



- \* flow indicator without moving parts
- \* very fast reaction times for a calorimetric system
- \* medium in contact with only one material
- \* analogue output, frequency output, switching outputs
- \* clear, easily readable, backlit LCD display
- \* changeable units in the display
- \* designed for industrial applications
- \* small and compact
- \* most simple installation

**PRINCIPLE**

The calorimetric sensor measures the flow velocity in liquids and gases (see also the general description for calorimetric sensors 10.1.EF.)

You select the start and end values of your flow to be displayed based experience of the flow velocities. Between these values the 4(0)..20mA output is active and you can set the switching limits in this range (also between 0...100%).

In the display a bar indicator, which also shows the value in %, appears for the active range.

The measurement is supported in temperature compensation and in signal processing (linearisation, filtering) by the use of a microcontroller.

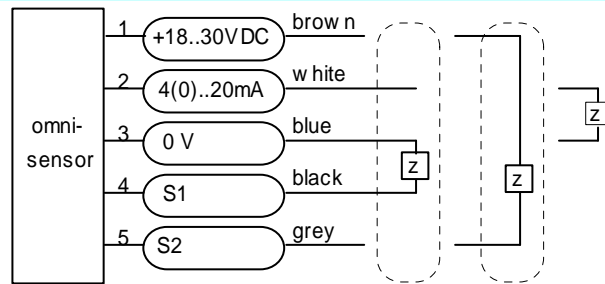
Please take into account though that a probe measurement system does not always give very high accuracy! Here, a point measurement is taken as representing the complete flow cross-section in a pipe! Please take all additional data from the omni-sensor-family 51.1.omni and data sheet 51.1.omni2. Sensor Range for all the other characteristics.

**TECHNICAL DATA**

<b>measurement range</b>	water <b>20-50 cm/s</b> (1-150) oil (on request) standard values shown bold
<b>accuracy</b>	±10% of final value, tested with 10xD for approach & exit distances with rising pipe (water medium)
<b>reproducibility</b>	±1%
<b>operating pressure</b>	200 bar (bursting pressure = operating pressure x 1.5)
<b>dynamic response</b>	in water (25°) at medium flow speed about 1-2 s.
<b>operating temperature</b>	15..70°C (other temperature on request)
<b>storage temperature</b>	-20..80°C
<b>supply voltage</b>	18..30 VDC
<b>power consumption</b>	<1 W

<b>signal output</b>	4(0)..20mA, 2(0)..10V across 500 Ohm resistor to 0V.	
<b>switching values S1 and S2</b>	PNP or NPN selectable, 300mA load in sum max., programmable as min. or max. value, short-circuit proof, reverse-polarity proof	
<b>hysteresis</b>	adjustable, position of hysteresis depends on min or max.	
<b>display</b>	graphical LCD display extended temperature range -20..70°C, 32x16 pixels, back-lit, shows value and units, LED signalling lamp with simultaneous message in display.	
<b>connection</b>	at locking plug M 12x1, 5-pole	
<b>protection class</b>	IP67	
<b>material</b>	stainless steel 1.4571	
<b>medium contact</b>		
<b>materials electronic housing</b>	housing	stainless steel 1.4305
	glass	tempered mineral glass
	magnet	cobalt samarium
	ring	POM

**TERMINAL ASSIGNMENT**

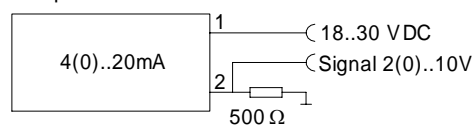


example: **PNP** or **NPN**  
Z = load

The switchpoints are changing to PNP or NPN depending to your interface automatically.

Signal output with 2(0)..10V

Sample:

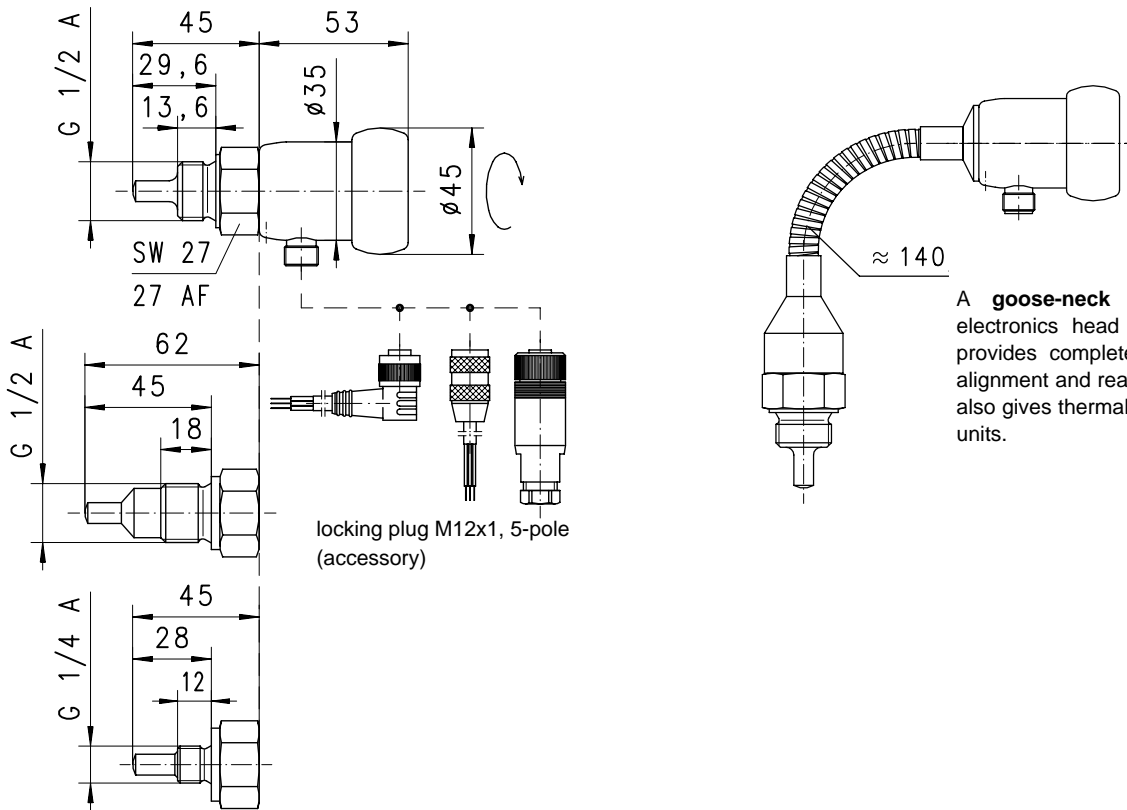


**MOUNTING**

Seal the sensor with Teflon tape such that the stamped cross is on the upstream side. This is the setting used for the measurement at the works and which ensures the best results.

Only turn the sensor using the hexagon. Once sealed, you have the opportunity to align the sensor head to the best reading position by turning it.

**DIMENSIONS**



A **goose-neck** (optional) between the electronics head and the primary sensor provides complete freedom in the sensor alignment and reading direction. This option also gives thermal decoupling between both units.

**NOMENCLATURE**

omni-F	015	H	K	029	S	basic type specification
	008					○ connection G1/4A
	015					● connection G1/2A
		H				● screw-in thread
			K			● stainless steel 1.4571
				029		● probe length 29.6mm
				028		○ probe length 28mm
				045		○ probe length 45mm
					S	● connection for locking plug M12x1 , 5-pole
					H	○ goose-neck

**INFORMATION**

flow sensor without display please see product information 10.2.EFKS.

**ACCESSORY**

**Locking plug M12x1**

K5	PU-	02	S	G	basic type specification
K5					● ready-made cable 5-pole
KB05					● self makable cable 5-pole
	PU-				● material PUR
		02			● length 2 m
		05			● length 5 m
		10			● length 10 m
			S		● moulded-on plug
				G	● straight plug
				W	● angled plug 90°



All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗not recommendable