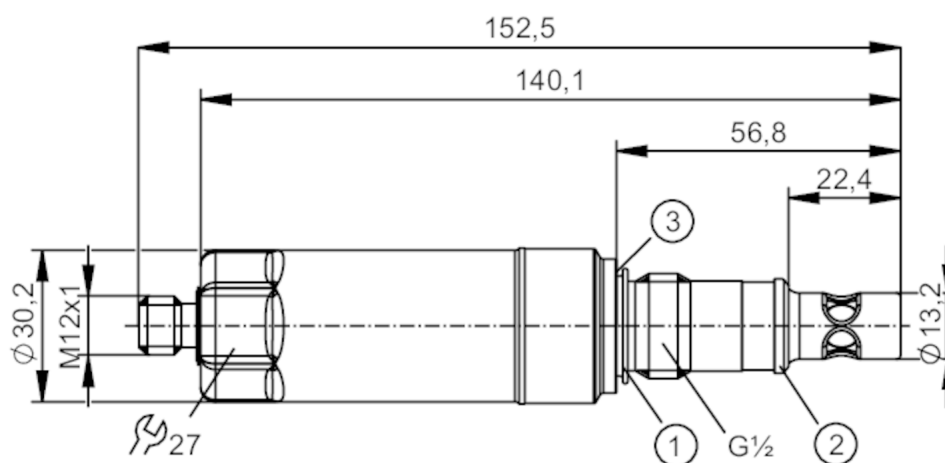




## Conductive conductivity sensor

COND CONDUCTIVITY UPW HYG G1/2

Digital meets analogue: integrating modern IO-Link sensors the analogue way. The EIO104 allows you to realise two analogue signals from intelligent IO-Link sensors with several process values.



- 1 Gasket FKM (for sealing on the back - not pressure resistant) / removable
- 2 pre-mounted PEEK sealing ring (removable) / metallic sealing area
- 3 groove for sealing ring DIN 3869-21



EC 1935/2004 EHEDG Certified

FCM



IO-Link



### Product characteristics

|                              |                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------|
| Number of inputs and outputs | Number of analogue outputs: 1                                                                              |
| Process connection           | threaded connection G 1/2 external thread sealing cone<br>optional:hygienic PEEK gasket according to EHEDG |

### Application

|                          |                                                                  |
|--------------------------|------------------------------------------------------------------|
| Special feature          | Gold-plated contacts                                             |
| Media                    | conductive liquids                                               |
| Note on media            | ultra-pure water                                                 |
| Cannot be used for       | See the operating instructions, chapter "Function and features". |
| Medium temperature [°C]  | -25...100; (< 1 h: 150)                                          |
| Pressure rating [bar]    | 16                                                               |
| Vacuum resistance [mbar] | -1000                                                            |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 18...30 DC |
| Current consumption [mA]    | < 60       |
| Protection class            | III        |
| Reverse polarity protection | yes        |
| Power-on delay time [s]     | 2          |
| Measuring principle         | konduktiv  |

### Inputs / outputs

|                              |                               |
|------------------------------|-------------------------------|
| Number of inputs and outputs | Number of analogue outputs: 1 |
|------------------------------|-------------------------------|

### Outputs

|                         |                          |
|-------------------------|--------------------------|
| Total number of outputs | 1                        |
| Output signal           | analogue signal; IO-Link |



## Conductive conductivity sensor

COND CONDUCTIVITY UPW HYG G1/2

|                                   |                                                                  |          |  |
|-----------------------------------|------------------------------------------------------------------|----------|--|
| Output function                   | analogue output; scalable; selectable conductivity / temperature |          |  |
| Number of analogue outputs        | 1                                                                |          |  |
| Analogue current output [mA]      | 4...20                                                           |          |  |
| Max. load [Ω]                     | 500                                                              |          |  |
| Measuring/setting range           |                                                                  |          |  |
| conductivity measurement          |                                                                  |          |  |
| Measuring range [μS/cm]           | 0.04...1000                                                      |          |  |
| Resolution [μS/cm]                | 0...9,999                                                        | 0.001    |  |
|                                   | 10...99,99                                                       | 0.01     |  |
|                                   | 100...1000                                                       | 0.1      |  |
| Temperature measurement           |                                                                  |          |  |
| Measuring range [°C]              | -25...150                                                        |          |  |
| Accuracy / deviations             |                                                                  |          |  |
| conductivity measurement          |                                                                  |          |  |
| Accuracy (in the measuring range) | 3 % MW ± 0,03 μS/cm                                              |          |  |
| Drift [%/K]                       | 0,1 %/K MW                                                       |          |  |
| Repeatability                     | 1 % MW ± 0,010 μS/cm                                             |          |  |
| Long-term stability               | 1,5 % MW ± 0,015 μS/cm                                           |          |  |
| Temperature measurement           |                                                                  |          |  |
| Accuracy [K]                      | 20...50 °C: < ± 0,5 K;<br>-25...150 °C: < ± 1,5 K                |          |  |
| Repeatability [K]                 | 0,2                                                              |          |  |
| Resolution [K]                    | 0.1                                                              |          |  |
| Response times                    |                                                                  |          |  |
| conductivity measurement          |                                                                  |          |  |
| Response time [s]                 | < 2; (T09; Damping = 0)                                          |          |  |
| Temperature measurement           |                                                                  |          |  |
| Response time [s]                 | < 9; (T09)                                                       |          |  |
| Interfaces                        |                                                                  |          |  |
| Communication interface           | IO-Link                                                          |          |  |
| Transmission type                 | COM2 (38,4 kBaud)                                                |          |  |
| IO-Link revision                  | 1.1                                                              |          |  |
| SDCI standard                     | IEC 61131-9                                                      |          |  |
| Profiles                          | Measuring Sensor, Identification and Diagnosis                   |          |  |
| SIO mode                          | no                                                               |          |  |
| Required master port type         | A                                                                |          |  |
| Process data analogue             | 1                                                                |          |  |
| Min. process cycle time [ms]      | 5.6                                                              |          |  |
| Supported DeviceIDs               | Type of operation                                                | DeviceID |  |
|                                   | default                                                          | 1455     |  |
| Operating conditions              |                                                                  |          |  |
| Ambient temperature [°C]          | -40...60                                                         |          |  |
| Storage temperature [°C]          | -40...85                                                         |          |  |



## Conductive conductivity sensor

COND CONDUCTIVITY UPW HYG G1/2

|            |                                                            |
|------------|------------------------------------------------------------|
| Protection | IP 68; IP 69K; (7 days / 3 m water depth / 0.3 bar: IP 68) |
|------------|------------------------------------------------------------|

## Tests / approvals

|                      |                   |                     |
|----------------------|-------------------|---------------------|
| EMC                  | DIN EN 61000-6-2  |                     |
|                      | DIN EN 61000-6-3  |                     |
| Shock resistance     | DIN EN 60068-2-27 | 50 g (11 ms)        |
| Vibration resistance | DIN EN 60068-2-6  | 20 g (10...2000 Hz) |
| MTTF [years]         | 173               |                     |

## Mechanical data

|                          |                                                                                                            |  |
|--------------------------|------------------------------------------------------------------------------------------------------------|--|
| Weight [g]               | 329.9                                                                                                      |  |
| Materials                | stainless steel (1.4404 / 316L); PEI; FKM                                                                  |  |
| Materials (wetted parts) | stainless steel (1.4435 / 316L); PEEK                                                                      |  |
| Process connection       | threaded connection G 1/2 external thread sealing cone<br>optional:hygienic PEEK gasket according to EHEDG |  |

## Remarks

|               |                                                                                                                                                                                                  |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks       | MW = measured value                                                                                                                                                                              |
| Notes         | Digital meets analogue: integrating modern IO-Link sensors the analogue way. The EIO104 allows you to realise two analogue signals from intelligent IO-Link sensors with several process values. |
| Pack quantity | 1 pcs.                                                                                                                                                                                           |

## Electrical connection

Connector: 1 x M12 (EN 61067-2-101); coding: A; Contacts: gold-plated



# LDL101



## Conductive conductivity sensor

COND CONDUCTIVITY UPW HYG G1/2

### Connection



|      |                             |
|------|-----------------------------|
| OUT1 | IO-Link                     |
| OUT2 | analogue output             |
|      | colours to DIN EN 60947-5-2 |
|      | Core colours :              |
| BK = | black                       |
| BN = | brown                       |
| BU = | blue                        |
| WH = | white                       |