

Product information

LABOPLUS-F

Flow and Temperature Transmitter LABOPLUS-F



- Flow transmitter for water and other liquids with integrated temperature measurement
- Short response time
- Measuring method without moving parts, no wear
- Wetted material stainless steel
- Analog output (20 mA / 10 V)
- Versatile configurable switching output
- IO-Link interface
- Waterproof all-metal housing (IP65 / IP67)

Product description

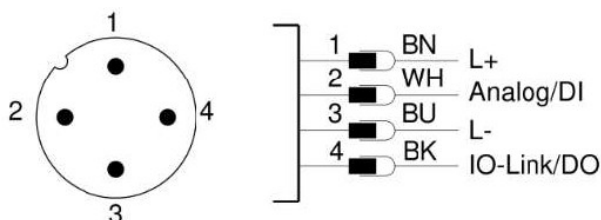
The flow transmitters of the LABOPLUS-F series are thermal flow sensors. A heated temperature sensor in the tip is kept at a certain temperature. The power dissipation needed for that is depending on the speed of the media around and thus a measure for it. In addition, the media temperature is measured.

The integrated electronics have an analog output and a switching output that alternatively can be used as a frequency output. In addition, it has an IO-Link interface, which enables digital communication with the sensor for configuration and to read out measured values.

Both outputs can be freely assigned to flow or temperature measurement using IO-Link.

Connection diagram

Connector M12 x 1 pin assignment



Specifications

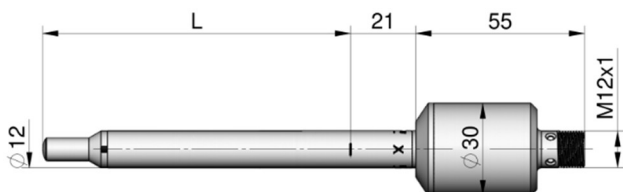
Measuring principle	calorimetric / thermal	
Measurement media	Liquids Media configurable on the device	
Measuring range	Flow: 2 ... 300 cm/s Temperature: -20 ... +120 °C	
Measurement uncertainty	Flow: $\pm(7\% \text{ measurement} + 2\% \text{ FS})$ Temperature: $\pm 2\text{ °C}$ (Flow speed > 2 cm/s)	
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	-20 ... +120 °C	
Ambient temperature	-20 ... +70 °C	
Storage temperature	-30 ... +80 °C	
Wetted materials	Stainless steel 1.4571 Fluororubber (O-ring for connection type 013)	
Supply voltage	18 ... 30 V DC	
Current consumption	< 50 mA (SIO mode, unloaded outputs)	
IO-Link specification	IO-Link revision	V1.1.4
	Bit rate	COM2 (38400 bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A
	Block parameterization	yes
Analog output	Current:	4 ... 20 mA
		0 ... 20 mA
	Voltage:	0 ... 10 V
		2 ... 10 V
		0 ... 5 V
		1 ... 5 V
Switching output	transistor output push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant I _{out} = 100 mA max per output	
	Configurable on the device as	
	• Limit switch	
	• Frequency output	
	• Pulse output	
	• Signal output for preset counter	
Electr. connection	M12x1 circular connector, 4-pin	
Protection class	IP65 / IP67	
Conformity	CE	

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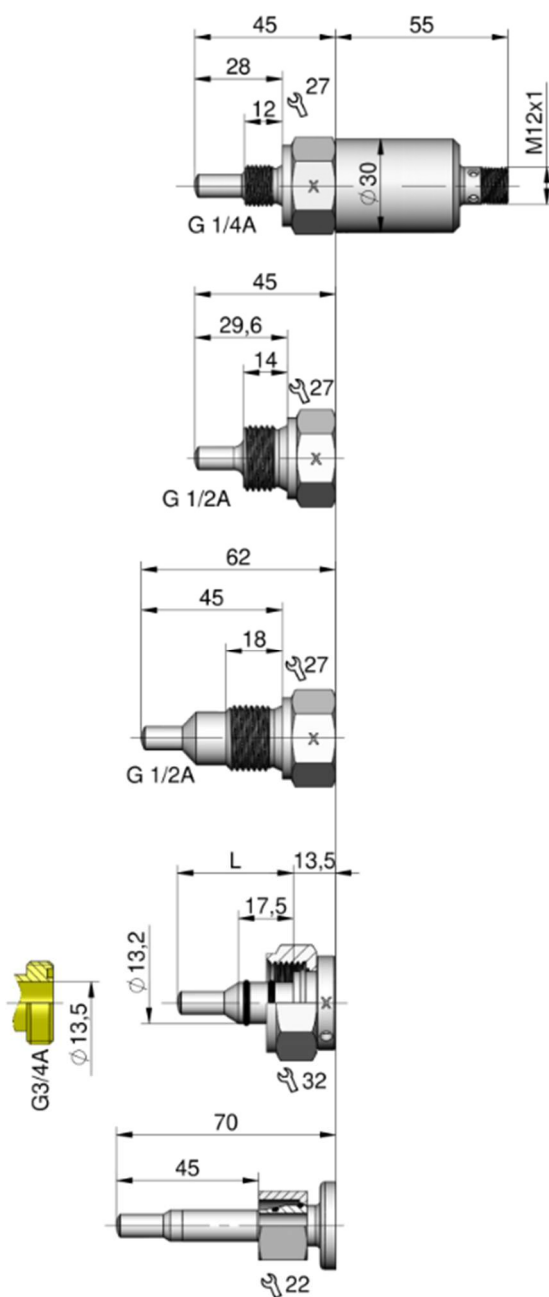
LABOPLUS-F

Dimensions and weights

Push-in sensors



Screw-in sensors



Order code

1.

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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 1/4 A, L = 28.0 mm
	015HK029	Thread G 1/2 A, L = 29.6 mm
	015HK045	Thread G 1/2 A, L = 45.0 mm
	013TK031	System fastening Ø 13.2 for T-piece with connection G 3/8 and G 1/2
	013TK037	System fastening Ø 13.2 for T-piece with connection G 3/4, G 2
	018DK045	Sealing cone 24°, M18 x 1.5, L = 45 mm

Accessories

Cable with circular connector M12x1 / 4-pin (not included)