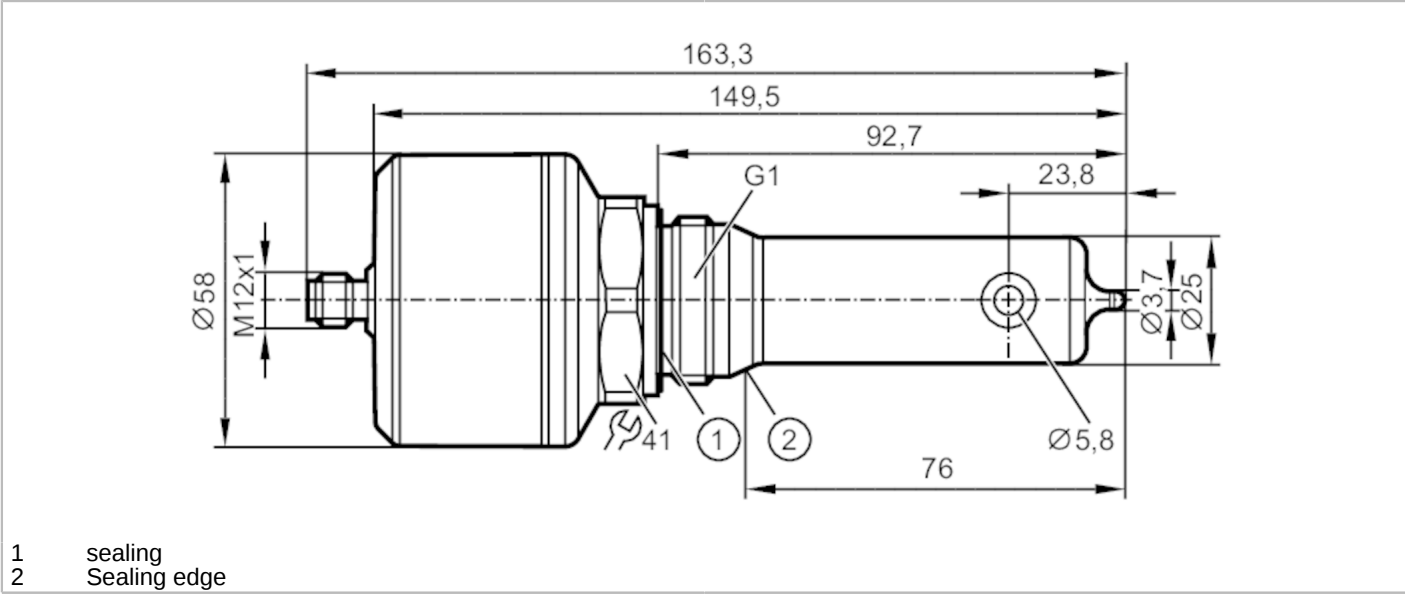




Inductive conductivity sensor

IND CONDUCTIVITY HYG ASF-V 077

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





Product characteristics

|                              |                                      |
|------------------------------|--------------------------------------|
| Number of inputs and outputs | Number of analog outputs: 1          |
| Process connection           | G 1 external thread Aseptoflex Vario |

Application

|                          |                                                                  |
|--------------------------|------------------------------------------------------------------|
| System                   | 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          | 16 bar1.6 MPa                                                    |
| Vacuum resistance [mbar] | -1000                                                            |

Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 18...30 DC |
| Current consumption [mA]    | < 100      |
| 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 analog outputs: 1 |
|------------------------------|-----------------------------|

Outputs

|                         |   |
|-------------------------|---|
| Total number of outputs | 1 |
|-------------------------|---|



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

## Measuring/setting range

|                                      |                     |     |  |
|--------------------------------------|---------------------|-----|--|
| Conductivity measurement             |                     |     |  |
| Measuring range [ $\mu\text{S/cm}$ ] | 100...1000000       |     |  |
| Resolution [ $\mu\text{S/cm}$ ]      | 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 ± 25 μS/cm                                 |
| Drift                             | [%/K] | 0,1 %/K MW ± 25 μS/cm                             |
| Repeatability                     |       | 1 % MW ± 25 μS/cm                                 |
| Long-term stability               |       | 0,5 % MW ± 25 μS/cm                               |
| Temperature measurement           |       |                                                   |
| Accuracy                          | [K]   | 20...50 °C: < ± 0,2 K;<br>-25...150 °C: < ± 1,5 K |
| Repeatability                     | [K]   | 0,2                                               |
| Resolution                        | [K]   | 0.1                                               |

## Reaction times

|                          |     |                         |
|--------------------------|-----|-------------------------|
| Conductivity measurement |     |                         |
| Response time            | [s] | < 2; (T09; Damping = 0) |
| Temperature measurement  |     |                         |
| Response time            | [s] | < 25; (T09)             |

## Interfaces

|                              |                        |                              |
|------------------------------|------------------------|------------------------------|
| Communication interface      | IO-Link                |                              |
| Transmission type            | COM2 (38,4 kBaud)      |                              |
| IO-Link revision             | 1.1                    |                              |
| SDCI standard                | IEC 61131-9            |                              |
| Profiles                     | Smart Sensor - SSP 3.1 | Measuring Sensor             |
|                              | Common - I&D           | Identification and Diagnosis |
| SIO mode                     | no                     |                              |
| Required master port class   | A                      |                              |
| Process data analog          | 1                      |                              |
| Min. process cycle time [ms] | 6.4                    |                              |
| Supported DeviceIDs          | Type of operation      | DeviceID                     |
|                              | default                | 922                          |

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## Inductive conductivity sensor

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| Operating conditions                                                                |                   |                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature                                                                 | [°C]              | -40...60                                                                                                                                                                                   |
| 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                                                                                | [years]           | 129                                                                                                                                                                                        |
| UL approval                                                                         | File number UL    | E364788                                                                                                                                                                                    |
| Mechanical data                                                                     |                   |                                                                                                                                                                                            |
| Weight                                                                              | [g]               | 749.7                                                                                                                                                                                      |
| Material                                                                            |                   | stainless steel (1.4404 / 316L); PEEK; PEI; FKM                                                                                                                                            |
| Materials (wetted parts)                                                            |                   | PEEK                                                                                                                                                                                       |
| Process connection                                                                  |                   | G 1 external thread Aseptoflex Vario                                                                                                                                                       |
| Surface characteristics Ra/Rz of the wetted parts                                   |                   | Ra ≤ 0.8 µm                                                                                                                                                                                |
| Remarks                                                                             |                   |                                                                                                                                                                                            |
| Remarks                                                                             |                   | MW = Measured value                                                                                                                                                                        |
| Notes                                                                               |                   | Digital meets analog: integrating modern IO-Link sensors the analog way. The EIO104 allows you to realize two analog 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               |                   |                                                                                                                                                                                            |
|  |                   |                                                                                                                                                                                            |

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## Inductive conductivity sensor

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### Connection



OUT1            IO-Link  
OUT2            analog output  
Colors to DIN EN 60947-5-2  
Core colors :

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