

Flow sensors SFE...

Product overview

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- Switch outputs 2x PNP or 2x NPN and analogue output 1 ... 5 V
- Switching function freely programmable
- 3½-character digital display
- Variants suitable for vacuum

Detailed product information

→ www.festo.com/catalogue/sfe

Product range overview – Flow sensors						
Operating pressure [bar]	Flow measuring range [l/min]		Pneumatic connection	Type of mounting	Electrical output	
					Digital	Analogue
Flow sensor SFE3 with integrated digital display						
-0.7 ... +7	0.05 ... 0.5	0.1 ... 1	Female thread G1/8	Via through-hole	2x PNP	1 ... 5 V
	0.5 ... 5	1 ... 10	Push-in fitting for tubing OD 6 mm	With mounting bracket	2x NPN	
	5 ... 50					
Flow transmitter SFET-F, mono-directional						
-0.7 ... +7	0.05 ... 0.5	0.1 ... 1	Female thread G1/8	Via through-hole	2x PNP	1 ... 5 V
	0.5 ... 5	1 ... 10	Push-in fitting for tubing OD 6 mm	With mounting bracket	2x NPN	
	5 ... 50					
Flow transmitter SFET-R, bidirectional						
-0.9 ... +2	-0.05 ... +0.05	-0.1 ... +0.1	Push-in fitting for tubing OD 4 mm	Via through-hole	2x PNP	1 ... 5 V
	-0.5 ... +0.5	-1 ... +1		With mounting bracket	2x NPN	
	-5 ... +5	-10 ... +10				

Product range overview – Flow indicator SFEV for SFET-F and SFET-R						
	Indicating range [l/min]		Electrical connection	Type of mounting	Electrical output	
					Digital	Analogue
For flow transmitter SFET-F	0.05 ... 0.5	0.1 ... 1	Cable	With mounting bracket	2x PNP	1 ... 5 V
	0.5 ... 5	1 ... 10		Front panel mounting	2x NPN	
	5 ... 50					
For flow transmitter SFET-R	-0.05 ... +0.05	-0.1 ... +0.1	Cable	With mounting bracket	2x PNP	1 ... 5 V
	-0.5 ... +0.5	-1 ... +1		Front panel mounting	2x NPN	
	-5 ... +5	-10 ... +10				

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Type codes

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		SFE	3	-	F	100	-	L	-	W	Q6	-	2P	B	-	K1	
Type																	
SFE	Flow sensor																
Design																	
3	With integrated digital display																
T	Flow transmitter																
V	Separate digital display																
Direction of flow																	
F	Mono-directional																
R	Bidirectional																
Flow measuring range [l/min]																	
Mono-directional																	
005	0.05 ... 0.5																
010	0.1 ... 1																
050	0.5 ... 5																
100	1 ... 10																
500	5 ... 50																
Bidirectional																	
0005	-0.05 ... +0.05																
0010	-0.1 ... +0.1																
0050	-0.5 ... +0.5																
0100	-1 ... +1																
0500	-5 ... +5																
1000	-10 ... +10																
Calibration																	
L	Air																
Mounting																	
W	Wall or surface mounting																
Pneumatic connection																	
Q4	Push-in connector QS-4																
Q6	Push-in connector QS-6																
18	Female thread G1/8																
Switch output																	
2P	2x PNP																
2N	2x NPN																
Analogue output																	
B	1 ... 5 V																
D	3 ± 2 V																
Length of the connecting cable																	
K1	1 m																
K3	3 m																

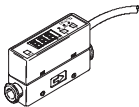
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Technical data – With integrated digital display

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Technical data						
Design						
Flow measuring range	[l/min]	0.05 ... 0.5	0.1 ... 1	0.5 ... 5	1 ... 10	5 ... 50
Pneumatic connection		QS-6				Female thread G1/8
Type of display		3 1/2-character alphanumeric				
Accuracy FS ¹⁾	[%]	8	5			
Electrical data						
Switch output		2x PNP				
		2x NPN				
Analogue output	[V]	1 ... 5				
Switching element function		Switchable				
Switching function		Freely programmable				
Operating voltage range DC	[V]	12 ... 24				
Electrical connection		Cable				
Protection class		IP40				
Operating and environmental conditions						
Operating pressure	[bar]	−0.7 ... +7				
Operating medium		Filtered compressed air, unlubricated, grade of filtration 0.01µm				
Ambient temperature	[°C]	0 ... 50				
CE mark (see declaration of conformity)		In accordance with EU EMC directive				
Certification		C-Tick				
Materials						
Housing		Polyamide				Polyamide, aluminium
Cable sheath		Polyvinyl chloride				

1) % FS = % of measuring range's final value (full scale)

Ordering data							
Variant	Operating pressure [bar]	Analogue output [V]	Flow measuring range [l/min]	Switch output			
				2x PNP		2x NPN	
				Part No.	Type	Part No.	Type
	-0.7 ... +7	1 ... 5	0.05 ... 0.5	538 519	SFE3-F005-L-WQ6-2PB-K1	538 524	SFE3-F005-L-WQ6-2NB-K1
			0.1 ... 1	538 520	SFE3-F010-L-WQ6-2PB-K1	538 525	SFE3-F010-L-WQ6-2NB-K1
			0.5 ... 5	538 521	SFE3-F050-L-WQ6-2PB-K1	538 526	SFE3-F050-L-WQ6-2NB-K1
			1 ... 10	538 522	SFE3-F100-L-WQ6-2PB-K1	538 527	SFE3-F100-L-WQ6-2NB-K1
			5 ... 50	538 523	SFE3-F500-L-W18-2PB-K1	538 528	SFE3-F500-L-W18-2NB-K1

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Technical data – Without digital display

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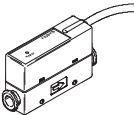
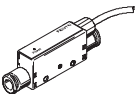
General technical data		
Electrical data		
Analogue output	[V]	1 ... 5
Operating voltage range DC	[V]	12 ... 24
Electrical connection		Cable
Protection class		IP40
Operating and environmental conditions		
Operating medium		Filtered compressed air, unlubricated, grade of filtration 0.01µm
Ambient temperature	[°C]	0 ... 50
Certification		C-Tick

Technical data – Mono-directional						
Flow measuring range	[l/min]	0.05 ... 0.5	0.1 ... 1	0.5 ... 5	1 ... 10	5 ... 50
Pneumatic connection		QS-6				Female thread G1/8
Linearity error FS ¹⁾	[%]	8	5			
Operating pressure	[bar]	-0.7 ... +7				
CE mark (see declaration of conformity)		In accordance with EU EMC directive				
Housing		Polyamide				Polyamide, aluminium
Cable sheath		Polyvinyl chloride				

1) % FS = % of measuring range's final value (full scale)

Technical data – Bidirectional							
Flow measuring range	[l/min]	-0.05 ... +0.05	-0.1 ... +0.1	-0.5 ... +0.5	-1 ... +1	-5 ... +5	-10 ... +10
Pneumatic connection		QS-4					
Linearity error FS ¹⁾	[%]	5					
Operating pressure	[bar]	-0.7 ... +7					
CE mark (see declaration of conformity)		In accordance with EU EMC directive					
Housing		Polyamide					
Cable sheath		Polyvinyl chloride					

1) % FS = % of measuring range's final value (full scale)

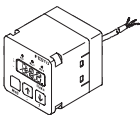
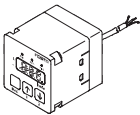
Ordering data					
Variant	Operating pressure [bar]	Analogue output [V]	Flow measuring range [l/min]	Part No.	Type
Mono-directional					
	-0.7 ... +7	1 ... 5	0.05 ... 0.5	538 529	SFET-F005-L-WQ6-B-K1
			0.1 ... 1	538 530	SFET-F010-L-WQ6-B-K1
			0.5 ... 5	538 531	SFET-F050-L-WQ6-B-K1
			1 ... 10	538 532	SFET-F100-L-WQ6-B-K1
			5 ... 50	538 533	SFET-F500-L-W18-B-K1
Bidirectional					
	-0.9 ... +2	3 ± 2	-0.05 ... +0.05	538 534	SFET-R0005-L-WQ4-D-K3
			-0.1 ... +0.1	538 535	SFET-R0010-L-WQ4-D-K3
			-0.5 ... +0.5	538 536	SFET-R0050-L-WQ4-D-K3
			-1 ... +1	538 537	SFET-R0100-L-WQ4-D-K3
			-5 ... +5	538 538	SFET-R0500-L-WQ4-D-K3
			-10 ... +10	538 539	SFET-R1000-L-WQ4-D-K3

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Technical data – Flow indicator

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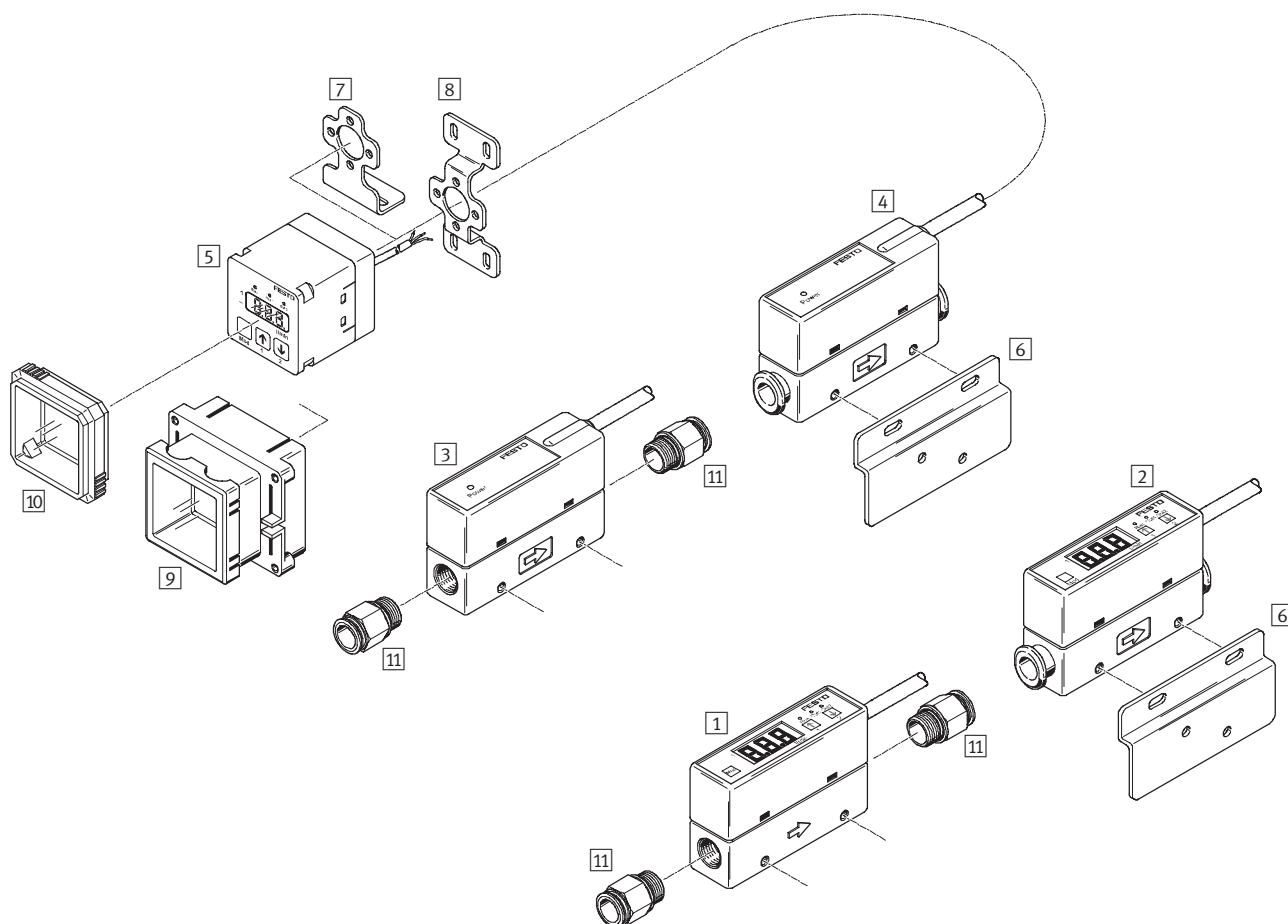
Technical data								
Design								
Indicating range	For SFET-F	[l/min]	0.05 ... 0.5	0.1 ... 1	0.5 ... 5	1 ... 10	5 ... 50	–
	For SFET-R	[l/min]	–0.05 ... +0.05	–0.1 ... +0.1	–0.5 ... +0.5	–1 ... +1	–5 ... +5	–10 ... +10
Type of display			3 1/2-character alphanumeric					
Electrical data								
Switch output			2x PNP					
			2x NPN					
Analogue output		[V]	1 ... 5					
Switching element function			Switchable					
Switching function			Freely programmable					
Operating voltage range DC		[V]	12 ... 24					
Electrical connection			Cable					
Protection class			IP40					
Operating and environmental conditions								
Ambient temperature		[°C]	0 ... 50					
CE mark (see declaration of conformity)			In accordance with EU EMC directive					
Certification			C-Tick					
Materials								
Housing			Polyamide					
Cable sheath			Polyvinyl chloride					

Ordering data						
Variant	Analogue output [V]	Indicating range [l/min]	Switch output			
			2x PNP		2x NPN	
			Part No.	Type	Part No.	Type
For sensors SFET-F with analogue output						
	1 ... 5	0.05 ... 0.5	538 540	SFEV-F005-L-2PB-K1	538 545	SFEV-F005-L-2NB-K1
		0.1 ... 1	538 541	SFEV-F010-L-2PB-K1	538 546	SFEV-F010-L-2NB-K1
		0.5 ... 5	538 542	SFEV-F050-L-2PB-K1	538 547	SFEV-F050-L-2NB-K1
		1 ... 10	538 543	SFEV-F100-L-2PB-K1	538 548	SFEV-F100-L-2NB-K1
		5 ... 50	538 544	SFEV-F500-L-2PB-K1	538 549	SFEV-F500-L-2NB-K1
For sensors SFET-R with analogue output						
	3 ± 2	−0.05 ... +0.05	538 550	SFEV-R0005-L-2PD-K1	538 556	SFEV-R0005-L-2ND-K1
		−0.1 ... +0.1	538 551	SFEV-R0010-L-2PD-K1	538 557	SFEV-R0010-L-2ND-K1
		−0.5 ... +0.5	538 552	SFEV-R0050-L-2PD-K1	538 558	SFEV-R0050-L-2ND-K1
		−1 ... +1	538 553	SFEV-R0100-L-2PD-K1	538 559	SFEV-R0100-L-2ND-K1
		−5 ... +5	538 554	SFEV-R0500-L-2PD-K1	538 560	SFEV-R0500-L-2ND-K1
		−10 ... +10	538 555	SFEV-R1000-L-2PD-K1	538 561	SFEV-R1000-L-2ND-K1

Flow sensors SFE...

Peripherals overview

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Accessories	
1	Flow sensor SFE3-...-W18 with female thread
2	Flow sensor SFE3-...-WQ... with QS push-in connector
3	Flow transmitter SFET-...-W18 with female thread
4	Flow transmitter SFET-...-WQ... with QS push-in connector
5	Digital display SFEV for flow transmitter

Accessories	
6	Mounting bracket SFEZ-BW1
7	Mounting bracket SFEV-BW1
8	Mounting bracket SFEV-WH1
9	Front panel installation kit SFEV-FH1
10	Safety guard SFEV-SH1
11	Push-in fitting QS-1/8

Ordering data – Accessories			
	Description	Part No.	Type
	Mounting bracket	538 562	SFEZ-BW1
		538 563	SFEV-BW1
		538 564	SFEV-WH1
	Front panel installation kit	538 565	SFEV-FH1
	Safety guard	538 566	SFEV-SH1

Ordering data – Push-in fittings			
		Technical data → Internet: quick star	
	For tubing O.D. [mm]	Part No.	Type
	4	186 095	QS-G1/8-4
	6	186 096	QS-G1/8-6
	8	186 098	QS-G1/8-8