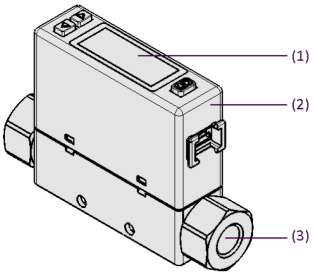
Flow Sensors FS

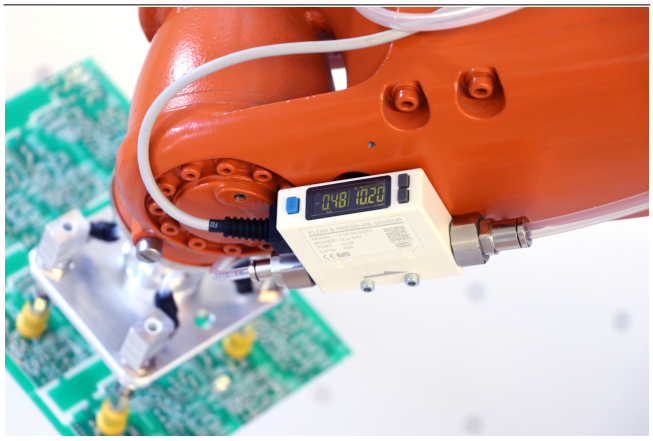
Flow sensor with integrated vacuum and pressure switches as well as two digital and one analog output.

UNIVERSAL

Flow Sensors FS



System design Flow Sensors FS



The flow sensor (FS) in use on the robot when handling electronic parts

Suitability for industry specific applications

Application

- Flow sensor for high-resolution process, component and condition monitoring
- Ideally suited for vacuum and compressed air systems with small hose diameters (e.g. for handling small parts)
- Easy integration into the system control via analog output and two adjustable switching points
- Integrated display for evaluation of the cumulated compressed air consumption (cost monitoring)
- Integrated vacuum sensor and possibility of leakage monitoring for process optimization

Design

- Sensor with compact sensor unit
- Robust and heat-resistant plastic housing
- Bypass structure reduces contact with humid air and increases service life
- 3-color, 2-cell LCD display with intuitive menu structure
- Connection via thread offers flexible connection possibilities

Product highlights

- Adjustability of threshold values enables volume flow based component monitoring
- Compact design allows flexible positioning and mounting e.g. in gripper spiders or on robot arms
- Display with color change when threshold is reached provides additional visual signal

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Designation code Flow Sensors FS

FS	–	5	–	D	–	2PA	–	K
1		2		3		4		5

1 – Abbreviated designation

Code	Version
FS	FS

2 – Measuring range

Code	Flow rate in pressure range [l/min]
5	0…5
10	0…10
50	0…50
100	0…100
200	0…200

3 – Display

Code	Type
D	Digital display

4 – Switching function

Code	Type
2NA	2x NPN + 1x analog 1…5 V
2PA	2x PNP + 1x analog 1…5 V

5 – Connection electrical

Code	Connection
K	Open cable

The product is delivered as a ready to connect component.

A 3 m long cable with open strands is included.

Ordering data Flow Sensors FS

Type	Part no.
FS 5 D 2NA K	10.06.04.00001
FS 5 D 2PA K	10.06.04.00002
FS 10 D 2NA K	10.06.04.00003
FS 10 D 2PA K	10.06.04.00004
FS 50 D 2NA K	10.06.04.00005
FS 50 D 2PA K	10.06.04.00006
FS 100 D 2NA K	10.06.04.00007
FS 100 D 2PA K	10.06.04.00008
FS 200 D 2NA K	10.06.04.00009
FS 200 D 2PA K	10.06.04.00010

Ordering data Accessories Flow Sensors FS

Accessories		Part no.
Mounting bracket	BEF-WIN 33.6x5x40 1	10.06.04.00011

Technical data Flow Sensors FS

Type	Measuring range	Connection	Protection type IP	Weight [g]	Flow rate max. [l/min]	Shape
FS 10 D 2NA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	10	Digital display
FS 10 D 2PA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	10	Digital display
FS 100 D 2NA K	-1...8bar	G1/4"	IP 40 (with plug)	110.5	100	Digital display
FS 100 D 2PA K	-1...8bar	G1/4"	IP 40 (with plug)	110.5	100	Digital display
FS 200 D 2NA K	-1...8bar	G1/4"	IP 40 (with plug)	110.5	100	Digital display
FS 200 D 2PA K	-1...8bar	G1/4"	IP 40 (with plug)	110.5	100	Digital display
FS 5 D 2NA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	5	Digital display
FS 5 D 2PA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	5	Digital display
FS 50 D 2NA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	50	Digital display
FS 50 D 2PA K	-1...8bar	G1/8"	IP 40 (with plug)	107.0	50	Digital display

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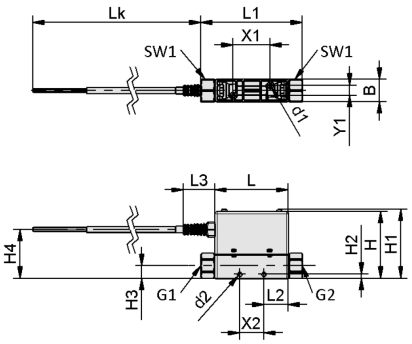

FS

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Type	B [mm]	d1 [mm]	d2 [mm]	G1	G2	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
FS 5 D 2NA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 5 D 2PA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 10 D 2NA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 10 D 2PA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 50 D 2NA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 50 D 2PA K	17	2.5	3.0	G1/8"-F	G1/8"-F	50	52	3	9.5	36.71
FS 100 D 2NA K	17	2.5	3.0	G1/4"-F	G1/4"-F	50	52	3	9.5	36.71
FS 100 D 2PA K	17	2.5	3.0	G1/4"-F	G1/4"-F	50	52	3	9.5	36.71
FS 200 D 2NA K	17	2.5	3.0	G1/4"-F	G1/4"-F	50	52	3	9.5	36.71
FS 200 D 2PA K	17	2.5	3.0	G1/4"-F	G1/4"-F	50	52	3	9.5	36.71

Type	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Lk [mm]	SW1 [mm]	X1 [mm]	X2 [mm]	Y1 [mm]
FS 5 D 2NA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 5 D 2PA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 10 D 2NA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 10 D 2PA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 50 D 2NA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 50 D 2PA K	55	76.2	18.5	18.61	2,000	17	28	18	8
FS 100 D 2NA K	55	84.2	18.5	18.61	2,000	17	28	18	8
FS 100 D 2PA K	55	84.2	18.5	18.61	2,000	17	28	18	8
FS 200 D 2NA K	55	84.2	18.5	18.61	2,000	17	28	18	8
FS 200 D 2PA K	55	84.2	18.5	18.61	2,000	17	28	18	8

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