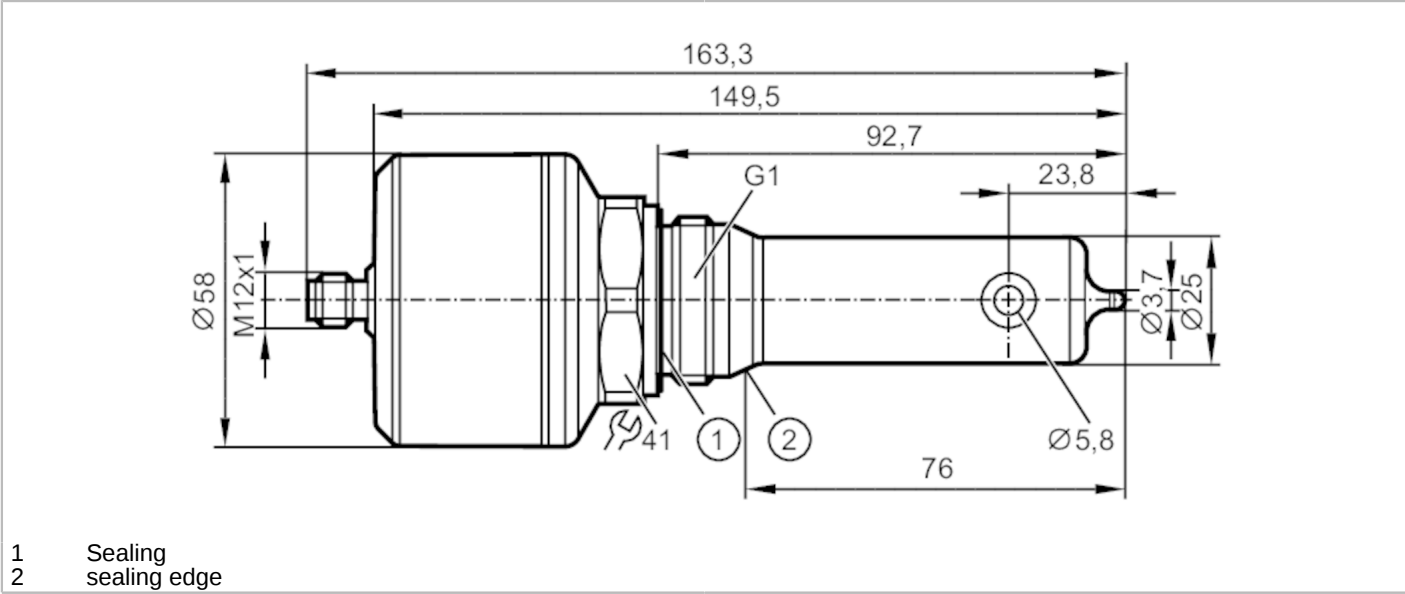




Inductive conductivity sensor

IND CONDUCTIVITY HYG ASF-V 077

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.





EC 1935/2004 EHEDG Certified FCM FDA IO-Link UKCA

| Product characteristics      |                                                                  |                         |
|------------------------------|------------------------------------------------------------------|-------------------------|
| Number of inputs and outputs | Number of analogue outputs: 1                                    |                         |
| Process connection           | G 1 external thread Aseptoflex Vario                             |                         |
| Application                  |                                                                  |                         |
| Special feature              | Gold-plated contacts                                             |                         |
| Media                        | conductive liquids                                               |                         |
| Note on media                | water                                                            |                         |
|                              | milk                                                             |                         |
|                              | CIP liquids                                                      |                         |
| 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]                                                             | < 50                    |
| Protection class             |                                                                  | III                     |
| Reverse polarity protection  |                                                                  | yes                     |
| Power-on delay time          | [s]                                                              | 2                       |
| Measuring principle          |                                                                  | inductive               |
| Inputs / outputs             |                                                                  |                         |
| Number of inputs and outputs | Number of analogue outputs: 1                                    |                         |
| Outputs                      |                                                                  |                         |
| Total number of outputs      | 1                                                                |                         |



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|                              |                                                                  |
|------------------------------|------------------------------------------------------------------|
| Output signal                | analogue signal; IO-Link                                         |
| Output function              | analogue output; scalable; selectable conductivity / temperature |
| Number of analogue outputs   | 1                                                                |
| Analogue current output [mA] | 4...20                                                           |
| Max. load [ $\Omega$ ]       | 500                                                              |

## Measuring/setting range

## conductivity measurement

|                 |         |                     |     |
|-----------------|---------|---------------------|-----|
| Measuring range | [μS/cm] | 100...1000000       |     |
| Resolution      | [μS/cm] | 0...10.000          | 1   |
|                 |         | 10.000...100.000    | 10  |
|                 |         | 100.000...1.000.000 | 100 |

## Temperature measurement

|                                        |           |
|----------------------------------------|-----------|
| Measuring range [ $^{\circ}\text{C}$ ] | -25...150 |
|----------------------------------------|-----------|

## Accuracy / deviations

## conductivity measurement

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Accuracy (in the measuring range) | 2 % MW $\pm$ 25 $\mu\text{S/cm}$     |
| Drift [%/K]                       | 0,1 %/K MW $\pm$ 25 $\mu\text{S/cm}$ |
| Repeatability                     | 1 % MW $\pm$ 25 $\mu\text{S/cm}$     |
| Long-term stability               | 0,5 % MW $\pm$ 25 $\mu\text{S/cm}$   |

## Temperature measurement

|                   |                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------|
| Accuracy [K]      | 20...50 $^{\circ}\text{C}$ : $< \pm 0,2$ K;<br>-25...150 $^{\circ}\text{C}$ : $< \pm 1,5$ 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] | $< 40$ ; (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                                        | 922      |

## Operating conditions

|                                            |          |
|--------------------------------------------|----------|
| Ambient temperature [ $^{\circ}\text{C}$ ] | -40...60 |
|--------------------------------------------|----------|



## Inductive conductivity sensor

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|                     |                                                            |          |
|---------------------|------------------------------------------------------------|----------|
| Storage temperature | [°C]                                                       | -40...85 |
| 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  | in a closed metal tank |
| Shock resistance     | DIN EN 60068-2-27 | 50 g (11 ms)           |
| Vibration resistance | DIN EN 60068-2-6  | 20 g (10...2000 Hz)    |
| MTTF                 | [ANN]             | 129                    |
| UL approval          | File number UL    | E364788                |

## Mechanical data

|                          |                                                 |       |
|--------------------------|-------------------------------------------------|-------|
| Weight                   | [g]                                             | 749.7 |
| Materials                | stainless steel (1.4404 / 316L); PEEK; PEI; FKM |       |
| Materials (wetted parts) | PEEK                                            |       |
| Process connection       | G 1 external thread Aseptoflex Vario            |       |

## 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





## Inductive conductivity sensor

IND CONDUCTIVITY HYG ASF-V 077

### Connection



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