

Honeywell Sensing and Control

AWM3100V



Actual product appearance may vary.

**Airflow Sensor, Signal Conditioning:
Amplified; Flow/Pressure Range: + 200
sccm; Port Style: Straight**

Features

- Laser trimmed for improved sensor interchangeability
- Flow sensing up to 1.0 SLPM
- Low differential pressure sensing

Potential Applications

- Damper control for heating, ventilation, and air conditioning systems
- Gas analyzers
- Low vacuum control
- Process control
- Medical respirators and ventilators
- Oxygen concentrators
- Leak detection equipment
- Vent hoods
- Anesthesia control
- Gas metering
- Gas chromatography

Description

Like the AWM2000 Series, the dual Wheatstone bridges control airflow measurement. The AWM3000 Series is amplified; therefore, it can be used to increase the gain and to introduce voltage offsets to the sensor output. The heater control circuit and the sensing bridge supply circuit are on board the package.

CAUTION PRODUCT DAMAGE

AWM Series Microbridge Mass Airflow Sensors are not designed to sense liquid flow and will be damaged by liquid flow through the sensor.

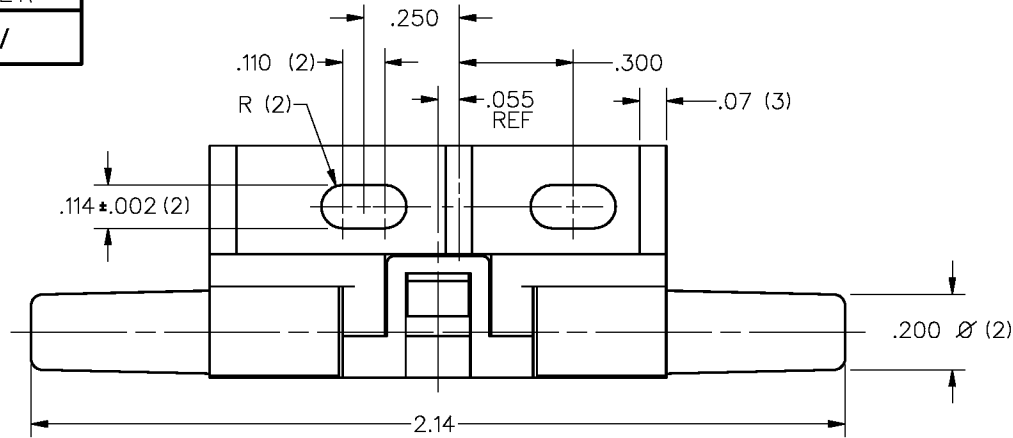
Failure to comply with these instructions could result in product damage.

Product Specifications	
Signal Conditioning	Amplified
Flow/Pressure Range	200 sccm
Output Voltage @ Trim Point	5.0 Vdc @ 200 sccm
Port Style	Straight
Series Name	AWM3000
Null Shift over Temperature	±25.0 mV dc
Output Shift over Temperature	±4 % Full Scale
Maximum change in flow rate	5.0 SLPM/s
Max. Repeatability & Hysteresis Error	±0.50% Reading
Null Offset	1.00 Vdc ±0.05 Vdc
Response Time	1 ms typ., 3 ms max.
Supply Voltage	8.0 Vdc min., 10.0 Vdc typ., 15.0 Vdc max.
Maximum Common Mode Pressure	25.0 psi
Power Consumption	50 mW typ., 60 mW max.
Operating Temperature Range	-25 °C to 85 °C [-13 °F to 185 °F]
Storage Temperature Range	-40 °C to 90 °C [-40 °F to 194 °F]
Media Compatibility	Dry gas only
Weight	10.8 g
Shock	100 g peak (5 drops, 6 axes)
Availability	Global
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers

HONEYWELL
PART NUMBER

AWM3100V

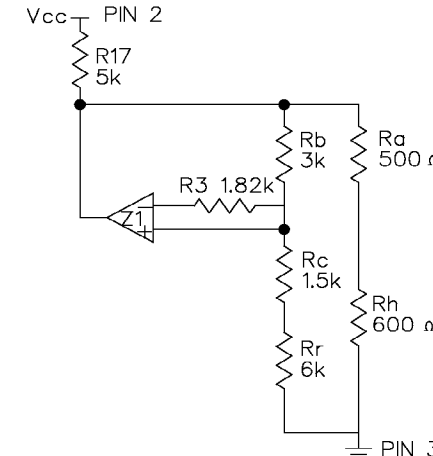
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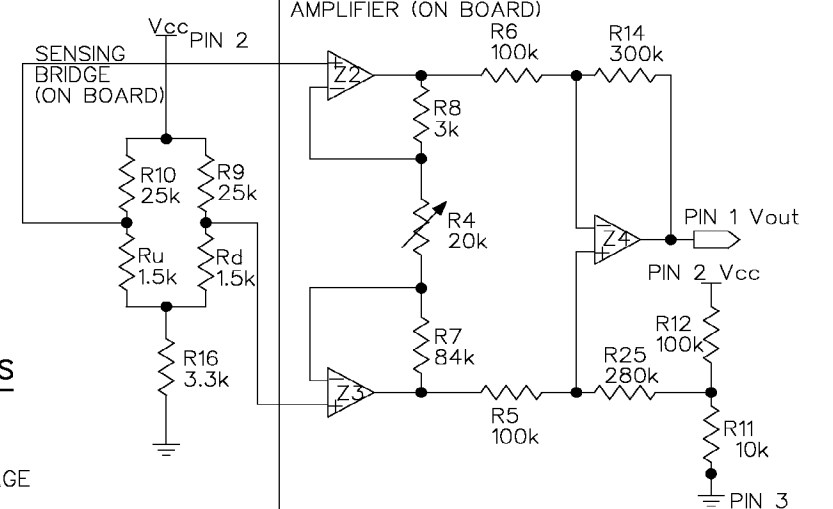
SPECIFICATIONS:	AWM3100V	AWM3100V
RECOMMENDED EXCITATION	10.00 ±.01VDC	OUTPUT FLOW VS. INTERCHANGEABILITY
POWER CONSUMPTION	1.0mW MAX	FLOW sccm
OUTPUT VOLTAGE @ LASER TRIM POINT	5.00 VDC @ 200 sccm	NOMINAL (VDC)
NULL VOLTAGE	1.00 ±.05 VDC	TOL. (±VDC)
NULL VOLTAGE SHIFT (-25°C TO +85°C)	±25mV	200
OUTPUT VOLTAGE SHIFT (+25°C TO -25°C)	-4% READING MAX	175
OUTPUT VOLTAGE SHIFT (+25°C TO +85°C)	+4% READING MAX	150
REPEATABILITY & HYSTERESIS	±.50% READING MAX	125
RESPONSE TIME	3.0 msec MAX	100
OPERATING TEMPERATURE RANGE	-25°C TO +85°C	75
STORAGE TEMPERATURE RANGE	-40°C TO +90°C	50
TERMINATION (ON .100 CENTERS)	0.025 SQ. IN.	25
WEIGHT	10.8 GRAMS	0
SHOCK RATING (5 DROPS, EACH OF 6 AXES)	100G PEAK	
OVERPRESSURE	25 psi MAX	

FLOW sccm	NOMINAL (VDC)	TOL. (±VDC)
200	5.00	0.15
175	4.80	0.16
150	4.50	0.17
125	4.17	0.18
100	3.75	0.19
75	3.27	0.19
50	2.67	0.17
25	1.90	0.13
0	1.00	0.05

HEATER CONTROL CIRCUIT

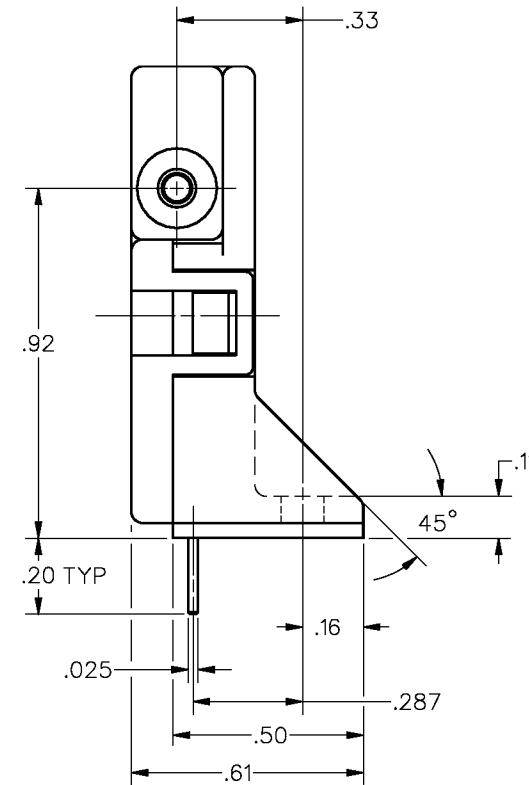
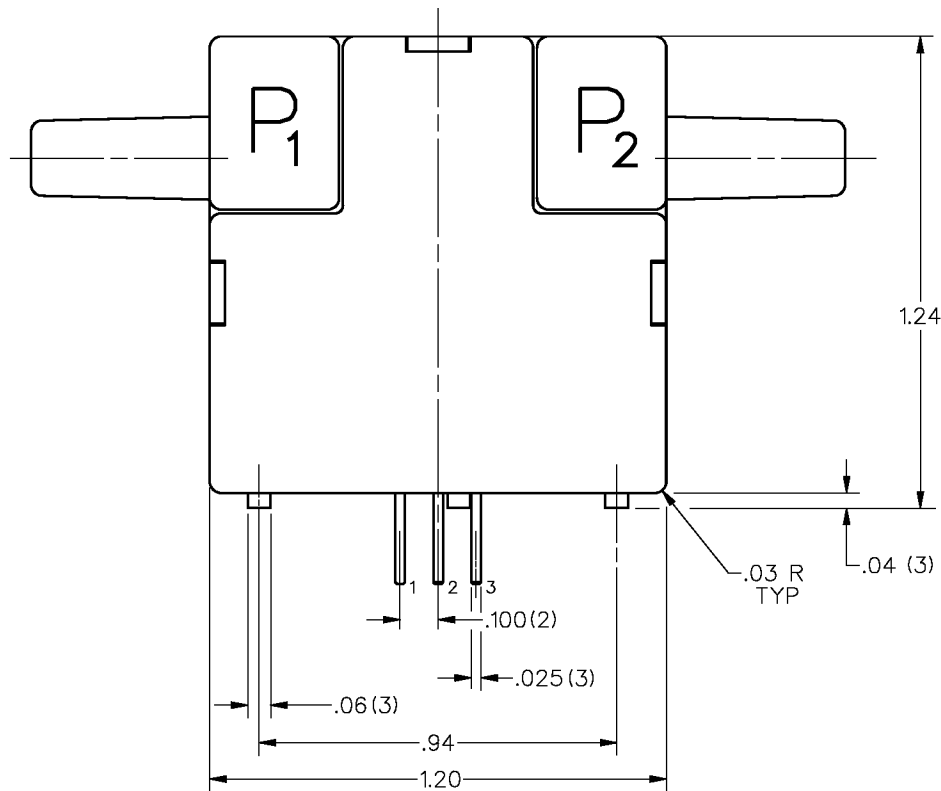


SENSING BRIDGE SUPPLY CIRCUIT AND DIFFERENTIAL INSTRUMENTATION AMPLIFIER (ON BOARD)



OUTPUT CONNECTIONS

- PIN 1 OUTPUT VOLTAGE
- PIN 2 + SUPPLY VOLTAGE
- PIN 3 GROUND



REPLACES X86483-AW

NOTES
1 - POSITIVE FLOW DIRECTION IS DEFINED AS PROCEEDING FROM P1 TO P2 AND RESULTS IN POSITIVE OUTPUT (PIN 1 > PIN 3). NEGATIVE FLOW DIRECTION IS DEFINED CONVERSELY AND RESULTS IN NEGATIVE OUTPUT (PIN 1 < PIN 3)

DESIGN UNITS: INCH	DRAWN	KAG	10JAN90
TOLERANCES UNLESS NOTED:	CHECK	JAF	12JAN90
NO PLACE .X ±	THIS DRAWING COVERS A PROPRIETARY ITEM AND IS THE PROPERTY OF HONEYWELL. THIS DRAWING IS NOT TO BE COPIED OR USED WITHOUT THE PERMISSION OF HONEYWELL.		
ONE PLACE .X ±	INTERPRET PER ASME Y14.5M-1994 OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY		
TWO PLACE .XX ±	THIRD ANGLE PROJECTION		
THREE PLACE .XXX ±			
FOUR PLACE .XXXX ±	RASTER		
ANGLES ±	SCALE 3:1		

TITLE		DRAWING NAME		REV
MASS AIRFLOW SENSOR		AWM3100V		5
SHEET		1 OF 1		

Honeywell				
MASS AIRFLOW SENSOR				
SIZE	TYPE	DRAWING NAME		REV
B	I	AWM3100V		5
SHEET		1 OF 1		