MAF sensor

AWM5000 Series High Flow/High Power

on-line measurement

The AWM5000 series is a Venturi flow tube shell that can measure up to 20 L/min and maximum pressure drop of 2.25" water flow. The microbridge chip is in direct contact with the airflow, greatly reducing errors caused by blockage of ventilation holes or bypasses.

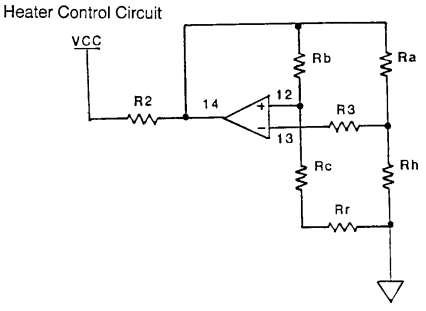
Solid, universal encapsulation

Rugged, the plastic enclosure can withstand 50psi of common mode pressure, and the small sensing chip inside allows 100g impact under rated indicators. The two measurement holes are separate modules that can be inserted into the AMP connector for highly reliable connections with minimal mold costs and actual changes.

Built-in signal processing circuit

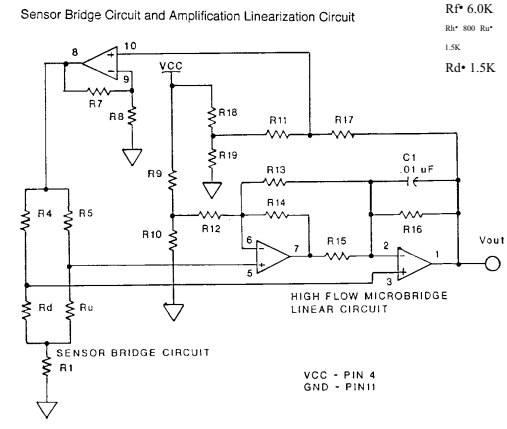
Each AWM5000 series product includes 、linear correction of 、temperature and gas calibration, which is obtained by laser calibration.

Figure 1 Heater Control Circuit



NOMINAL VALUES
R1• 3.3K
R2• 5.OK R
3• 1.82K R4•
24.9K
R5• 24.9K R
7• 200K R8•
32K R9• 6.0
K R11• 10K
R12• 400K
R13• 3.5K
R14• 5K
R15• 5K
R16• 400K
R17• 400K
R18• 9K
R19• 1K
Ra• 500
Rb• 3.0K
Rc• 1.0K
Rf• 6.0K
Rh• 800 Ru•
1.5K
Rd• 1.5K

Figure 2 Sensor Bridge Circuit and Amplification Linear Circuit



1 Foot: + Supply voltage
2 Foot: Grounding
3 Foot: Vacant
4 Foot: Output voltage
The flow direction is indicated on the shell

Characteristic：

- Various flow interfaces are available
- Venturi tube design
- Remote installation
- Laser calibration CO_2, N_2 gas

calibration technical specifications

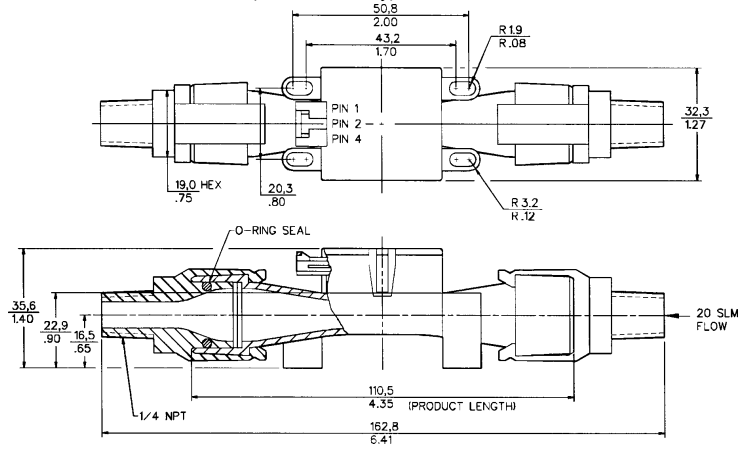
	AWM5101	AWM5102	AWM5103	AWM5104
Scope of traffic	0-5 SLPM	0-10 SLPM	0- 15 SLPM	0-20 SLPM
Postscripts-calibration gases	VA-Argon (Ar) VC-Carbon dioxide (CO_2)			VN-nitrogen (N_2)
	Min	Typ		Max
Recommended power supply VDC	8.0	10±0.01		15
power dissipation (mW)	---	---		100
Reaction time (mA)	---	---		60
Zero output VDC	0.95	1.00		1.05
Zero drift, VDC-20~70˚C	---	±0.050		±0.200
Maximum common mode pressure psi	---	---		50
temperature range	-20~+70˚C			
Impact indicators	100g peak, 6ms half sine (3 drops, 3 in each direction)			
Output @ 较 whole point	5VDC@ Full scale flow			
Pressure differential @ full range	Refer to pressure and airflow meter			
Full scale output drift +20˚~-25˚C +20˚~70˚C	Suffix VA or VN ± 7.0% reading, VC ± 10.0% reading			
linear error	±3.0% Readings			
Sluggishness & Repetitiveness	± 0.5% reading			
Connector (4pin receptacle)	AMP (103956-3) or MICROSWITCH (SS12143)			
make known max	0.1psi/min, at rest			

Note: 1. The power supply voltage is not guaranteed to be calibrated except 10.00± 0.01VDC.

2. The linear error applies to 2-100% full scale, but not to zero output at 0 LPM

3. Under 50psi internal pressure, the AWM5000 series maintains a per-minute leakage rate below 0.1psi. If the connector on the flow tube is twisted during installation, it may compromise the seal between the O-ring and flow tube, causing temporary leakage up to 1psi. This issue may also occur within the specified parameters. Replacing the O-ring typically restores the seal, with approximately 85% of leaks resolved within 24 hours and complete recovery achieved within 48 hours.

Installation dimensions:(for reference only)



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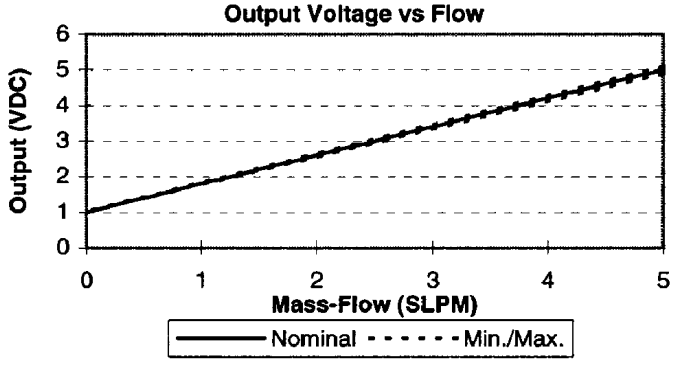
AWM5000 Series High Flow / Amplification

curve of output

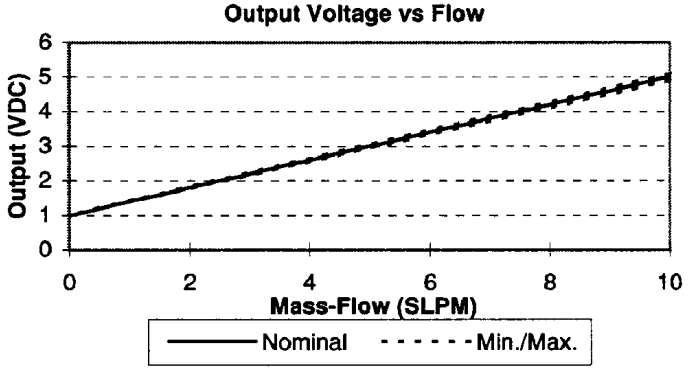
AWM5101V Series

1-5 VDC linear output



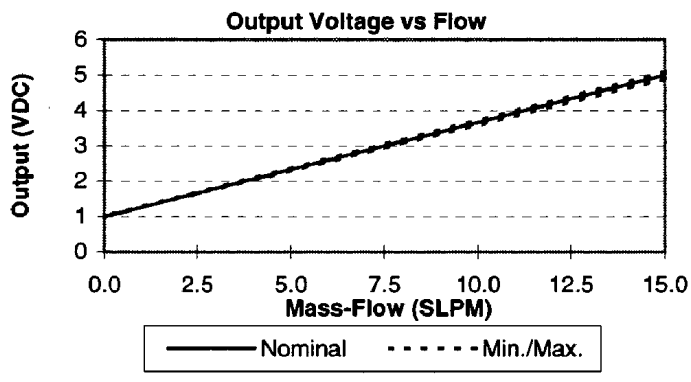
AWM5102V Series

1-5 VDC linear output



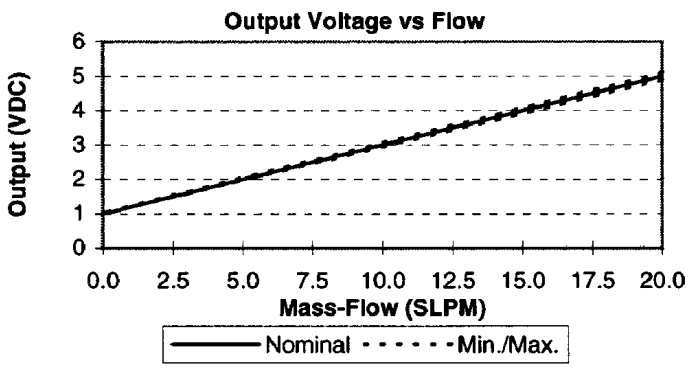
AWM5103V Series

1-5 VDC linear output



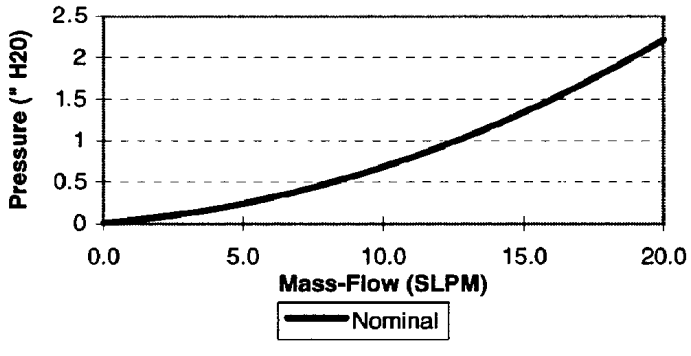
AWM5104V

1-5 VDC linear output



AWM5000 Series

Pressure vs Mass-Flow



Recommended model	range
AWM5104VN	20SLPM

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