

**Produktinformation**

# Flow Transmitter / Switch OMNI-FIN



- For foodstuffs use
- Analog output 0/4..20 mA or 0/2..10 V
- Two programmable switches (push-pull)
- Graphical LCD display, backlit (transreflective), can be read in sunlight and in the dark
- Programmable parameters via rotatable, removable ring (programming protection)
- Full metal housing with non-scratch, chemically resistant glass
- Physical unit in the display (selectable)
- Rotatable electronic head for best reading position
- Connection to USB interface for setting parameters

## Characteristics

The OMNI-FIN calorimetric sensor measures small fluid flows, and has been designed specially for use in the foodstuffs industry (for the measurement principle, see also "General description: calorimetric sensors").

The integrated transducer has a backlit graphics LCD display which is very easy to read both in the dark and in bright sunlight. The graphics display allows the presentation of measured values and parameters in a clearly understandable form. The measured values are displayed to 4 places, together with their physical unit, which may also be modified by the user. The electronics have an analog output (4..20 mA or 0..10 V) and two switching outputs, which can be used as limit switches for monitoring minimal or maximal, or as two-point controllers. The switching outputs are designed as push-pull drivers, and can therefore be used both as PNP and NPN outputs. Exceeding limit values is signalled by a red LED which is visible over a long distance, and by a cleartext in the display. The stainless steel case has a hardened non-scratch mineral glass pane. It is operated by a programming ring fitted with a magnet, so there is no need to open the operating controls housing, and its leakproofness is permanently ensured.

By turning the ring to right or left, it is simple to modify the parameters (e.g. switching point, hysteresis...). To protect from unintended programming, it can be removed, turned through 180 ° and replaced, or completely removed, thus acting as a key.



### OPTION C:

Preset Counter with external reset option, complementary switching outputs and actual value display.

### OPTION C1:


Instantaneous value display with analogue output, pulse-volume output and totalizer

## Technical data

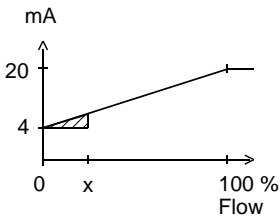
<b>Sensor</b>	calorimetric measurement principle	
<b>Nominal widths</b>	DN 6..10	
<b>Process connection</b>	smooth tube for crimp connector or hose connection	
<b>Metering ranges (for water)</b>	6 mm tube	(0.001) 0.01..2 l/min
	8 mm tube	0.025..5 l/min
	10 mm tube	0.05..10 l/min
	Special ranges available on request	
<b>Measurement accuracy</b>	±3 % of the measured value (H <sub>2</sub> O dist.)	
<b>Repeatability</b>	±1 % of the measured value (H <sub>2</sub> O dist.)	
<b>Temperature gradient</b>	4 K/s	
<b>Start-up time</b>	10 sec. after application of operating voltage	
<b>Response time</b>	in water (25 °C) at average Flow speed of approx. 1-2 sec.	
<b>Pressure resistance</b>	PN 10 bar	
<b>Media temperature</b>	0..+100 °C Optionally with spacer: 130 °C, 45 minutes max.	
<b>Ambient temperature</b>	-20..+70 °C	
<b>Storage temperature</b>	-20..+80 °C	
<b>Supply voltage</b>	24 V DC ±10 %	
<b>Analog output</b>	0/4..20 mA or 0/2..10 V	
<b>Power consumption</b>	< 1 W	
<b>Switching outputs</b>	transistor output "push-pull", compatible with PNP and NPN, (resistant to short circuits, and reversal polarity protected) I <sub>out</sub> = 100 mA max.	
<b>Hysteresis</b>	adjustable, position of the hysteresis depends on minimum or maximum switching value	
<b>Display</b>	backlit graphical LCD-Display (transreflective), extended temperature range -20..+70 °C, 32 x 16 pixels, background illumination, displays value and unit, flashing LED signal lamp with simultaneous message on the display.	
<b>Ingress protection</b>	IP 67	
<b>Electrical connection</b>	for round plug connector M12x1, 5-pole	
<b>Materials medium-contact</b>	stainless steel 1.4571	
<b>Non-medium-contact materials</b>	Housing:	stainless steel 1.4305
	Glass:	mineral glass, hardened
	Magnet:	samarium-Cobalt
	Ring:	POM
<b>Weight</b>	approx. 0.25 kg	
<b>Conformity</b>	CE	

**Produktinformation**

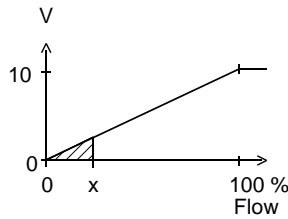
**Signal output curves**

Value x = Begin of the specified range  
 = not specified range

Current output

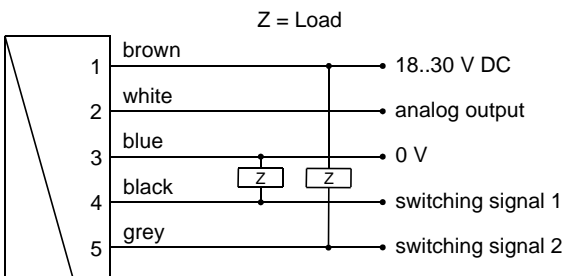


Voltage output

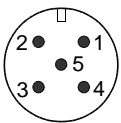


Other characters on request.

**Wiring**



Connection example: PNP NPN

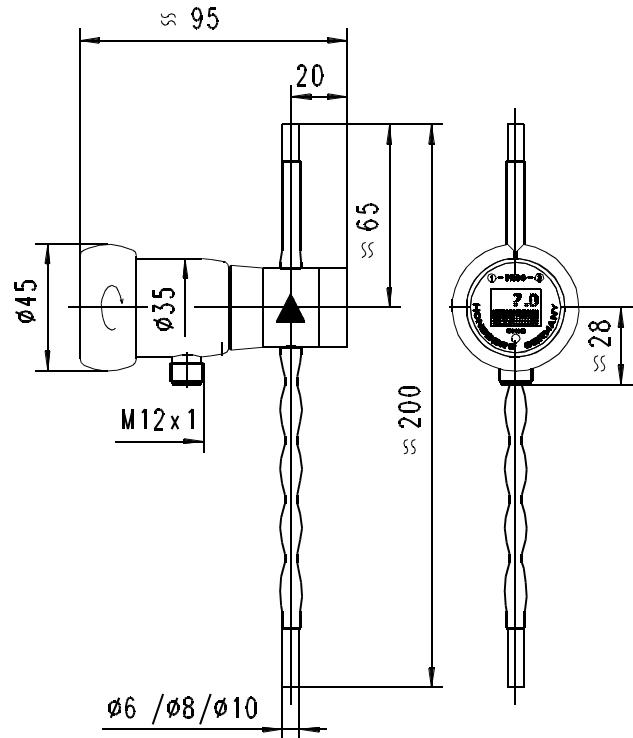


connector M12x1

See separate wiring at C and C1 option in the separate descriptions.

Before the electrical installation, it must be ensured that the supply voltage corresponds to the data sheet.  
 The use of shielded cabling is recommended.

**Dimensions**



A spacer between the electronics head and the medium-contact measurement tube provides thermal decoupling between the two units. The media temperature may be raised for 45 min. to 130 °C.

**Handling and operation**

**Installation**

In order to ensure the sensor's maximum insensitivity to interference, the flow should run from bottom to top (best degassing even at the slowest flow speed). Standard crimp connectors, hoses with crush protection, or the crimp connectors provided by HONSBERG can be used for the connection.

The insulation hoses provide the best possible insulation from the environment, and should therefore not be removed.

It must be ensured that the calming section with the static mixer is not kinked.

**Programming**

The annular gap of the programming ring can be turned to positions 1 and 2. The following actions are possible:



Set to 1 = continue (STEP)  
 Set to 2 = modify (PROG)

Neutral position between 1 and 2

The ring can be removed to act as a key, or turned through 180 ° and replaced to create a programming protector.



## Produktinformation

### Options

**Counter C** (hardware and software option):

Preset Counter with external reset option, complementary switching outputs and actual value display (modified wiring diagram!)

**Counter C1** (software option):

Instantaneous value display with analogue output, pulse-volume output and totalizer

### Accessories

- ECI-1 device configurator (USB programming adapter)
- Process adapter
- Cable/round plug connector (KB...)  
see additional information "Accessories"