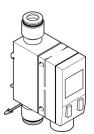
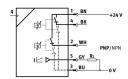
Flow sensor SFAB-1000U-HQ12-2SA-M12-EX2 Part number: 565409

FESTO





Data sheet

General operating condition

Certification RCM compliance mark c UL us - Recognized (OL) CE marking (see declaration of conformity) As per EU ENCH Girective as per EU ENCH Girective as per EU ENCH Girective as per EU explosion protection directive (ATEX) As per EU Reylosion protection of conformity) UKCA marking (see declaration of conformity) To UK instructions for EMC To UK RoH5 instructions Explosion prevention and protection Zone 22 (ATEX) Zone 23 (ATEX) Zone 24 (ATEX) Zone 25 (Feature	Value
C UL us - Recognized (OL) CE marking (see declaration of conformity) As per EU EXIDA (directive as per EU explosion protection directive (ATEX) As per EU ROHS directive AS per EU ROHS directive LWCA marking (see declaration of conformity) LOUK ROHS instructions Explosion prevention and protection Zone 2 (ATEX) Zone 22 (ATEX) ATEX category gas II 3G Type of ignition protection for gas Ex nA IIC T5 X Gc ATEX category for dust II 3D Type of (ignition) protection for dust Ex tc IIIB T80°C X Dc IP54 Explosive ambient temperature O°C (= Ta (= +50°C) Certificate issuing authority UL E322346 Note on materials RoHS-compliant Wolume Volume Volume Volume Volume frow rate Flow direction Unidirectional P1 -> P2 Measuring principle Method of measurement Heat loss Flow measuring range start value 10 1/min Flow measuring range end value Operating pressure Operating pressu	Symbol	00992243
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ATEX category gas II 3G Type of ignition protection for gas ATEX category for dust Type of (ignition) protection for dust Ex nA IIC TS X Gc ATEX category for dust Type of (ignition) protection for dust Ext IIIB T80°C X Dc IP54 Explosive ambient temperature 0°C <= Ta <= +50°C Certificate issuing authority UL E322346 Note on materials RoHS-compliant Measured variable Volume Volume Volume Volume Thermal Measuring principle Thermal Method of measurement Heat loss How measuring range start value 10 I/min Flow measuring range end value 1000 I/min Operating pressure 0 MPa 1 MPa Operating pressure 0 Mpa 1 MPa Operating pressure 0 poparating pressure 0 opsi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 23 °C Accuracy of flow rate Zero point repetition accuracy in ± %FS Repetition accuracy margin in ± %FS 0.8 %FS	UKCA marking (see declaration of conformity)	
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Ext c IIIB T80°C X Dc IP54 Explosive ambient temperature O°C (= Ta <= +50°C Certificate issuing authority UL E322346 Note on materials RoHS-compliant Measured variable Volume Volumetric flow rate Flow direction Unidirectional P1 - P2 Measuring principle Thermal Method of measurement Heat loss Flow measuring range start value 10 l/min Flow measuring range end value Operating pressure Operating pressure Operating pressure Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O °C 50 °C Ambient temperature 23 °C Accuracy of flow rate £xt IIIB T80°C X Dc IP54 Ext CIIIB T80°C X Dc IP54 Ce Ta <= +50°C UL E322346 RoHS-compliant UL E322346 RoHS-compliant Volume Vo	Type of ignition protection for gas	Ex nA IIC T5 X Gc
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Certificate issuing authority Note on materials Measured variable Volume Volumetric flow rate Flow direction Measuring principle Method of measurement Flow measuring range start value Flow measuring range end value Operating pressure Operating pressure Operating pressure Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O ° C 50 ° C Ambient temperature Accuracy of flow rate Zero point repetition accuracy margin in ± %FS Repetition accuracy margin in ± %FS Repetition accuracy margin in ± %FS Notigen Nindinate Volume Volu	Type of (ignition) protection for dust	Ex tc IIIB T80°C X Dc IP54
Note on materials RoHS-compliant Measured variable Volume Volumetric flow rate Flow direction Unidirectional P1 > P2 Measuring principle Thermal Method of measurement Heat loss Flow measuring range start value 10 1/min Flow measuring range end value 1000 1/min Operating pressure 0 MPa 1 MPa Operating pressure 0 psi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Explosive ambient temperature	0°C <= Ta <= +50°C
Measured variable Volume Volumetric flow rate Flow direction Unidirectional P1 → P2 Measuring principle Thermal Method of measurement Heat loss Flow measuring range start value 10 l/min Flow measuring range end value 1000 l/min Operating pressure 0 MPa 1 MPa Operating pressure 0 bar 10 bar Operating pressure 0 psi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Certificate issuing authority	UL E322346
Flow direction Unidirectional P1 → P2 Measuring principle Thermal Method of measurement Heat loss Flow measuring range start value 10 l/min Flow measuring range end value 1000 l/min Operating pressure 0 MPa 1 MPa Operating pressure 0 bar 10 bar Operating pressure 0 psi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Note on materials	RoHS-compliant
Measuring principle Thermal Method of measurement Heat loss Flow measuring range start value 10 l/min Flow measuring range end value 1000 l/min Operating pressure 0 MPa 1 MPa Operating pressure 0 bar 10 bar Operating pressure 0 psi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Measured variable	1
Method of measurementHeat lossFlow measuring range start value10 l/minFlow measuring range end value1000 l/minOperating pressure0 MPa 1 MPaOperating pressure0 bar 10 barOperating pressure0 psi 145 psiOperating mediumCompressed air as per ISO 8573-1:2010 [7:4:4] NitrogenTemperature of medium0 °C 50 °CAmbient temperature0 °C 50 °CNominal temperature23 °CAccuracy of flow rate± (3% o.m.v. + 0.3% FS)Zero point repetition accuracy in ± %FS0.2 %FSRepetition accuracy margin in ± %FS0.8 %FS	Flow direction	
Flow measuring range start value 10 l/min Flow measuring range end value 1000 l/min Operating pressure 0 MPa 1 MPa Operating pressure 0 bar 10 bar Operating pressure 0 psi 145 psi Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.8 %FS	Measuring principle	Thermal
Flow measuring range end value Operating pressure Operating pressure Operating pressure Operating pressure Operating medium Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O°C 50 °C Ambient temperature O°C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS ON MONE ACCURATE ACCUR	Method of measurement	Heat loss
Operating pressure Operating pressure Operating pressure Operating pressure Operating medium Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O°C 50 °C Ambient temperature O°C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS O.2 %FS Repetition accuracy margin in ± %FS O.8 %FS	Flow measuring range start value	10 l/min
Operating pressure Operating pressure Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O°C 50 °C Ambient temperature O°C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS O.8 %FS Repetition accuracy margin in ± %FS	Flow measuring range end value	1000 l/min
Operating pressure Operating medium Compressed air as per ISO 8573-1:2010 [7:4:4] Nitrogen Temperature of medium O°C 50 °C Ambient temperature O°C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS O.2 %FS Repetition accuracy margin in ± %FS	Operating pressure	0 MPa 1 MPa
Operating mediumCompressed air as per ISO 8573-1:2010 [7:4:4] NitrogenTemperature of medium0 °C 50 °CAmbient temperature0 °C 50 °CNominal temperature23 °CAccuracy of flow rate± (3% o.m.v. + 0.3% FS)Zero point repetition accuracy in ± %FS0.2 %FSRepetition accuracy margin in ± %FS0.8 %FS	Operating pressure	0 bar 10 bar
Nitrogen Temperature of medium 0 °C 50 °C Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Operating pressure	0 psi 145 psi
Ambient temperature 0 °C 50 °C Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Operating medium	
Nominal temperature 23 °C Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Temperature of medium	0 °C 50 °C
Accuracy of flow rate ± (3% o.m.v. + 0.3% FS) Zero point repetition accuracy in ± %FS 0.2 %FS Repetition accuracy margin in ± %FS 0.8 %FS	Ambient temperature	0 °C 50 °C
Zero point repetition accuracy in ± %FS Repetition accuracy margin in ± %FS 0.2 %FS 0.8 %FS	Nominal temperature	23 ℃
Repetition accuracy margin in ± %FS 0.8 %FS	Accuracy of flow rate	± (3% o.m.v. + 0.3% FS)
	Zero point repetition accuracy in ± %FS	0.2 %FS
Temperature co-efficient margin in ± %FS/K typ. 0. 1%FS/K	Repetition accuracy margin in ± %FS	0.8 %FS
	Temperature co-efficient margin in ± %FS/K	typ. 0. 1%FS/K

Feature	Value
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 Threshold value comparator
Switching element function	N/C contact/N/O contact switchable
Max. output current	100 mA
Analog output	4 - 20 mA
Flow characteristic curve, start value	0 l/min
Flow characteristic curve, end value	1000 l/min
Output characteristic curve initial value	4 mA
End value output characteristic curve	20 mA
Max. load resistance of current output	500 Ohm
Short-circuit protection	yes
Overload protection	Available
DC operating voltage range	15 V 30 V
Idle current	120 mA
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 for input 1, connection pattern	00995383
Type of mounting	With through-hole With H-rail
Mounting position	Any
Pneumatic connection	For tubing O.D. 12 mm
Product weight	160 g
Housing material	PA-reinforced
Display type	Illuminated LCD, multi-color
Displayable unit(s)	l l/min m3 scf scfm
Setting options	Teach-in Via display and pushbuttons
Protection against tampering	PIN code
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