



AWM3150V



Airflow Sensor, Signal Conditioning:
Amplified; Flow/Pressure Range: + 30.0
sccm; Port Style: Straight

Actual product appearance may vary.

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

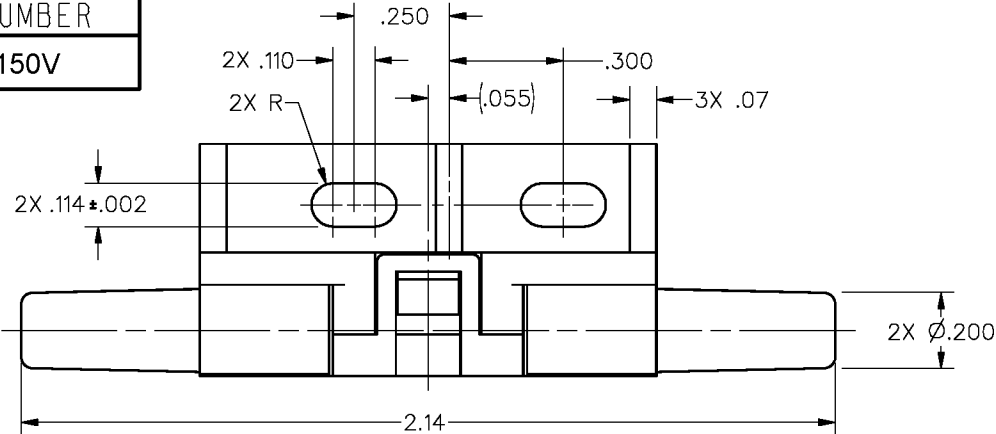
PRODUCT DAMAGE

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	30.0 sccm
Output Voltage @ Trim Point	3.4 Vdc @ 25 sccm
Port Style	Straight
Series Name	AWM3000
Null Shift over Temperature	±100 mV dc
Output Shift over Temperature	±5 % Reading
Maximum change in flow rate	5.0 SLPM/s
Max. Repeatability & Hysteresis Error	±1% Reading
Null Offset	1.00 Vdc ±0.10 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
AWM3150V

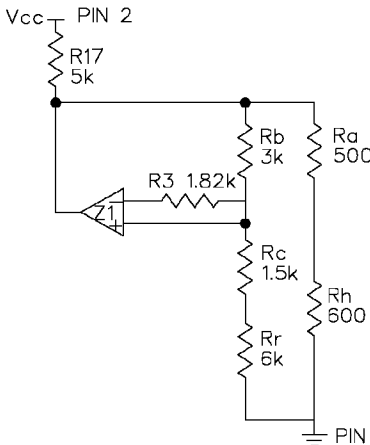


SPECIFICATIONS:	AWM3150V
RECOMMENDED EXCITATION	10.00±.01VDC
POWER CONSUMPTION	30mW
OUTPUT VOLTAGE @ LASER TRIM POINT	5.00 VDC
NULL VOLTAGE	1.00±.1 VDC
NULL VOLTAGE SHIFT (-25°C TO +85°C)	±100mV
OUTPUT VOLTAGE SHIFT (+25°C TO -25°C)	±5% READING
(+25°C TO +85°C)	±5% READING
REPEATABILITY & HYSTERESIS	±1% READING MAX
RESPONSE TIME	3.0 msec MAX
OPERATING TEMPERATURE RANGE	-25°C TO +85°C
STORAGE TEMPERATURE RANGE	-40°C TO +90°C
TERMINATION (ON .100 CENTERS)	0.025 SQ. IN.
WEIGHT	10.8 GRAMS
SHOCK RATING (5 DROPS, EACH OF 6 AXES)	100G PEAK
OVERPRESSURE	25 psi MAX

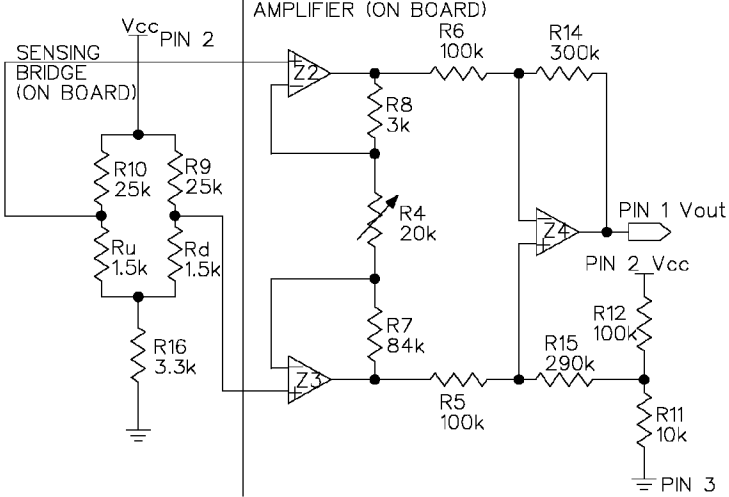
AWM3150V
OUTPUT FLOW VS. INTERCHANGEABILITY

FLOW SCAN	NOMINAL (VDC)	TOL. (±VDC)
30	3.75	0.70
20	2.90	0.45
10	1.95	0.20
5	1.50	0.10
4	1.40	0.09
3	1.30	0.08
2	1.20	0.07
1	1.10	0.06
0	1.00	0.05

HEATER CONTROL CIRCUIT

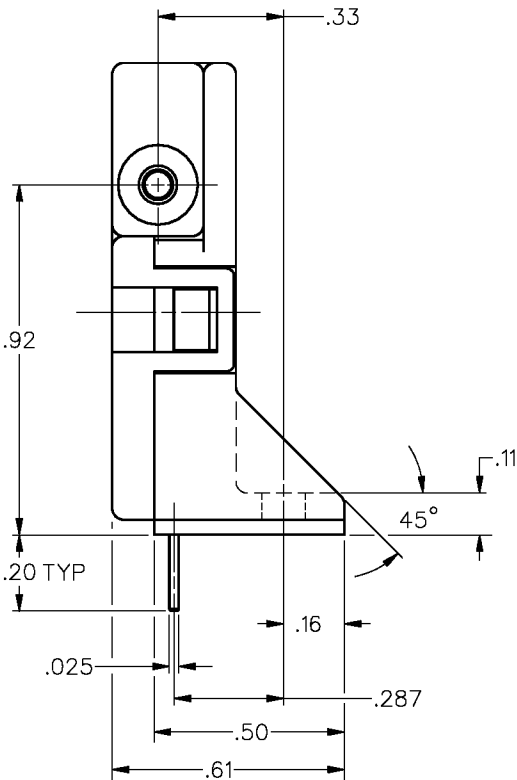
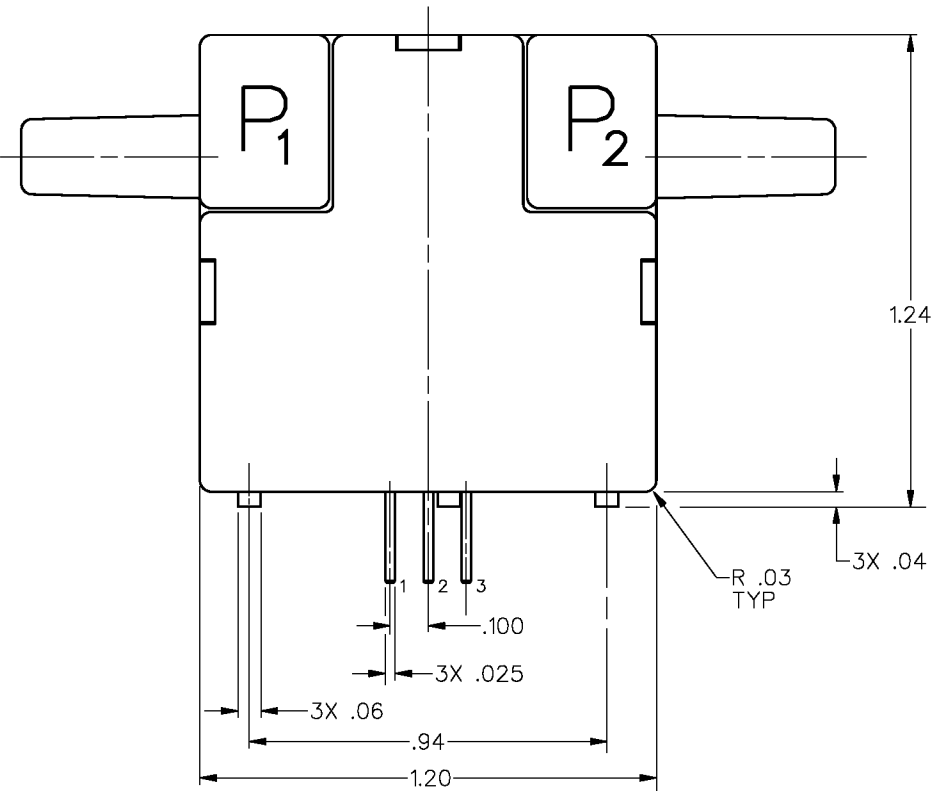


SENSING BRIDGE SUPPLY CIRCUIT AND DIFFERENTIAL INSTRUMENTATION AMPLIFIER

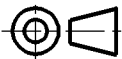


OUTPUT CONNECTIONS

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



DESIGN UNITS: INCH	
TOLERANCES UNLESS NOTED:	
NO PLACE X ±	
ONE PLACE .X ±	0.030
TWO PLACE .XX ±	0.015
THREE PLACE .XXX ±	0.005
FOUR PLACE .XXXX ±	
ANGLES ±	
THIRD ANGLE PROJECTION	



DRAWN	LJK	7MAY96
CHECK	TSM	9MAY96
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INTERPRET PER ANSI Y14.5M-1982 OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY		
RASTER		

Honeywell			
TITLE			
MASS AIRFLOW SENSOR			
SIZE	TYPE	DRAWING NAME	REV
B	I	AWM3150V	5
SCALE	3:1	SHEET	1 OF 1

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)