

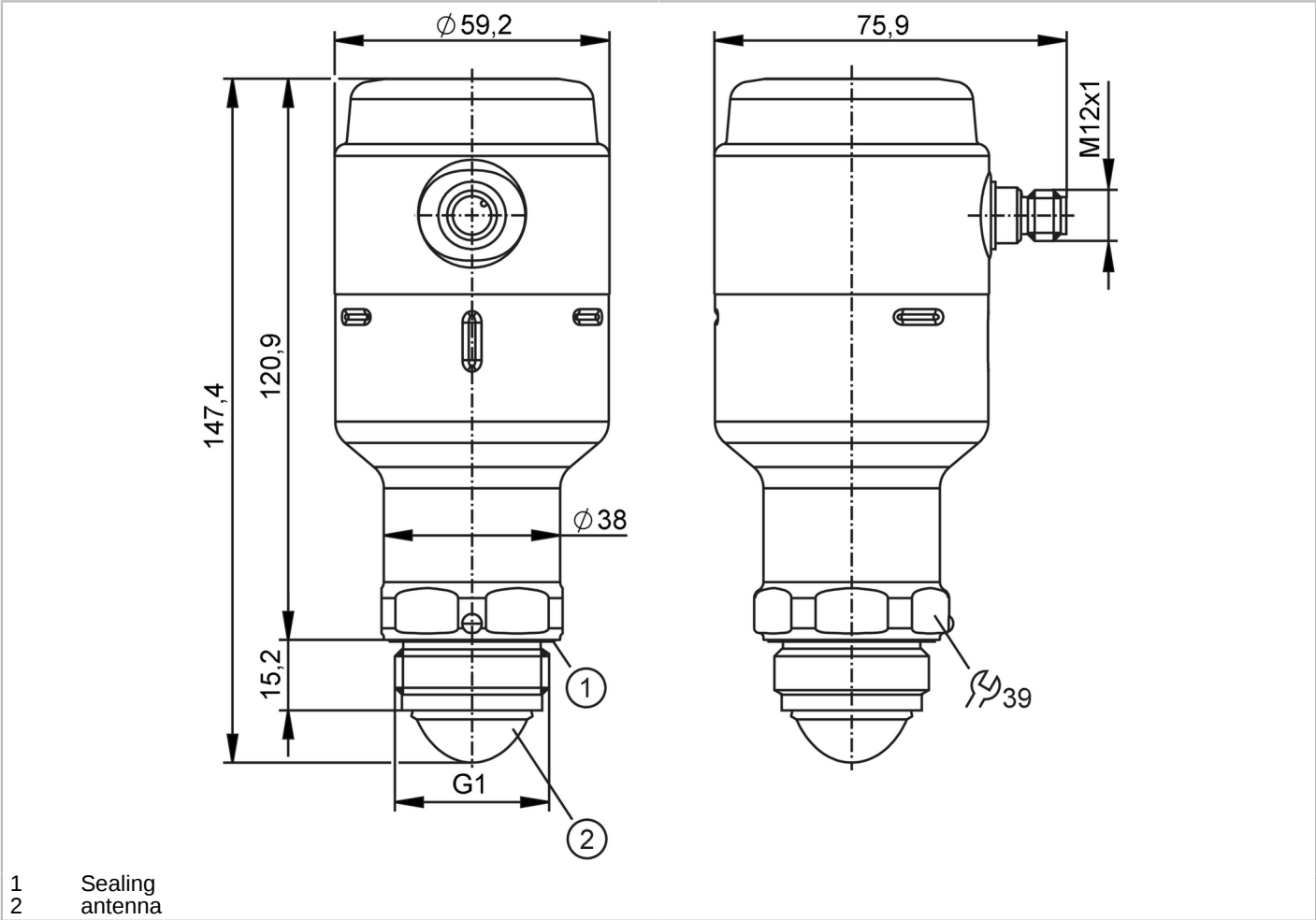
LW2720



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.



| 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                                                                                                                                                   |
| Radio approval for                           | EU/RED; Great Britain; South Korea; USA; Canada; Australia; New Zealand; Vietnam; Singapore; Argentina; Brazil; Japan; Taiwan; South Africa; Mexico |



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|                        |                                                                                                                        |
|------------------------|------------------------------------------------------------------------------------------------------------------------|
| 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 GHz |

| 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]                                        | $43,5 \cdot (U_b - 18) + 600 \Omega$               |
| 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                   | $\pm 2 \text{ mm}$ |
| Resolution [mm]            | 1                  |
| Zero signal (current) [mA] | 3.8                |
| Full signal (current) [mA] | 20.5               |
| Temperature drift per 10 K | $\pm 1 \text{ mm}$ |

| Response times     |     |
|--------------------|-----|
| Response time [ms] | 330 |

| Interfaces              |                   |
|-------------------------|-------------------|
| Communication interface | IO-Link           |
| Transmission type       | COM2 (38,4 kBaud) |
| IO-Link revision        | 1.1               |
| SDCI standard           | IEC 61131-9       |



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|                              |                          |                              |
|------------------------------|--------------------------|------------------------------|
| Profiles                     | Smart Sensor - SSP 3.1   | Measuring Sensor             |
|                              | Common - I&D             | Identification and Diagnosis |
|                              | Function                 | Multiple switching signal    |
| 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                         |

## Operating conditions

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

## Tests / approvals

|                      |                   |                                                                                                |
|----------------------|-------------------|------------------------------------------------------------------------------------------------|
| 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               |                                                                                                |

## Mechanical data

|                                                   |                                              |
|---------------------------------------------------|----------------------------------------------|
| 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 | Ra < 0.76 µm                                 |

## Remarks

|               |                                                                                                               |
|---------------|---------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                        |

## Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated

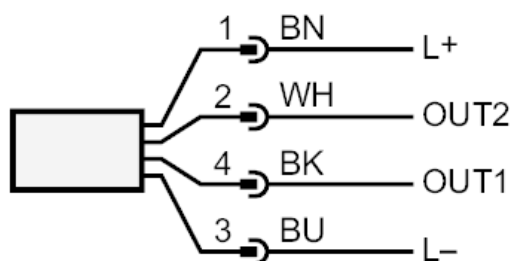




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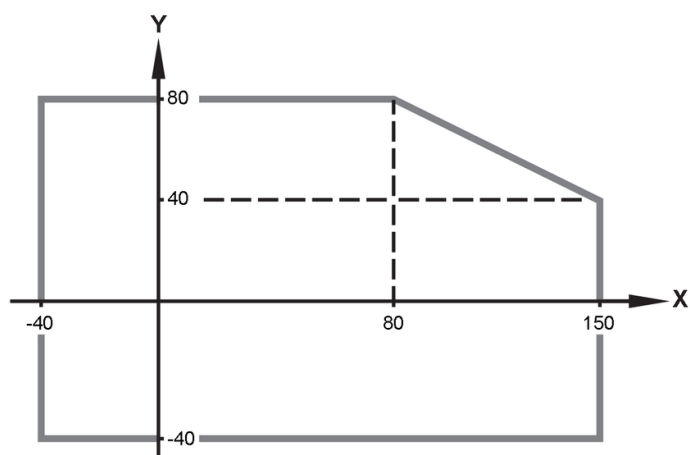
### Connection



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

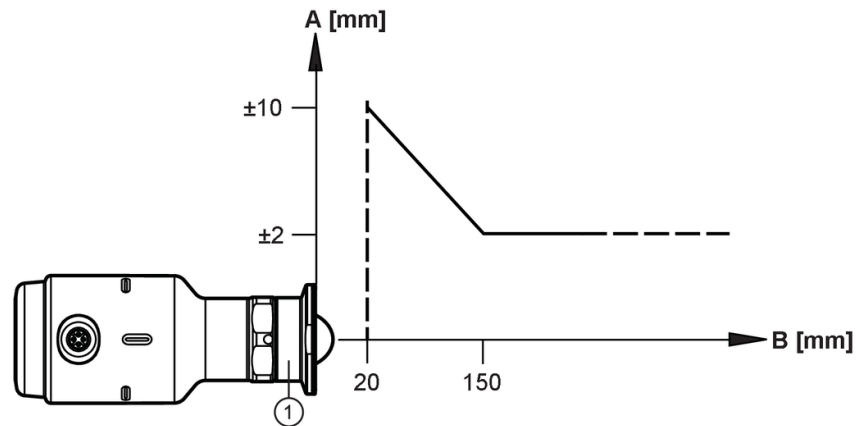


X process temperature °C  
 Y Ambient temperature °C

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1 Adapter example E33208

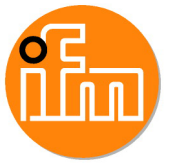
A accuracy

B distance

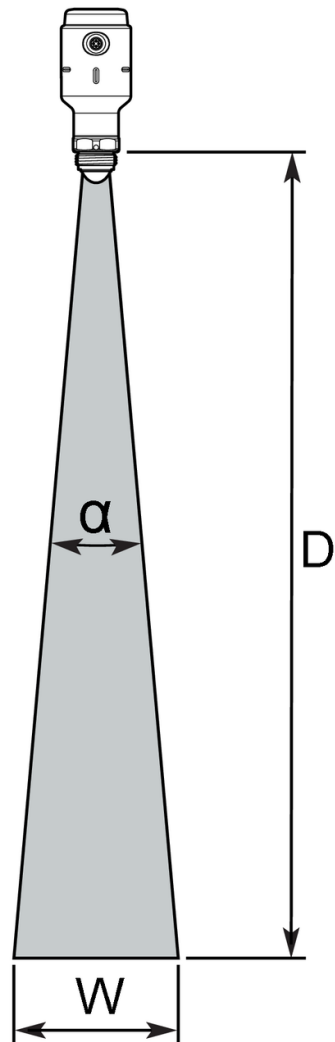
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Angle of radiation



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