

S418

Compact Thermal Mass Flow Meter (Pro-Inline)



SMARTPHONE ANDROID APP
For remote configuration



Monitor consumption at point of use — optimize compressed air and vacuum system efficiency



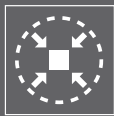
S418 FEATURES



SMARTPHONE ANDROID APP
For remote configuration



POINT-OF-USE INSTALLATION
No straight pipe section required



COMPACT DESIGN
Can be installed anywhere



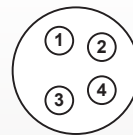
TOTAL FLOW
No bypass measurement



EASY PROCESS MONITORING
Effective and inexpensive recording



ACCURATE RESULTS
Integrated flow conditioner



Every sensor includes the 5m cable M8 with open ends
Sensor with Modbus/MBUS include 1 cable
Sensor with Analog output includes 2 cables

Pin assignment connector plug M8					
Output Version	Connector	Pin 1	Pin 2	Pin 3	Pin 4
Modbus	A	D-	-VB	+VB	D+
	B	D-	GND	NA	D+
Pulse and analog	A	I-	-VB	+VB	I+
	B	I-	P	P	I+
M-bus	A	M-bus	-VB	+VB	M-bus
	B	M-bus	NA	NA	M-bus
Wire colour		brown	white	blue	black

S418 BENEFITS

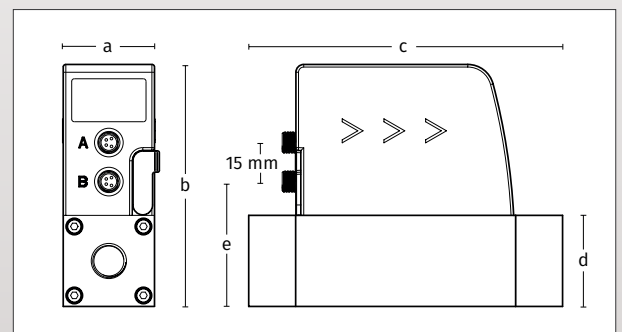
- Convenient installation, great flexibility, can be installed anywhere
- Available as DN8, DN15, DN20, DN25 and DN32 G (female thread)
- Accuracy of 1.5 % o.RDG, turn down ratio 100: 1
- Integrated data logger and pressure gauge option

The more accurate you can monitor gas flow, the more likely you will discover weak points in the process flow, thus ensuring continuity and profitability.

Asymmetric velocity profiles, swirl, and other factors caused by bends in pipes can lead quickly to inaccurate readings. And it is often not possible to place flow meters at hard-to-reach places.

The solution is our new generation of compact, easy-to-install, reliable and cost-effective flow and consumption meters: the S418.

S418 DIMENSIONS



Dimensions in mm	a	b	c	d	e
DN8/DN15	35.0	93.0	120.4	35.0	48.0
DN20/DN25	48.0	106.0	178.0	48.0	61.0
DN32	60.0	118.0	222.0	60.0	73.0

S418 TECHNICAL DATA

Measurement	
Flow	
Accuracy	1.5 % o.RDG ±0.3 % FS
Selectable units	l/min, cfm, kg/h, m3/h
Measuring range	see table below
Repeatability	0.5 % o.RDG
Sensor	Thermal mass flow sensor
Sampling rate	10/sec
Turndown ratio	100:1
Response time (t90)	0.5 sec
Consumption	
Selectable units	m ³ , ft3, l, kg
Pressure	
Accuracy	0.5 % FS
Selectable units	bar, psi
Measuring range	0 ... 10 bar(g)
Sensor	Piezzo resistive sensor
Reference conditions	
Selectable conditions	20 °C 1000 mbar (ISO1217) 0 °C 1013 mbar (DIN1343) freely adjustable
Signal / Interface & Supply	
Analog output	
Signal	4 ... 20 mA, isolated
Scaling	0 ... max flow
Load	250R
Update rate	3/sec
Pulse output	
Signal	Max 30 V, 200 mA
Scaling	1 pulse per consumption unit
Fieldbus	
Protocol	Modbus/RTU
Supply	
Voltage supply	15 ... 30 VDC
Current consumption	120 mA @ 24 VDC
Data interface	
Connection	USB micro

S418 Measuring Range	Standard Configuration				
Process connection	DN8	DN15	DN20	DN25	DN32
Standard range (S)	250	1000	2000	3500	6000
Low range (L)	50	200	400	700	1200

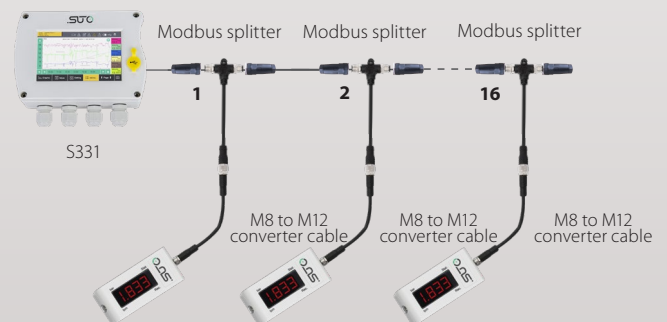
Stated measuring ranges for S418 under following conditions:

- Standard flow in air in l/min
- Reference pressure: 1000 mbar
- Reference Temperature: +20 °C

General data	
Configuration	
Wireless	S4C-FS App for mobile phones
PC Software	S4A PC software for download and data analyzes
Display	
Integrated	4 digit LED
Data Logger	
Storage	8 Mio. values
Material	
Process connection	Aluminum alloy
Housing	PC + ABS
Sensor	Glass coated resistive sensor
Metal parts	Aluminum alloy
Miscellaneous	
Electrical connection	2 x M8 (4 pole)
Protection class	IP54
Approvals	CE, RoHS, FCC
Process connection	G-thread
Weight	0.45 ... 1.3 kg (depends on model)
Operating conditions	
Medium	Air, N ₂ , O ₂ , CO ₂ and other gases
Medium quality	ISO 8573: 4.4.3 or better
Medium temperature	0 ... 50 °C
Medium humidity	< 90 % rH, no condensation
Operating pressure	0 ... 10 bar(g)
Ambient temperature	0 ... 50 °C
Ambient humidity	< 95 % rH
Storage temperature	-30 ... 70 °C
Transport temperature	-30 ... 70 °C
Pipe sizes	DN8, DN15, DN20, DN25, DN32

CONNECT SEVERAL S418 TO MODBUS MASTER

The S418 with Modbus/RTU interface can be easily daisy-chained to a Modbus Master device such as S331 by using RS-485 splitter (A554 3310) and the M8 to M12 converter cable (A553 0161). Through this method you can add up to 16 flow meters to the master device.



Remark: The S331 can maximum provide 10 W power to the connected devices. If more power is required a separate power supply is needed.

S418 DISPLAY DIRECTION



S418 ORDERING

Please use the following tables to assist in placing your order with our sales staff.



Visit our website or e-mail us:
www.suto-itec.com
sales@suto-itec.com

S418 Compact Thermal Mass Flow Meter (Pro-Inline)		
Order No.	Code	Description
S695 418	S418	S418 mass flow meter with integrated data logger G inner thread, 1.5 % o. RDG, 24 VDC 5 m cable with M8 connector and open ends included
Size + Pressure sensor option		
S695 418	0	DN8
S695 418	1	DN15
S695 418	2	DN20
S695 418	3	DN25
S695 418	4	DN32
S695 418	5	DN8 Pressure sensor 10 bar(g), 1 % FS
S695 418	6	DN15 Pressure sensor 10 bar(g), 1 % FS
S695 418	7	DN20 Pressure sensor 10 bar(g), 1 % FS
S695 418	8	DN25 Pressure sensor 10 bar(g), 1 % FS
S695 418	9	DN32 Pressure sensor 10 bar(g), 1 % FS
Range		
	S	Standard range version
A1453	L	Low range version
Output		
A1455	A	Analog 4 ... 20 mA, Pulse output
A1456	B	Modbus/RTU output
A1457	C	M-Bus output
Gas type 1		
A1007	A	Air
A1008	B	CO ₂
A1009	C	O ₂ (Oil- & grease-free cleaned)
A1010	D	N ₂
A1011	E	N ₂ O
A1012	F	Argon
A1013	G	Natural Gas
A1014	H	H ₂ (Real gas calibration)
A1015	I	Other Gas (Please specify)
A1016	J	He (Real gas calibration)
A1017	K	C ₃ H ₈
	Z	No Second Gas
Gas type 2 (same selections as above)		

S418 Compact Thermal Mass Flow Meter (Pro-Inline)		
Order No.	Code	Description
Units		
	A	With SI units Standard
A1459	B	With imperial units
Display direction		
	A	Standard display direction
A1460	B	Reverse display direction

Example: S4187LBAZA

DN20 with Pressure sensor, Low range, Modbus/RTU,
Air, No Second Gas, SI units

S418 Accessories	
Order No.	Description
A554 0109	Mains power supply 100-240 VAC / 24 VDC, 0.5 A, 2 m cable with M8 connector
A553 0137	Connection cable to S551, 5 m
M599 7020	S4A data analysis software, for data logger S418
A553 0161	M8 female to M12 male converter cable, 10 cm
A554 3310	RS-485 splitter T, with 3 x M12 connectors to connect RS-485 devices to a bus.