

## Product information

## OMNIPLUS-HD1

# Flow transmitter OMNIPLUS-HD1



- Robust industrial-grade flowmeter
- High compressive strength (PN 200, optional PN500)
- No inlet and outlet sections required
- One analog output (10V or 20 mA switchable)
- Two switching outputs
- IO-Link interface

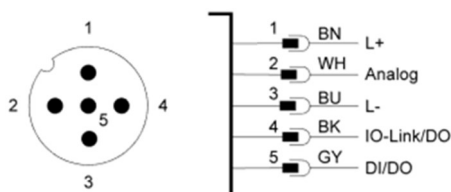
## Product description

The flow transmitters of the OMNIPLUS-HD1 series work according to the principle of the spring-supported piston. A magnetically equipped piston is deflected by the flowing medium against the force of a spring. Deflection is a measure of flow rate. The position of the floating body is recorded outside the flow chamber with the help of magnetic field sensors.

The integrated electronics have an LCD display as well as an analog output and two switching outputs and can be easily configured by the user. In addition, it has an IO-Link interface that allows digital communication with the sensor.

## Connection diagram

Connector M12 x 1 pin assignment



## Specifications

|                         |                                                                                                                                                                  |                                                                     |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Measuring principle     | Spring-supported piston                                                                                                                                          |                                                                     |
| Nominal size            | DN 8 ... DN 25                                                                                                                                                   |                                                                     |
| Mechanical connection   | Female thread G 1/4 ... G 1 (other connections on request)                                                                                                       |                                                                     |
| Measurement ranges      | 0.1 ... 80 l/min (see table „Ranges and pressure loss“)                                                                                                          |                                                                     |
| Measurement uncertainty | ±3 % F.S.                                                                                                                                                        |                                                                     |
| Media                   | Water (oils, gases and aggressive media on req.)                                                                                                                 |                                                                     |
| Pressure loss           | 0.4 ... 1.6 bar @ Q <sub>max</sub> (see table)                                                                                                                   |                                                                     |
| Compressive strength    | PN 200 (PN 500 on request)                                                                                                                                       |                                                                     |
| Media temperature       | -20 ... +85 °C optional -20 ... +150 °C (with spacers)                                                                                                           |                                                                     |
| Storage temperature     | -20 ... +80 °C                                                                                                                                                   |                                                                     |
| Materials (wetted)      | Brass version                                                                                                                                                    | Stainl. steel version                                               |
|                         | CW614N nickelled                                                                                                                                                 | 1.4571                                                              |
|                         | CW614N                                                                                                                                                           | 1.4404                                                              |
|                         | 1.4310                                                                                                                                                           | 1.4310                                                              |
|                         | Hard ferrite                                                                                                                                                     | Hart ferrite (PTFE coated)                                          |
|                         | NBR                                                                                                                                                              | FKM                                                                 |
| Supply voltage          | 18 ... 30 V DC                                                                                                                                                   |                                                                     |
| Current consumption     | < 130 mA (SIO mode, unloaded outputs)                                                                                                                            |                                                                     |
| IO-Link specification   | IO-Link revision                                                                                                                                                 | V1.1                                                                |
|                         | Bit rate                                                                                                                                                         | COM2 (38400 bit/s)                                                  |
|                         | Minimum cycle time                                                                                                                                               | 20 ms                                                               |
|                         | SIO mode                                                                                                                                                         | yes                                                                 |
|                         | Port class                                                                                                                                                       | A compatible                                                        |
|                         | Block parameterization                                                                                                                                           | yes                                                                 |
|                         | Data storage                                                                                                                                                     | yes                                                                 |
| Analog output           | Current:                                                                                                                                                         | 4 ... 20 mA<br>0 ... 20 mA                                          |
|                         | Voltage:                                                                                                                                                         | 0 ... 10 V<br>2 ... 10 V<br>0 ... 5 V<br>1 ... 5 V<br>0.5 ... 4.5 V |
| Switching outputs       | 2 transistor outputs push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant I <sub>out</sub> = 100 mA max per output                |                                                                     |
|                         | Configurable on the device as                                                                                                                                    |                                                                     |
|                         | <ul style="list-style-type: none"> <li>• Limit switch</li> <li>• Frequency output</li> <li>• Pulse output</li> <li>• Signal output for preset counter</li> </ul> |                                                                     |
| Display                 | 1.2" graphic LCD (transflective) 128 x 64 pixels backlight white, red on alarm message                                                                           |                                                                     |
| Electr. connection      | M12x1 circular connector, 5-pin                                                                                                                                  |                                                                     |
| Protection class        | IP65 / IP67                                                                                                                                                      |                                                                     |
| Conformity              | CE                                                                                                                                                               |                                                                     |

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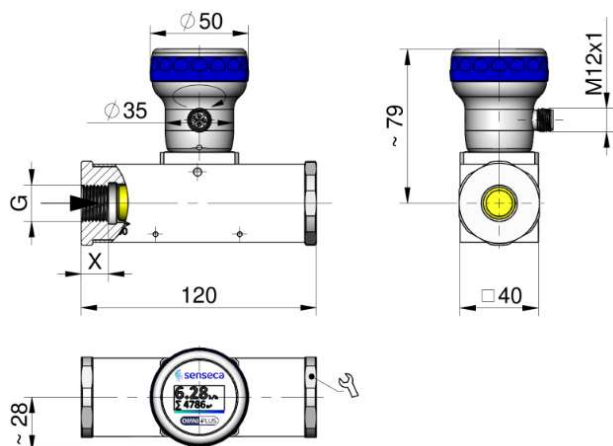
## OMNIPLUS-HD1

### Ranges and pressure loss

| Range<br>l/min (H <sub>2</sub> O) | Q <sub>max</sub><br>l/min (H <sub>2</sub> O) | Pressure loss<br>bar @ Q <sub>max</sub> |
|-----------------------------------|----------------------------------------------|-----------------------------------------|
| 0.1 ... 1                         | 6                                            | 0.4                                     |
| 0.5 ... 5                         | 10                                           | 0.5                                     |
| 1.0 ... 10                        | 20                                           | 0.6                                     |
| 2.0 ... 20                        | 30                                           | 0.4                                     |
| 3.0 ... 30                        | 40                                           | 0.4                                     |
| 4.0 ... 40                        | 60                                           | 0.8                                     |
| 6.0 ... 60                        | 80                                           | 1.4                                     |
| 20.0 ... 80                       | 100                                          | 1.6                                     |

### Dimensions and weights

|                    | Type<br>OMNIPLUS- | G     | X<br>mm | AF | Weight<br>appr. kg |
|--------------------|-------------------|-------|---------|----|--------------------|
| Brass              | HD1-008GM         | G 1/4 | 15      | 40 | 1.6                |
|                    | HD1-010GM         | G 3/8 |         |    | 1.6                |
|                    | HD1-015GM         | G 1/2 |         |    | 1.5                |
|                    | HD1-020GM         | G 3/4 | 18      |    | 1.5                |
|                    | HD1-025GM         | G 1   |         |    | 1.4                |
| Stainless<br>steel | HD1-008GK         | G 1/4 | 15      | 41 | 1.6                |
|                    | HD1-010GK         | G 3/8 |         |    | 1.6                |
|                    | HD1-015GK         | G 1/2 |         |    | 1.5                |
|                    | HD1-020GK         | G 3/4 | 18      |    | 1.5                |
|                    | HD1-025GK         | G 1   |         |    | 1.4                |



### Order code

1. 2. 3. 4. 5. 6.  
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● = standard ○ = option

|                                 |                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>1. Nominal size</b>          |                                                                                                                 |
| 008                             | ● DN 08                                                                                                         |
| 010                             | ● DN 10                                                                                                         |
| 015                             | ● DN 15                                                                                                         |
| 020                             | ● DN 20                                                                                                         |
| 025                             | ● DN 25                                                                                                         |
| <b>2. Mechanical connection</b> |                                                                                                                 |
| G                               | ● Female thread                                                                                                 |
| <b>3. Housing material</b>      |                                                                                                                 |
| M                               | ● Brass                                                                                                         |
| K                               | ● Stainless steel                                                                                               |
| <b>4. Measurement range</b>     |                                                                                                                 |
| 001                             | ● 0.1 ... 1 l/min                                                                                               |
| 005                             | ● 0.5 ... 5 l/min                                                                                               |
| 010                             | ● 1.0 ... 10 l/min                                                                                              |
| 020                             | ● 2.0 ... 20 l/min                                                                                              |
| 030                             | ● 3.0 ... 30 l/min                                                                                              |
| 040                             | ● 4.0 ... 40 l/min                                                                                              |
| 060                             | ● 6.0 ... 60 l/min                                                                                              |
| 080                             | ● 8.0 ... 80 l/min                                                                                              |
| <b>5. Option 1</b>              |                                                                                                                 |
| H                               | ○ Extended temperature range 150 °C (with spacers)                                                              |
| <b>6. Option 2</b>              |                                                                                                                 |
| T                               | ○ Electronics fully potted, for increased climatic stress (high humidity and/or strongly changing temperatures) |

### Accessories

Cable with circular connector M12x1 / 5pole (not included)