Aseptoflex Vario                         |  |
| Surface characteristics Ra/Rz of the wetted parts | < 0.76                                       |  |

|                |                                                                                                               |  |
|----------------|---------------------------------------------------------------------------------------------------------------|--|
| <b>Remarks</b> |                                                                                                               |  |
| Notes          | An IO-Link master and a parameter setting software (e.g. moneo or LR DEVICE) are required for initial set-up. |  |
| Pack quantity  | 1 pcs.                                                                                                        |  |

|                              |  |  |
|------------------------------|--|--|
| <b>Electrical connection</b> |  |  |
|------------------------------|--|--|

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



# LW2720



## Continuous level sensor

NON-CONTACT LEVEL TRANSMITTER

### Connection



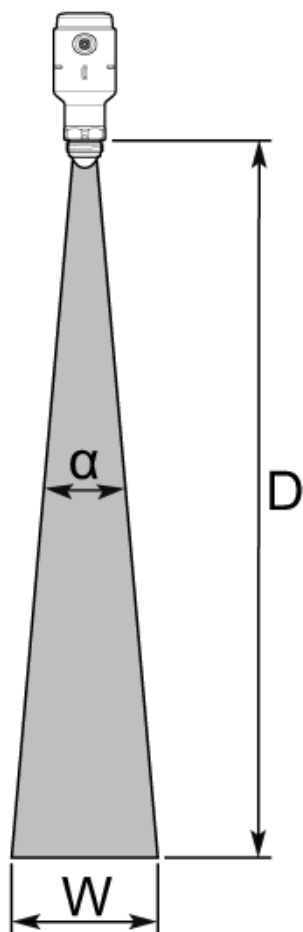
OUT1: switching output IO-Link  
OUT2: switching output analogue output  
colours to DIN EN 60947-5-2  
Core colours :

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



### Diagrams and graphs

#### Angle of radiation



Angle of radiation ( $\alpha$ ): 10°

distance (D) 2 m - Beam width (W) 0.4 m

distance (D) 4 m - Beam width (W) 0.7 m

distance (D) 6 m - Beam width (W) 1.1 m

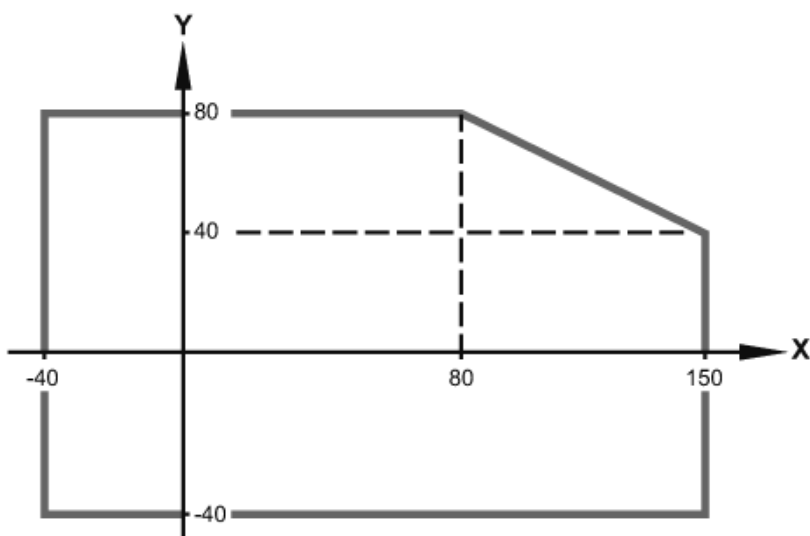
distance (D) 8 m - Beam width (W) 1.4 m

distance (D) 10 m - Beam width (W) 1.8 m

# LW2720

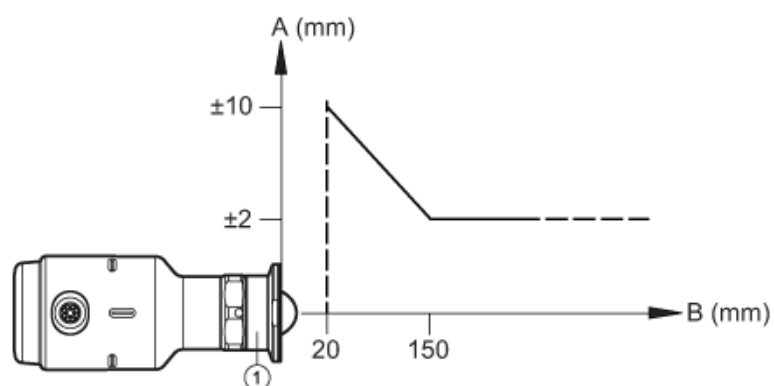
## Continuous level sensor

NON-CONTACT LEVEL TRANSMITTER



X process temperature °C

Y Ambient temperature °C



1 Adapter example E33208

A accuracy

B distance