

E-MEFS-K

Calorimetric Flow Sensor for Gases	S-MEFS-K
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● Characteristics 1 - MODULAR - ECONOMIC - METER

	- Input: 0...10 m/s up to 0...30 m/s - Output: 4...20 mA - Supply: 24 VDC - Accuracy: see Technical Data - Process connection: several options - Electrical connection: several options - Temperature range: 0...+60 °C (environmental) - Limit value contacts: 2x electronically (NPN / PNP) - Setting: keys - Material sensor: see Technical Data - Protection: at least IP65
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● Technical Data

Input		
Flow:	10 m/s / 20 m/s / 30 m/s	
	Reference conditions: 20 °C, 1013 hPa	
Medium: Measuring principle:	Air, non-corrosive gases	Calorimetric
Output		
Current signal:	4...20 mA	
Load:	500 Ω maximum	
Performance Parameters		
Sensor unit:	Measurement uncertainty:	±5% of final value, dependent on construction (within range 10...100%)
	Reference section:	10x Ø for inflow and outflow
	Repeating accuracy:	±2
	Reaction time:	approx. 2 s
	Dependence on temperature:	±0,01% / 1K
	Transient response:	linear to flow velocity
	Indicator / limit values:	Resolution: -9999...9999 digit
		Error in measurement: ±0,2% of range, ±1 digit
		Temperature drift: 100 ppm/K
		Features: according VDMA 24574-1 up to 24574-4
Operation:		according VDMA 24574-1 up to 24574-4
Programmable Features		
Display:	range of indication / time of indication / decimal point / units	
Limit value contacts:	limit value 1 and 2 / hysteresis 1 and 2 / delay times 1 and 2	

● Applications

For use in air-conditioning and ventilating plants, heating installations and the whole range of industrial facilities. With its two configurable limit value contacts, the integrated display and its numerous electrical connections, the flow sensor is also suitable for applications with higher requirements.



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● Technical Data (Continued)

Indication

Display:	7 segment, 8,5 mm, red, 4 digits, representation mirror-inverted 180° possible
Display head:	rotatable approx. 330°
Memory:	minimum / maximum values
Indication:	- measuring value - unit of measurement - control menu
Decimal point:	automatically or manually, dependent on measuring range / unit
	Representation: xxxx / xxx.x / xx.xx / x.xxx

Limit Contacts

Electronically:	2x PNP or NPN (30 VDC, 200 mA) Option: 2x PNP or NPN (30 VDC, 1000 mA)
Indication:	1 LED red for each limit value
Voltage drop:	<1 V
Settings:	with 3 keys (TouchM-Technology)
Setting range:	switch point and hysteresis: any value within measuring range
Switching delay:	0,0...999,9 s
Failsafe function:	adjustable
Galvanical isolation:	switch outputs are separated from measuring amplifier

Supply

Voltage:	24 VDC, ±10%
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Environmental Conditions

Temperature:	Operating range: 0...+60 °C Storage: -20...+80 °C Medium: -20...+70 °C
Condensation:	uncritical

Mechanics

Dimensions:	see page 3		
Process connection:	without / 1/2" / 3/4" / 1" / 1,5" / 1/2NPT		
Fitting, Nominal length:	80...400 mm		
System pressure:	10 bar with threaded connection		
Electrical connection:	see page 3		
Material:	Sensor:	Process connection:	stainless steel
		Sensor tube:	stainless steel
		Sensor element:	Al2O3 with
		Sensor retainer:	glassivation FKM
		Potting:	epoxy resin
	Body:	PBT GF30	
	Display head:	polycarbonate (makrolon)	
Weight:	approx. 180 g (1/2", 100 mm, M12)		
Fitting position:	any		
Protection class:	Sensor:	IP67	
	Electronics:	at least degree IP65 (when electrical connection is plugged)	

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Electrical Connection

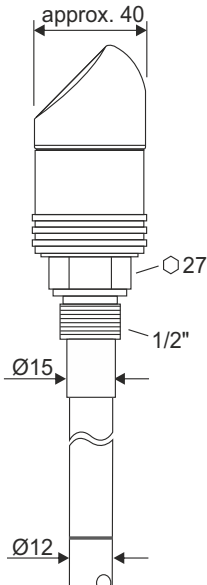
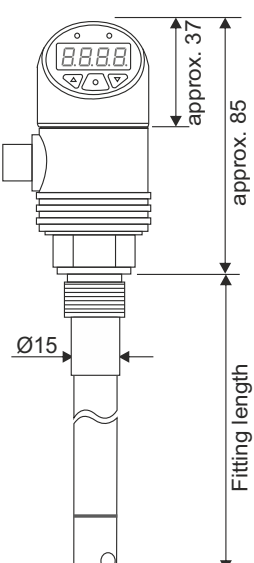
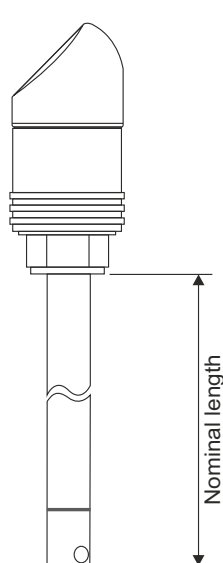
M12x1	Super Seal	Deutsch	Deutsch	Bayonet	Valve	MIL	
							
5-pole 8-pole	3-pole	3-pole	4-pole	4-pole	4-pole	6-pole	

Connection	Supply		Out	Limit value contact			Program- ming
	U+	U-		Common	SP 1	SP 2	
M12x1, 5-pole	1	3	2	(1)	4		5
M12x1, 8-pole	1	3	6	5	4	2	
Super Seal, 3-pole*	1	3	2				
Deutsch DT04, 3-pole*	A	B	C				
Deutsch DT04, 4-pole	1	3	2	(1)	(4)		4
Bayonet DIN, 4-pole	1	2	3	(1)	(4)		4
Valve (L-Plug), 4-pole	1	2	3	(1)	(GND)		GND
MIL, 6-pole	A	C	F	E	D	B	

Details in brackets: U+ is also common for limit value

* When using 3-pole connectors it is not possible to change the measuring range after assembling of the sensor.

Dimensions (in mm)

		For compression fitting 
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Order Code

O	U	X	X	X	-	X	-	X	X	X	X
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Input flow:	0...10 m/s	0									
	0...20 m/s	1									
	0...30 m/s	2									
Output:	4...20 mA	1									
Process connection:	Without (for compression fitting)	0									
	1/2"	3									
	3/4"	4									
	1"	5									
	1,5"	6									
	1/2"NPT	9									
Electr. connection:	M12, 5-pole	2									
	M12, 8-pole	3									
	Deutsch DT04, 3-pole	4									
	Deutsch DT04, 4-pole	5									
	Super Seal 1.5, 3-pole	6									
	Bayonet (DIN), 4-pole	7									
	Valve plug, 4-pole	8									
	MIL, 6-pole	A									
Nominal, fitting length:	100 mm		100								
	150 mm		150								
	200 mm		200								
	250 mm		250								
	300 mm		300	1							
	350 mm		350								
	400 mm		400								
	Other length (please specify, at least 80 mm)		Y								
Limit value contacts:	2x PNP, 30 VDC, 200 mA (standard)		0								
	1x PNP, 30 VDC, 200 mA		1								
	Without		2								
	2x NPN, 30 VDC, 200 mA		3								
	1x NPN, 30 VDC, 200 mA		4								
	2x PNP, 30 VDC, 1000 mA		5								
	1x PNP, 30 VDC, 1000 mA		6								
	2x NPN, 30 VDC, 1000 mA		7								
	1x NPN, 30 VDC, 1000 mA		8								
Configuration:	Factory set		0								
Special model:	No		0								
	Yes (please specify)		1								

Accessories: Compression fitting G1/2"