



## HYG. ACCESSORIES Technical Datasheet

Process connections for sensors, configuration tool and evaluation modules for

- level measurement sensors and continuous level measurement
- temperature and pressure sensors
- conductivity measurement

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## 1.1 Hygienic process connections and level evaluation modules

The **hygienic process connections** are adapters used to install the various level, temperature, pressure and conductivity sensors in the pipeline or tank. Adapters must be selected according to the connection thread of the measuring device (½" or 1").

The speciality about this sealing system is that the measuring device and the adapter are actually put together without a seal, making any maintenance completely unnecessary. All this in a hygienic version, free of dead space and even EHEDG certified.

A marking indicates the final position of the cable gland or connector once the device has been installed.

The **evaluation module** is required to monitor conductive level sensors (2 or more rods). Relay sensitivity can be adjusted on the front side of the module. LEDs indicate the switching status of the relays. Each module can operate two levels / outputs.



- ① HTC 240
- ② HVF 250
- ③ HWN 500
- ④ LEM 300

### Industries

- Food & Beverage
- Pharmaceuticals
- Cosmetics

### Typical applications



- Level measurement of mustard
- Level measurement of ketchup
- Level measurement of cream
- Level measurement of toothpaste

## 1.2 Options and variants

### 1.2.1 Process connections

|   | Type    | Internal thread | Process connection [mm / inch] | Installation type | Description   |
|---|---------|-----------------|--------------------------------|-------------------|---|
|    | HTC 240 | G½              | 50.5 / 2                       | Clamp             | 1½" Tri Clamp; DN25/40 DIN 32676; 25/38 mm ISO 2852; incl. EPDM seal        |
|   | HTC 250 | G½              | 64 / 2.5                       | Clamp             | 2" Tri Clamp; DN50 DIN 32676; 51 mm ISO 2852; incl. EPDM seal               |
|    | HTC 540 | G1              | 50.5 / 2                       | Clamp             | 1½" Tri Clamp; DN25/40 DIN 32676; 25/38 mm ISO 2852; incl. EPDM seal        |
|   | HTC 550 | G1              | 64 / 2.5                       | Clamp             | 2" Tri Clamp; DN50 DIN 32676; 51 mm ISO 2852; incl. EPDM seal               |
|    | HVF 250 | G½              | 84 / 3.3                       | Varivent system   | GEA Tuchenhausen Varivent, Type N; incl. o-ring; DN (DIN): 40/50            |
|   | HVF 550 | G1              | 84 / 3.3                       | Varivent system   | GEA Tuchenhausen Varivent, Type N; incl. o-ring; DN (DIN): 40/50            |
|  | HMT 225 | G½              | 44 / 1.7                       | Dairy pipe socket | DIN 11851 conical nozzle, incl. rotating union nut and gasket; DN (DIN): 25 |
|   | HMT 250 | G½              | 68 / 2.7                       | Dairy pipe socket | DIN 11851 conical nozzle, incl. rotating union nut and gasket; DN (DIN): 50 |
|  | HMT 540 | G1              | 56 / 2.2                       | Dairy pipe socket | DIN 11851 conical nozzle, incl. rotating union nut and gasket; DN (DIN): 40 |
|   | HMT 550 | G1              | 68 / 2.7                       | Dairy pipe socket | DIN 11851 conical nozzle, incl. rotating union nut and gasket; DN (DIN): 50 |
|  | HGA 200 | G½              | G1                             | screw             | Hygienic adapter, external thread   |
|  | HSM 251 | G½              | 65 / 2.6                       | screw             | Hygienic adapter SMS 1145 / 51; incl. union nut                             |
|  | HSM 551 | G1              | 65 / 2.6                       | screw             | Hygienic adapter SMS 1145 / 51; incl. union nut                             |

|   | Type    | Internal thread | Process connection [mm / inch] | Installation type | Description   |
|---|---------|-----------------|--------------------------------|-------------------|---|
|    | HWN 200 | G½              | 30 / 1.2                       | weld              | Hygienic weld-in sleeve                                   |
|    | HWN 210 | G½              | 30 / 1.2 / 45 / 1.8            | weld              | Hygienic collared weld-in sleeve                          |
|   | HWN 220 | G½              | 29 / 1.1                       | weld              | Hygienic weld-in sleeve with shoulder for pipes DN25...50 |
|  | HWN 250 | G½              | Ø35 / 1.4                      | weld              | Hygienic spherical weld-in sleeve                         |
|  | HWN 500 | G1              | 50.5 / 2                       | weld              | Hygienic weld-in sleeve                                   |
|  | NWN 200 | G½              | -                              | weld              | Non-hygienic weld-in sleeve (for OPTISWITCH 6600)         |

|   | Type    | Internal thread | Process connection [mm / inch] | Installation type  | Description                        |
|---|---------|-----------------|--------------------------------|--------------------|------------------------------------|
|  | HST 200 | -               | G½                             | Cap for G½ sleeves | Hygienic Allen screw blanking plug |
|  | HST 500 | -               | G1                             | Cap for G1 sleeves | Hygienic Allen screw blanking plug |

### 1.2.2 Configuration tool



The configuration tool connects the level switches OPTISWITCH 6500 / 6600 and the conductivity measuring system OPTISYS IND 8100 to a computer.

With the appropriate software, serial numbers and date of manufacture can be read out. The hysteresis or damping for the switching point can also be set.

### 1.2.3 LEM 300



- Two galvanically separated circuits
- Setting the sensitivity on the front
- LEDs display the connected relay

## 2.1 Technical data for LEM 300 evaluation module

- The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.
- Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Download Center).

### Measuring system

|              |                      |
|--------------|----------------------|
| Installation | DIN rail (DIN 46277) |
|--------------|----------------------|

### Operating conditions

|                       |                           |
|-----------------------|---------------------------|
| Storage temperature   | -20...+85°C / -4...+185°F |
| Operating temperature | -20...+50°C / -4...+122°F |
| Relative humidity     | < 85%, non-condensing     |
| Protection category   | Housing: IP20             |

### Electrical connection

|                             |   |
|-----------------------------|---|
| <b>Input</b>                |   |
| Range                       | 7...100 kOhm (adjustable)               |
| Probe power supply          | 24 VAC                                  |
| Probe current               | 4 mA                                    |
| <b>Power supply</b>         |   |
| Voltage                     | 230 VAC (+10/-15%)                      |
| Frequency                   | 50/60 Hz                                |
| Power consumption           | 15 mA                                   |
| <b>Output relay</b>         |   |
| Operating voltage           | 250...440 VAC                           |
| Resistive load              | AC: 250 V / 10 A                        |
|                             | DC: 200 V / 0.4 A                       |
|                             | DC: 24 V / 10 A                         |
| Inductive load              | AC: 250 V / 5 A                         |
|                             | DC: 24 V / 5 A                          |
| Mechanical switching cycles | > 30 x 10 <sup>6</sup> switching cycles |

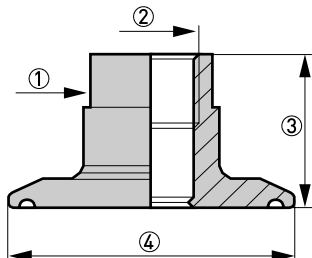
### Approvals

|                  |                            |
|------------------|----------------------------|
| General standard | EN 61000-6-3; EN 61000-6-2 |
| LVD standard     | EN 61010-1; EN 60204-1     |

## 2.2 Dimensions

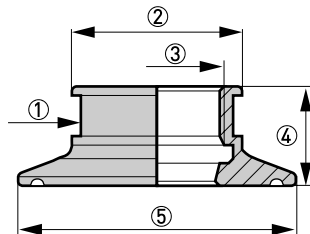
### 2.2.1 Process connections

HTC 240 / HTC 250



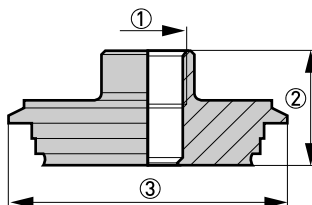
- ① WS27
- ② G $\frac{1}{2}$
- ③ 34 mm / 1.3"
- ④ HTC 240:  $\varnothing 50.5$  mm /  $\varnothing 2$ ";  
HTC 250:  $\varnothing 64$  mm /  $\varnothing 2.5$ "

HTC 540 / HTC 550



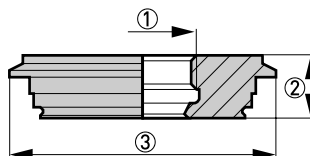
- ① WS36
- ②  $\varnothing 40$  mm
- ③ G1"
- ④ 23 mm / 0.9"
- ⑤ HTC 340:  $\varnothing 50.5$  mm /  $\varnothing 2$ ";  
HTC 350:  $\varnothing 64$  mm /  $\varnothing 2.5$ "

HVF 250



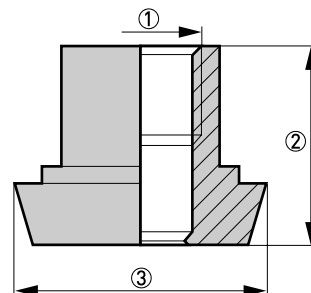
- ① G $\frac{1}{2}$
- ② 34 mm / 1.3"
- ③  $\varnothing 84$  mm /  $\varnothing 3.3$ "

HVF 550



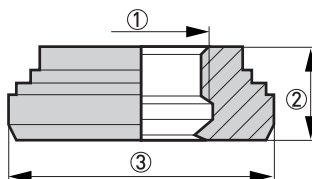
- ① G1
- ② 19 mm / 0.7"
- ③  $\varnothing 84$  mm /  $\varnothing 3.3$ "

HMT 225 - HMT 250



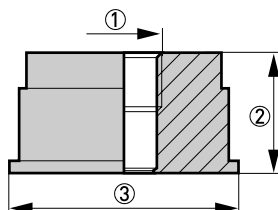
- ① G $\frac{1}{2}$
- ② 34 mm / 1.3"
- ③ See table in "Variants" chapter.

HMT 540 - HMT 550



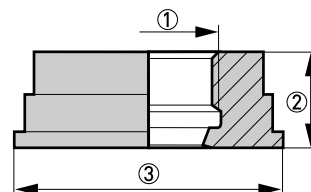
- ① G1
- ② 23 mm / 0.9"
- ③ See table in "Variants" chapter.

HSM 251



- ① G $\frac{1}{2}$
- ② 34 mm / 1.3"
- ③ 65 mm / 2.6"

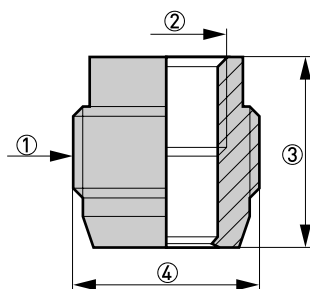
HSM 551



- ① G1
- ② 18 mm / 0.7"
- ③ 65 mm / 2.6"

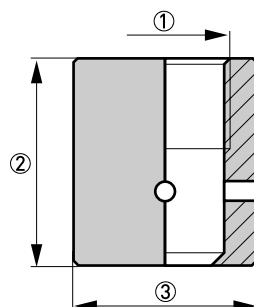


HGA 200



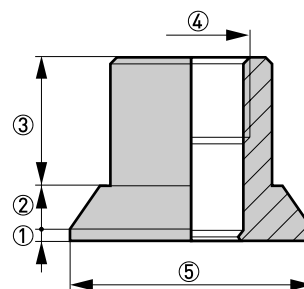
- ① G1
- ② G½
- ③ 34 mm / 1.3"
- ④ Ø29.5 mm / Ø1.2"

HWN 200



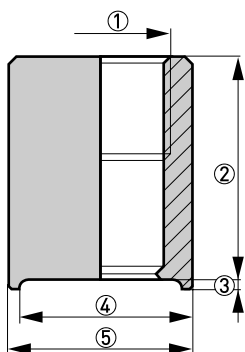
- ① 34 mm / 1.3"
- ② G½
- ③ Ø30 mm / Ø1.2"

HWN 210



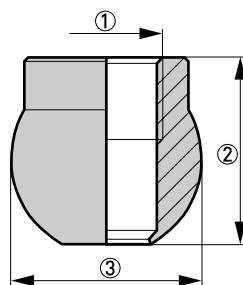
- ① 2 mm / 0.08"
- ② 8 mm / 0.3"
- ③ 24 mm / 1"
- ④ G½
- ⑤ Ø45 mm / Ø1.8"

HWN 220



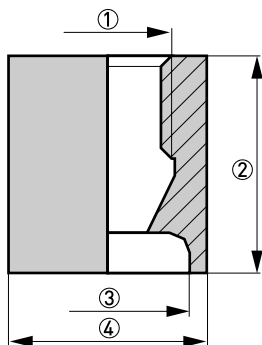
- ① G½
- ② 34 mm / 1.3"
- ③ 1.5 mm / 0.06"
- ④ Ø25 mm / Ø1"
- ⑤ 29 mm / 1.1"

HWN 250



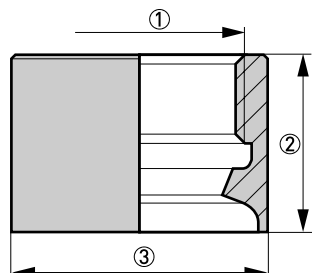
- ① G½
- ② 34 mm / 1.3"
- ③ KØ35 mm / KØ1.2"

HWN 320



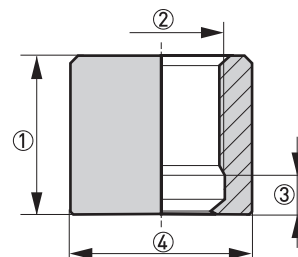
- ① M12
- ② 21 mm / 0.8"
- ③ Ø16 mm / Ø0.6"
- ④ 19 mm / 0.7"

HWN 500



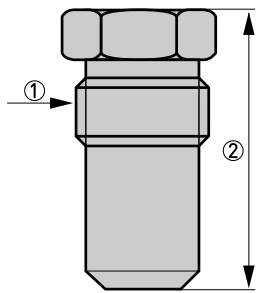
- ① G1
- ② 23 mm / 0.9"
- ③ Ø50 mm / Ø2"

NWN 200



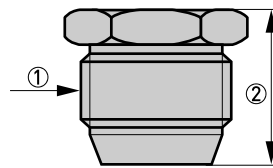
- ① 26 mm / 1"
- ② G½
- ③ 6.5 mm / 0.26"
- ④ Ø30 mm / Ø1.2"

HST 200



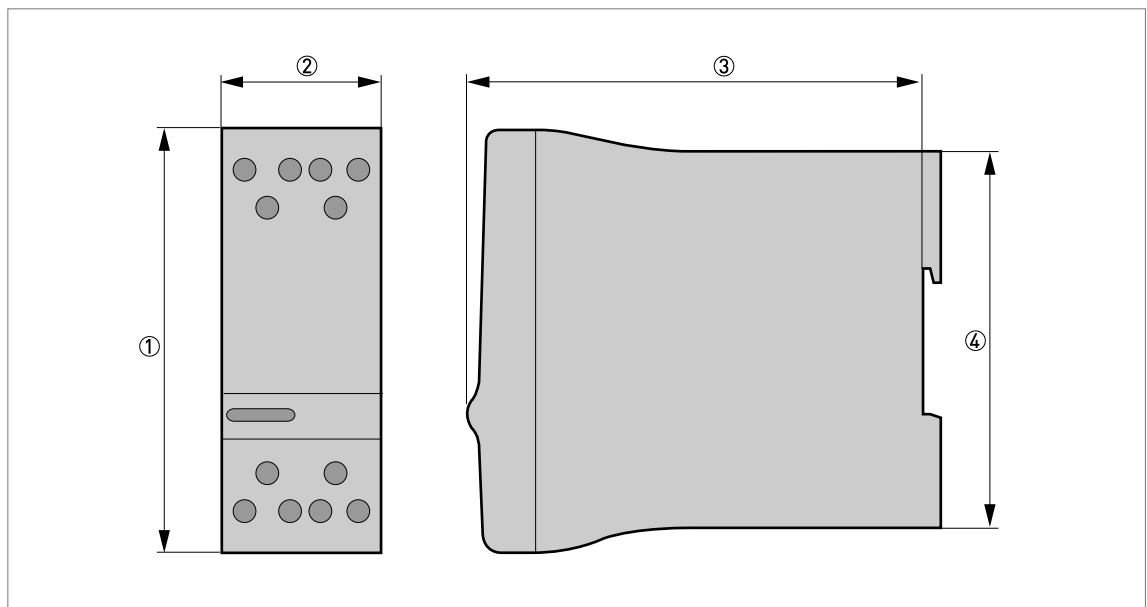
- ① G½
- ② 45 mm / 1.8"

HST 500



- ① G1
- ② 35 mm / 1.4"

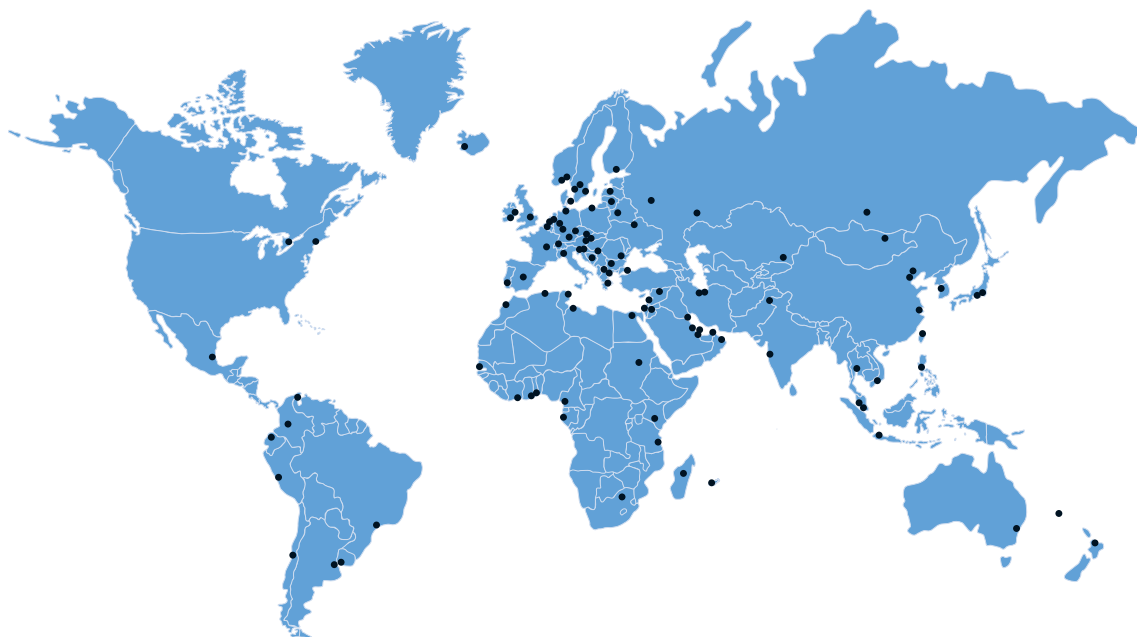
## 2.2.2 LEM 300



- ① 91.5 mm / 3.6"
- ② 35 mm / 1.4"
- ③ 98 mm / 3.9"
- ④ 81 mm / 3.2"

## 3.1 Order code

|      |   |                         |   |         |            |
|------|---|-------------------------|---|---------|------------|
| VGP7 | 4 |                         |   |         |            |
|      |   | Process connection G½ h |   |         |            |
|      |   | 0                       | Without   |         |            |
|      |   | 1                       | Weld-in sleeve HWN 200  |         |            |
|      |   | 2                       | Collared weld-in sleeve HWN 210                                     |         |            |
|      |   | 3                       | Weld-in sleeve with shoulder HWN 220                                |         |            |
|      |   | 4                       | Thread adapter G1 HGA 200   |         |            |
|      |   | 7                       | Spherical weld-in sleeve HWN 250                                    |         |            |
|      |   | 8                       | DIN 11851 conical nozzle DN50 HMM 250                               |         |            |
|      |   | A                       | DIN 11851 conical nozzle incl. rotating nut and gasket DN25 HMT 225 |         |            |
|      |   | B                       | DIN 11851 conical nozzle incl. rotating nut and gasket DN50 HMT 250 |         |            |
|      |   | C                       | Varivent flange type N HVF 250                                      |         |            |
|      |   | D                       | 2" Tri Clamp, DN50 DIN 32676, ISO 51/40 mm, HTC 250                 |         |            |
|      |   | V                       | 1½" Tri Clamp, DN25/40 DIN 32676, ISO 25/33 7/38 mm HTC 240         |         |            |
|      |   | W                       | SMS adapter 51 mm HSM 251   |         |            |
|      |   | X                       | Weld-in sleeve non-hygienic NWN 200 (only for OPTISWITCH 6600)      |         |            |
|      |   | Z                       | Allen screw blanking plug HST 200                                   |         |            |
|      |   |                         | Process connection G1 h   |         |            |
|      |   |                         | 0   | Without |            |
|      | 1 |                         | Weld-in sleeve HWN 500  |         |            |
|      | 8 |                         | DIN 11851 conical nozzle DN50 HMM 550                               |         |            |
|      | B |                         | DIN 11851 conical nozzle incl. rotating nut and gasket DN50 HMT 550 |         |            |
|      | C |                         | Varivent flange type N HVF 550                                      |         |            |
|      | D |                         | 2" Tri Clamp, DN50 DIN 32676, ISO 51/40 mm, HTC 550                 |         |            |
|      | U |                         | DIN 11851 conical nozzle incl. rotating nut and gasket DN40 HMT 540 |         |            |
|      | V |                         | 1½" Tri Clamp, DN25/40 DIN 32676, ISO 25/33 7/38 mm, HTC 540        |         |            |
|      | W |                         | SMS adapter 51 mm HSM 551   |         |            |
|      | Z |                         | Allen screw blanking plug HST 500                                   |         |            |
|      |   |                         | Surfaces  |         |            |
|      |   | 0                       | Standard  |         |            |
|      |   | 1                       | Electro-polished inside   |         |            |
| VGP7 | 4 | 0                       | 0   | 0       | Order code |



### KROHNE product overview

- Electromagnetic flowmeters
- Variable area flowmeters
- Ultrasonic flowmeters
- Mass flowmeters
- Vortex flowmeters
- Flow controllers
- Level meters
- Temperature assemblies
- Pressure transmitters
- Analysis products
- Products and systems for the oil & gas industry
- Measuring systems for the marine industry

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