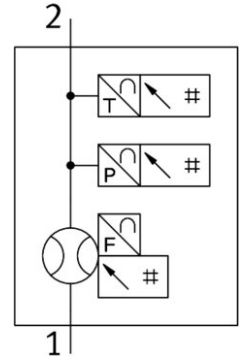


Flow sensor SFAM-90-10000L-M-PNLK-PNVBA-M12

Part number: 8181248

FESTO



 [General operating condition](#)

Data sheet

Feature	Value
Symbol	00997525 00997562
Certification	RCM compliance mark
CE marking (see declaration of conformity)	As per EU EMC directive As per EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions
Note on materials	RoHS-compliant
Measured variable	Pressure Mass flow rate Temperature Volume Volumetric flow rate
Flow direction	Unidirectional From left to right
Measuring principle	Thermal
Method of measurement	Heat transfer
Pressure measuring range initial value	0 MPa
Pressure measuring range initial value	0 bar
Pressure measuring range initial value	0 psi
Pressure measuring range end value	1.6 MPa
Pressure measuring range end value	16 bar
Pressure measuring range end value	232 psi
Flow measuring range start value	100 l/min
Flow measuring range end value	10000 l/min
Temperature measuring range start value	0 °C
Temperature measuring range end value	50 °C
Operating pressure	1.6 MPa
Operating pressure	16 bar
Operating pressure	232 psi
Overload pressure	2 MPa

Feature	Value
Overload pressure	20 bar
Overload pressure	290 psi
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4] Carbon dioxide Nitrogen
Temperature of medium	0 °C ... 50 °C
Ambient temperature	0 °C ... 50 °C
Nominal temperature	23 °C
Accuracy of pressure value in ± %FS	1.5 %FS
Accuracy of flow rate	± (3% o.m.v. + 0.3% FS)
Accuracy of temperature in ± °C	5 °C
Repetition accuracy of pressure value in ± %FS	0.3 %FS
Zero point repetition accuracy in ± %FS	0.2 %FS
Repetition accuracy margin in ± %FS	0.8 %FS
Temperature co-efficient in ± %FS/K	0.05 %FS/K
Temperature co-efficient margin in ± %FS/K	typ. 0. 1%FS/K
Pressure influence of margin in ±%FS/bar	0.5 %FS/b.
Switching output	2 x PNP or 2 x NPN switchable
Switching function	Window comparator or threshold value comparator, adjustable
Switching element function	N/C contact/N/O contact switchable
Max. output current	100 mA
Analog output	0 - 10 V 4 - 20 mA 1 - 5 V
Flow characteristic curve, start value	0 l/min
Flow characteristic curve, end value	10000 l/min
Temperature characteristic curve start value	0 °C
Temperature characteristic curve end value	100 °C
Output characteristic curve initial value	0 V
End value output characteristic curve	10 V
Output characteristic curve initial value	4 mA
End value output characteristic curve	20 mA
Max. load resistance of current output	500 Ohm
Min. load resistance of voltage output	20 kOhm
Short-circuit protection	yes
Overload protection	Available
Protocol	IO-Link®
IO-Link, revision ID	V1.1
IO-Link, device profile	Firmware update Function Locator Function Product URI Function Quantity detection Identification and diagnosis Smart Sensor - SSP 4.1.3
IO-Link, transmission rate	COM3
IO-Link®, SIO mode support	Yes
IO-Link, port type	Class A
IO-Link, process data length output	0 bit
IO-Link, process data length input	96 bit
IO-Link®, process data content IN	Pressure measured value 16 bit MDC Flow rate monitoring 2-bit SSC Flow rate measured value 16-bit MDC Flow rate monitoring 2-bit SSC Temperature measured value 16-bit MDC Temperature monitoring 2-bit SSC Volume / mass pulse 1 bit SSC

Feature	Value
IO-Link®, service data contents IN	Volume / mass measured value 32-bit Pneumatic energy measurement 32 bit Pneumatic power measurement value 32 bit
IO-Link®, minimum cycle time	1.5 ms
IO-Link®, data memory required	1000 byte
DC operating voltage range	18 V ... 30 V
Reverse polarity protection	for all electrical connections
Electrical connection 1, connection type	Plug
Electrical connection 1, connection technology	M12x1 A-coded as per EN 61076-2-101
Electrical connection 1, number of pins/wires	5
Electrical connection 1, type of mounting	Screw-type lock
Electrical connection 1, type of mounting	Compatible with screw lock rotatable
Electrical connection for input 1, connection pattern	00995386
Max. cable length	20 m for IO-Link® operation 30 m
Type of mounting	On service unit
Mounting position	Any
Pneumatic connection	Battery module
Product weight	600 g
Housing material	Die-cast aluminum PA-reinforced
Display type	Illuminated LCD, multi-color
Displayable unit(s)	MPa bar kPa kg kg/min l l/min m3 m3/h psi scfm scft °C °F
Setting options	IO-Link® Teach-in Via display and pushbuttons
Protection against tampering	IO-Link® PIN code
Setting range threshold value	0 % ... 100 %
Setting range hysteresis	0 % ... 90 %
Degree of protection	IP65
Pressure drop	<100 mbar
Protection class	III
Corrosion resistance class (CRC)	2 - Moderate corrosion stress
LABS (PWIS) conformity	VDMA24364-B1/B2-L