

Product Information

OMNIPLUS-F

Thermal flow sensor OMNIPLUS-F



IO-Link

- Flow transmitter for water and other liquids with integrated temperature measurement
- Fast response time
- Integrated volume meter with preset
- Measuring method without moving parts, no wear
- Stainless steel material coming into contact with medium
- 1 analog output (20 mA / 10 V)
- 2 versatile configurable switching outputs
- IO-Link interface
- High-resolution graphic LCD
- Parameters programmable with multifunction ring
- Waterproof all-metal housing (IP67)
- Mineral glass front, scratch-proof and chemically resistant

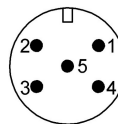
Technical data

Measuring principle	calorimetric / thermal	
Measurement media	Liquids Media configurable on the device	
Measuring range	Flow: 0,02...3 m/s Temperature: -20...+90 °C (100°C)	
Measurement uncertainty	Flow: $\pm(7\% \text{ measurement value} + 2\% \text{ FS})^1$ Temperature: $\pm 2\text{ °C}$ (at flow speed > 2 cm/s)	
Temperature drift (flow)	$\leq 0,5 \text{ cm}/(\text{s} \cdot \text{K})^1$	
Response time	in water (25 °C) at an average flow speed of approx. 1-2 sec.	
Operating pressure	Connection type	PN
	008, 015	PN100 (PN200 on request)
	013, 018	up to PN100 (depending on T-piece)
	012	up to PN40 (depending on assembly material)
Media temperature	Connection type	
	008 ; 013 ; 015 ; 018	-20°C...+ 90°C
	012	-20°C... 100°C

Ambient temperature	-20...+70 °C	
Storage temperature	-30...+80 °C	
Wetted materials	Stainless steel 1.4571 Fluoro rubber (O-ring for connection type 013)	
Other materials	Housing	Stainless steel 1.4305
	Glass	Mineral glass, hardened
	Magnet	NeFeB
	Ring	POM
Supply voltage	18...30 V DC	
Current consumption	< 130 mA (SIO mode, outputs not under load)	
IO-Link Specification	IO-Link correction	V1.1
	Bit rate	COM2 (38400 Bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A compatible
	Block parameterisation	yes
	Data storage	yes
Analog output	Applicable for flow or temperature output type configurable on the device: Current: 4...20 mA / 0...20 mA Voltage: 0...10 V / 2...10 V / 0...5 V / 1...5 V / 0.5...4.5 V	
Switching outputs	2 Push-pull transistor outputs, parameterisable as NPN o.c. resistant to short circuits and polarity reversal $I_{out} = 100 \text{ mA max. per output}$	
	Configurable on the device as • Limit switch • Frequency output • Pulse output • Signal output for preset counter	
Signal input	Reset input for volume meter (alternative to switch output at Pin 5)	
Display	graphic 1.2 inch LCD (transflective) 128 x 64 pixel white backlight, red backlight on alarm notification	
Electrical connection	Round plug connector M12x1 / 5-pin	
Protection rating²	IP65 / IP67	
Weight	approx. 0.30 kg	
Conformity	CE	

Connection diagram

round plug connector M12 x 1 Pin assignment



- 1 - auxiliary voltage
- 2 - analog output
- 3 - 0 V
- 4 - switch signal 1 and IO Link
- 5 - switch signal 2

¹ Reference conditions: pipe diameter DN25 (DIN 2448), water, vertical installation in the pipe, Sensors tip $\geq 15 \text{ mm}$ from pipe inner diameter, probe alignment to the flow as per 5.1, fully filled pipe without air bubbles, velocity from 10 cm/s to 300 cm/s, inlet zone > 10 DN, outlet zone > 5 DN, 23 °C $\pm 1\text{ °C}$, 2 bar $\pm 1 \text{ bar}$; Accuracy may deviate for other media and installation positions

² Only with M12 circular metric connectors connected

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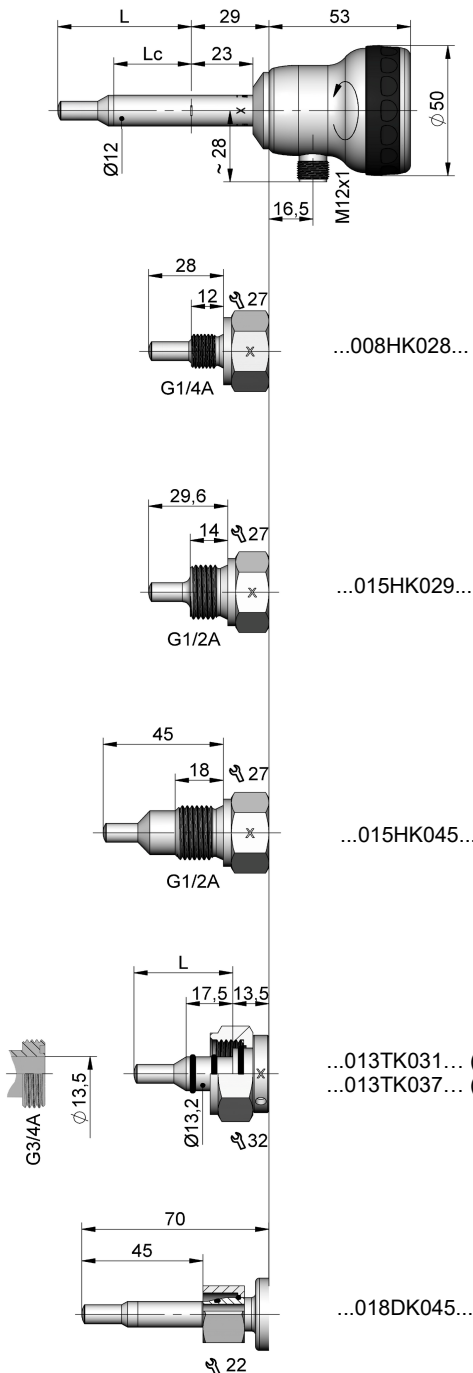
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Dimensions

Ordering Code

OMNIPLUS-F-

...012VK100.. (L = 100 mm)
...012VK150.. (L = 150 mm)



OMNIPLUS-F- 1. 2. -

1. Sensor	
012VK100	Push-in sensor Ø 12, L = 100 mm
012VK150	Push-in sensor Ø 12, L = 150 mm
012VKxxx	Push-in sensor Ø 12, length = xxx on request
008HK028	Thread G ¼ A, L = 28.0 mm
015HK029	Thread G ½ A, L = 29.6 mm
015HK045	Thread G ½ A, L = 45.0 mm
013TK031	System fastening Ø 13.2 for T-piece with connection G ¾ and G ½
013TK037	System fastening Ø 13.2 for T-piece with connection G ¾ G 2
018DK045	Sealing cone 24°, M18 x 1,5, L = 45 mm
2. Oil-filled	
T	Oil-filled version for applications with high air humidity and heavily fluctuating temperatures

Accessories

For sensor with system fastening Ø 13,2 mm	
T-piece, brass or stainless steel	Order code TS-2M/K010...050 DN 10 to DN 50
Alignment tool	Order no. 482656
Welding /soldering socket	Order code SL2-M/ for brass Order code SL2-K for s.s.

For sensor with push in probe with 12 mm outer diameter	
T-piece, brass or stainless steel	Order code TS-3M/K015...050 DN 15 to DN 50
Welding / soldering socket brass / stainless steel	Order code SL-3M/K
Crimping/cutting ring fitting	Order code ADQ-012G015A K - cutting ring fitting s.s. K1- crimping fitting PTFE
Welding adapter für crimping / cutting ring fitting	Order code ADG-015GS026K stainless steel
Compression fitting with welding socket	Order code ADQ-012S021K stainless steel

For all sensor versions	
Connection cable, 5-pole	Order code K05PU-02/05/10... cable length 2 m; 5 m; 10m

Product informations for accessories for download
<https://www.ghm-group.de/produkte/>