

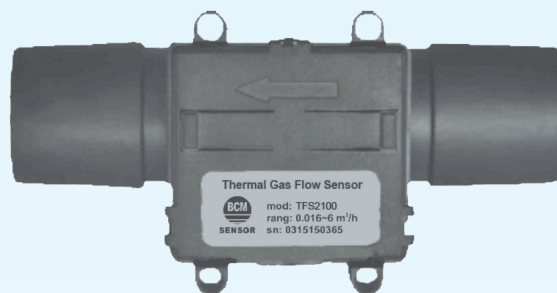
### Description

The model TFS2100 thermal gas flow transmitter is developed for air and gas flow rate measurements where compact size and light weight are required.

This transmitter is built with a thermal mass flow sensor which is made through MEMS process. Thanks to the MEMS process, the TFS2100 has wide measuring range with high accuracy.

As there is no moving part in the sensor, the TFS2100 is a solid state transmitter with excellent reliability.

In case of high-volume orders, the transmitter housing can be customized for the best integration of the sensor into the gas meter housing.



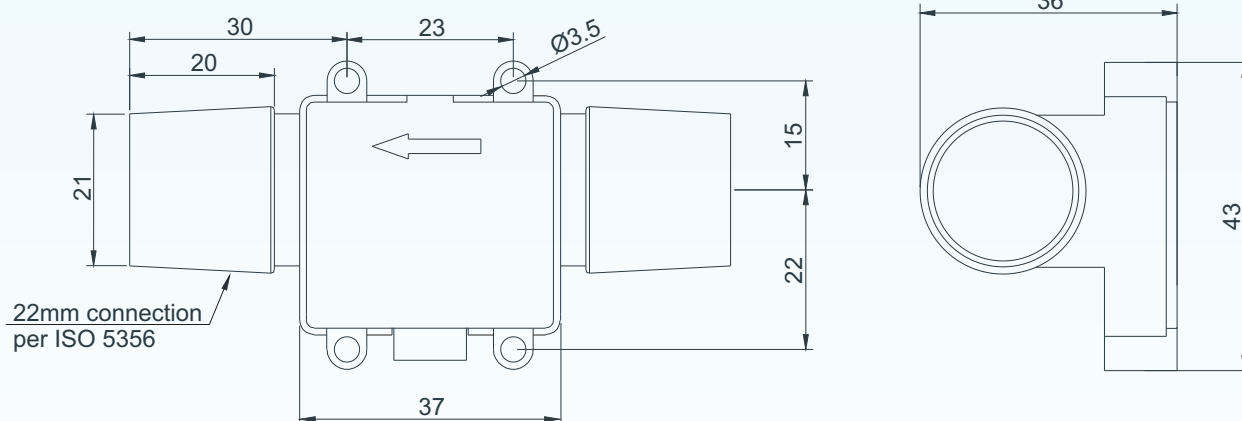
### Features

- non-linearity:  $\pm 4\%$ fs
- wide range: 0~1.2m<sup>3</sup>/h, ..., ~18m<sup>3</sup>/h
- excellent reliability
- compact and light weight design

### Applications

- medical ventilators
- medical flow measurements
- portable gas flow measuring devices
- industrial flow control

### Dimensions



Note: All dimensions are in mm.

### Technical Data

Parameters	Units	Specifications	Notes
flow medium		air, nitrogen, oxygen, natural gas, carbon dioxide	1
measuring range	m <sup>3</sup> /h	0~1.2, ~2, ~3, ~6, ~9, ~12, ~18	2 & 3
ultimate flow rate	m <sup>3</sup> /h	60	
ultimate pressure of flow medium	bar	1	4
output signal	Vdc	0.5~4.5	5
supply voltage	Vdc	5	
non-linearity	%fs	better than ±4	6
repeatability	%fs	better than ±1	
long-term stability	%fs	better than ±0.5	
signal noise	%fs	≤ ±0.25	
output impedance	Ω	1000	
storage temperature range	°C	-40 ~ +85	
operating temperature range	°C	-25 ~ +65	
compensated temperature range	°C	0~50	
temperature coefficient of span	%fso/°C	≤ ±0.12	7
pressure drop	mbar	1 max. at 3m <sup>3</sup> /h	
response time	ms	100 max.	8
power consumption in continuous mode	mW	~125 at 5Vdc	
mechanical interface		22mm diameter connection per ISO 5356	
electrical interface		3-pin plug-in connector with detachable matting connector of flying wires of 200mm length.	
housing material		engineering plastic in black	
maximum shock	g	1000 (0.5ms)	
maximum vibration	g	1 (5~200Hz)	
net weight (excluding wires)	gram	~100	

#### General test conditions:

flow medium: standard air of pressure 760mm of mercury column;  
 temperature: 20°C;  
 humidity: 50%RH;  
 supply voltage: 5Vdc.

- Notes:
1. The media must be in gaseous state. For other media, consult BCM SENSOR.
  2. Minimum measuring flow rate: 0.012m<sup>3</sup>/h.
  3. Customized ranges available on request. Consult BCM SENSOR.
  4. This pressure refers to the maximum pressure that the transmitter housing can sustain.
  5. Tolerance of full scale: ±0.2Vdc; tolerance of zero: ±0.05Vdc.
  6. "fs" refers to "full scale".
  7. Calculated as a rate of output change between 0°C and 50°C, and normalized by the output at 20°C.
  8. The response time is measured from the wake-up moment in the sleep mode to the moment when the output rises to 90% of maximum value.

### Ordering Information

position (pos.) 1: model							
TFS2100							
pos. 2: measuring range							
0/1.2 m3/h		0/6 m3/h		0/18 m3/h			
0/2 m3/h		0/9 m3/h					
0/3 m3/h		0/12 m3/h					
pos. 3: measuring medium							
air		natural gas		N2	O2	CO2	for other media, consult BCM
pos. 4: output signal							
0.5/4.5V							
pos. 5: non-linearity							
4%fs							
pos. 6: mechanical interface							
22mmConnection(ISO 5356)							
pos. 7: electrical interface							
PlwithFW(200mm) = 3-pin plug-in connector with detachable matting connector of flying wires of 200mm(#) length. #: Wire length can be customized on request.							
pos. 8: customized specifications							
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.							
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8

### Examples of Ordering Code

- standard sensor:

TFS2100-0/6m3/h-air-0.5/4.5V-4%fs-22mmConnection(ISO 5356)-PlwithFW(200mm)

The listed specifications, dimensions, and ordering information are subject to change without prior notice.

**BCM SENSOR TECHNOLOGIES BVBA**

