

## MAF sensor

### AWM40000 Series amplified and non-amplified



The AWM40000 series includes signal units without amplification and those with amplification/signaling. The AWM42150V and AWM42300 utilize the same circuitry as the AWM2000. AWM43300V and AWM43600V employ the same circuitry as the AWM3000. AWM43600V is a 6SLPM device.

Figure 1 Fever Control Circuit

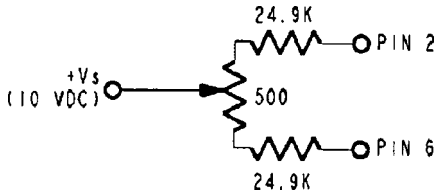
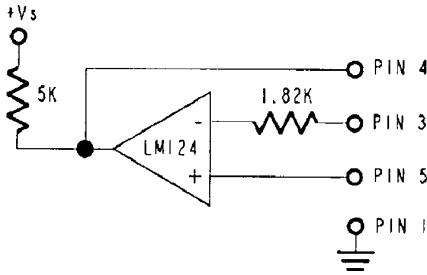
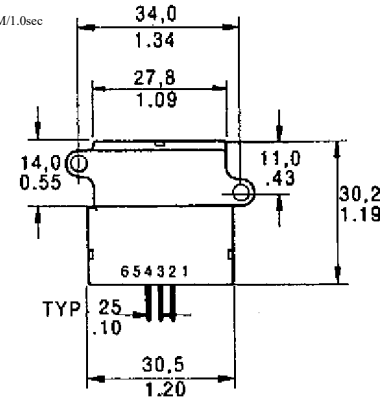
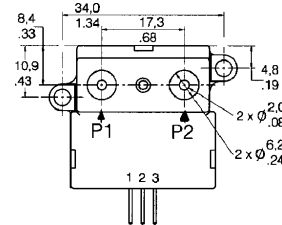
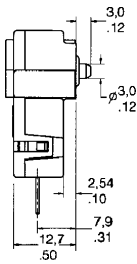
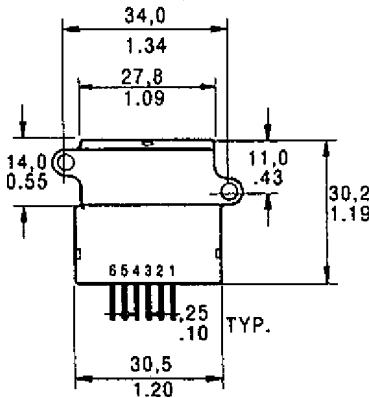


Figure 2 Power Supply Circuit of Sensing Bridge



Installation dimensions (for reference only)



#### characteristic :

- Multiple centrally installed /O seals
- Ceramic flow tube (no air guide), 0-1000sccm
- Plastic flow tube (no air guide), 0-6SLPM
- High common mode pressure (150psi)
- Working temperature up to 125°C
- Zero and full scale high stability AWM

#### 40000 series selection guide

	AWM42150VH	AWM42300V	AWM43300V	AWM43600V
Flow range (full scale)	±25sccm	±1000sccm	+1000sccm	+6LPM
output voltage @ peg point	8.5±1.5mV @25sccm	54.7±3.7mVDC @1000sccm	5±0.15VDC @1000sccm	5±0.15VDC @6LPM
Zero Point Voltage	0.0±1.0 mV DC	0.0±1.0 mV DC	1.00±0.05VDC	1.00±0.05VDC
Zero point drift +25~25°C	±0.20mV DC	±0.20mV DC	±0.025VDC	±0.025VDC
+25~85°C				
Output voltage drift +25~25°C	+2.5% reading (typical)	±2.5% reading (maximum)	-5% reading (maximum)	-5% reading (maximum)
+25~+85°C	-2.5% reading (typical value)	+6% reading (maximum)	+6% reading (maximum)	+6% reading (maximum)
Repetition & Stagnation	± 0.35% reading	± 1.00% Readings	± 0.5% reading	± 1.00% Readings
Pressure reduction @ full range (in H <sub>2</sub> O)	- - -	1.50 (typical value)	1.02 (typical value)	8.00 (typical value)
	Min	Typ.	Max.	
Power supply (VDC)	8.0	10±0.01	15	(2)
Power consumption (mW) --		50	60	
Reaction time(ms) ---		1.0	3.0	(1)
Confined pressure (psi) --		---	150 (AWM43600V is 25psi)	
output loading	NPN (current sink): 10mA PNP (current source): 20mA			
calibration gas	nitrogen (AWM42150VH is hydrogen)			
Ratio change variation	±0.3% reading			
working temperature	-25~85C			
Storage temperature (°C)	-40~90C			
lash	100g peak (5drops, 6axis)			

Note: 1. From 10% to 90% reaction time is generally 1 millisecond

- The output voltage varies with the ratio of the power supply voltage
- Repetition and hysteresis reflect the inherent accuracy of the measuring equipment
- The maximum allowable flow change to prevent damage: 5LPM/1.0sec

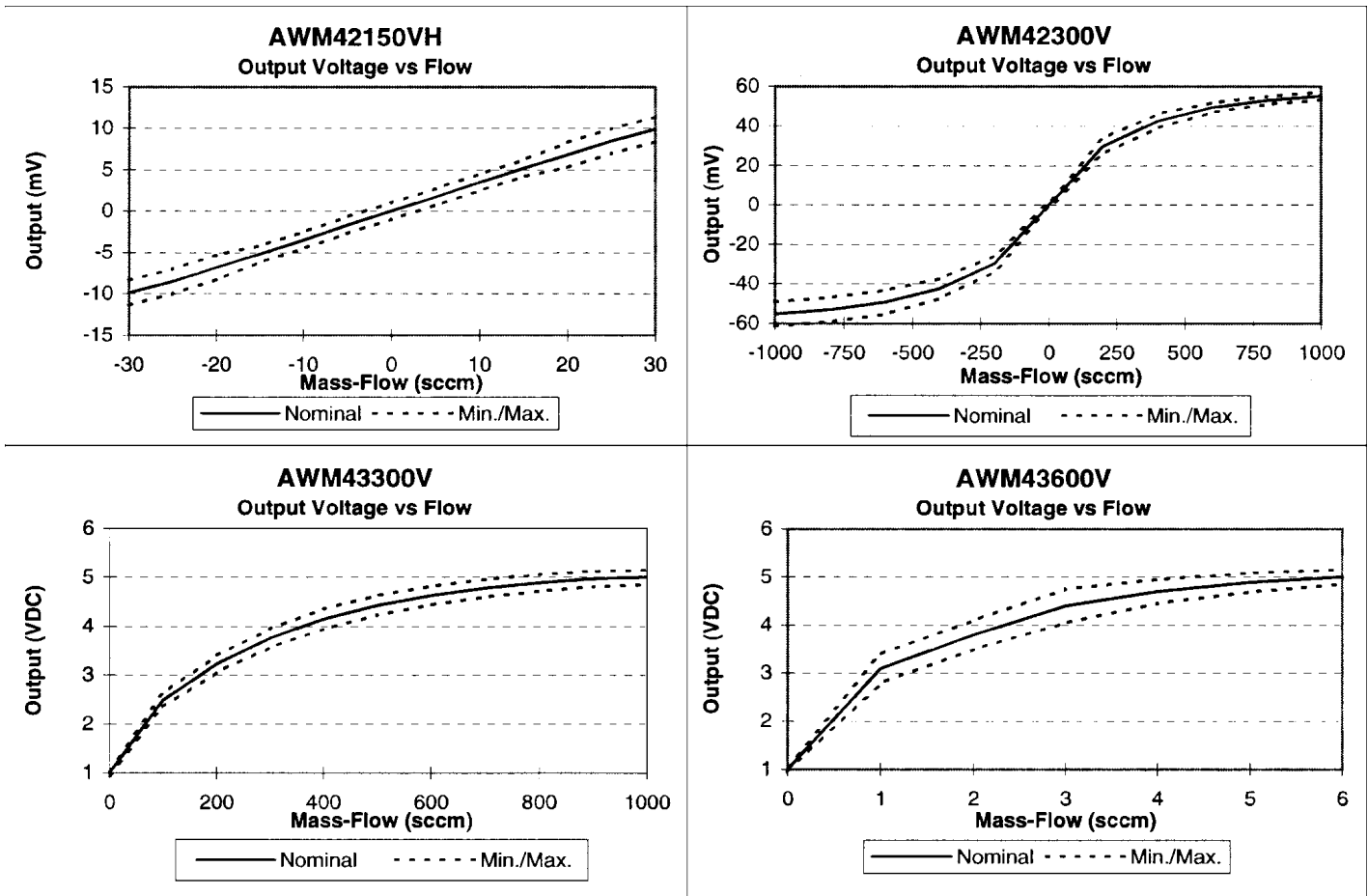
# MAF sensor

## AWM40000 Series Amplified and Non-Amplified

Output airflow VS device interchangeability (preliminary data, based on limited test data)

AWM42150VH			AWM42300V			AWM43300V			AWM43600V		
Flow Sccm	NOM mVDC	TOL $\pm$ mVDC	Flow Sccm	NOM mVDC	TOL $\pm$ mVDC	Flow Sccm	NOM VDC	TOL $\pm$ VDC	Flow Sccm	NOM VDC	TOL $\pm$ VDC
25	8.50	1.5	1000	54.7	2.0	1000	5.00	0.15	6	5.00	0.15
20	6.80	1.5	800	53.0	2.2	900	4.97	0.16	5	4.89	0.20
15	5.20	1.0	600	49.3	2.5	800	4.89	0.17	4	4.70	0.25
10	3.50	1.0	400	42.5	3.0	700	4.78	0.18	3	4.40	0.35
5	1.70	1.0	200	29.8	3.0	600	4.63	0.19	2	3.80	0.30
0	0.00	1.0	0	0.00	1.0	500	4.43	0.20	1	3.10	0.30
			-200	-29.8	4.0	400	4.15	0.21	0	1.00	0.05
			-400	-42.5	5.0	300	3.76	0.19			
			-600	-49.3	6.0	200	3.23	0.17			
			-800	-53.0	6.0	100	2.49	0.14			
			-1000	-55.2	6.0	0	1.00	0.05			

curve of output



Recommended model	range
AWM43600V	6LPM

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