Honeywell

Honeywell Sensing and Control

AWM3300V

Actual product appearance may vary.

Airflow Sensor, Signal Conditioning: Amplified; Flow/Pressure Range: + 1000 sccm (1.0 SLPM); 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

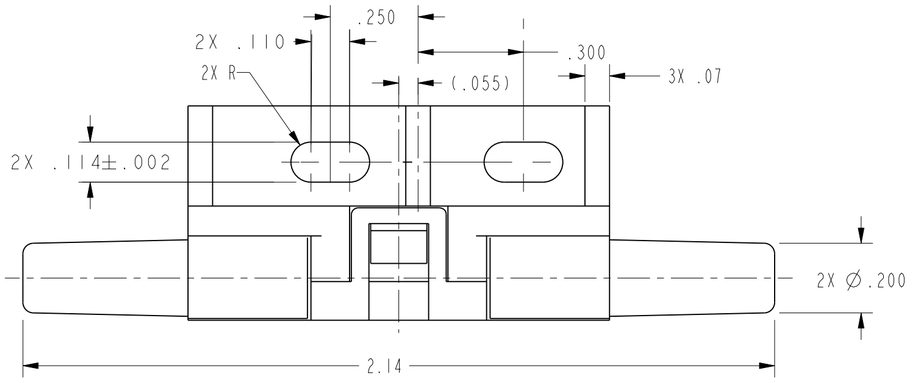
Like the AWM2000 Series, the dual Wheatstone bridges control airflow measurement. The AWM3000 Series is amplified; therefore, it can be used to increase the gain and to introduce voltage offsets to the sensor output. The heater control circuit and the sensing bridge supply circuit are on board the package.

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	1000 sccm (1.0 SLPM)
Output Voltage @ Trim Point	5.0 Vdc @ 1000 sccm (1.0 SLPM)
Port Style	Straight
Series Name	AWM3000
Null Shift over Temperature	±25.0 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
AWM3300V

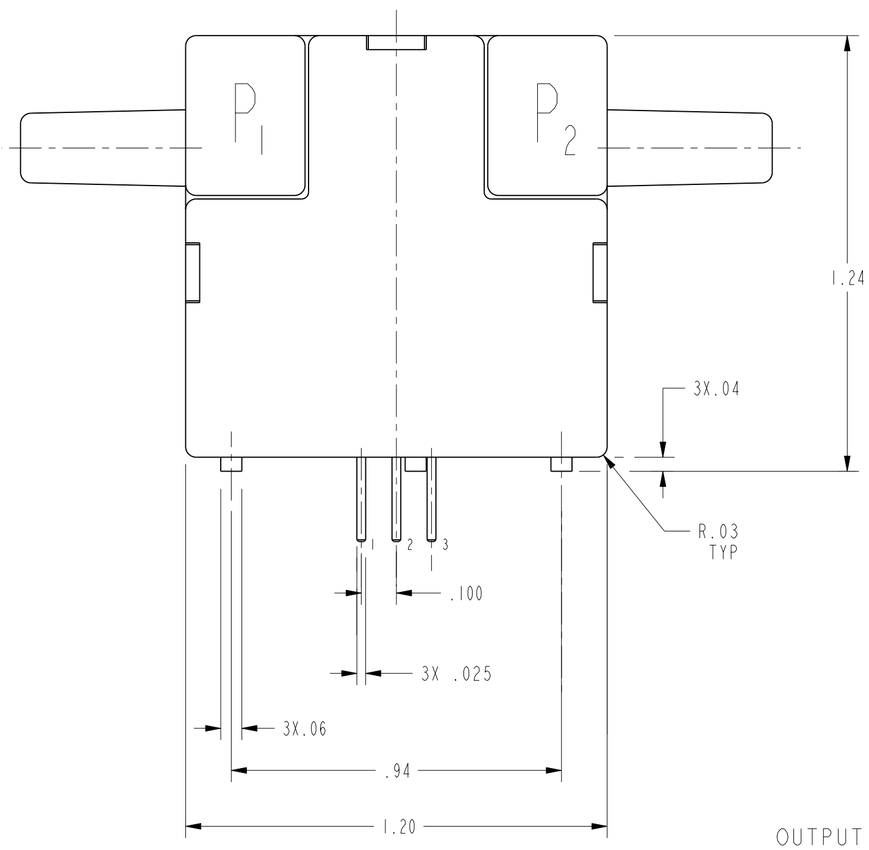
REV	DOCUMENT	CHANGED BY	CHECK
6	0013772	RS 21JUN05	AK

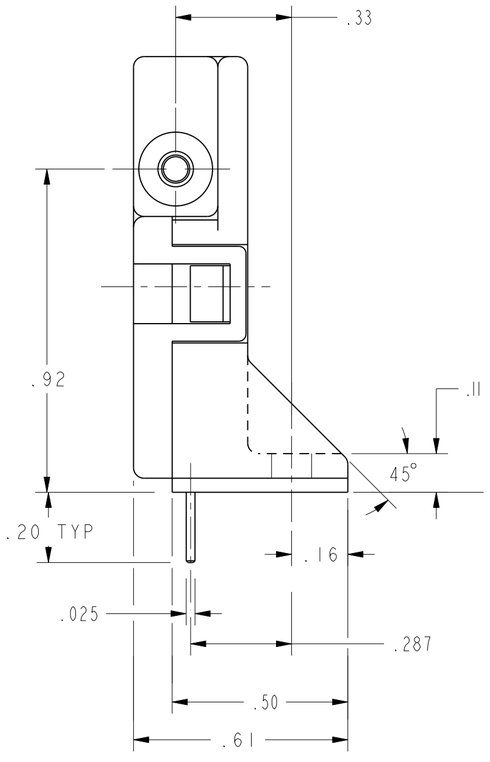


SPECIFICATIONS:	AWM3300V
RECOMMENDED EXCITATION	10.00± .01VDC
POWER CONSUMPTION	60mW MAX
OUTPUT VOLTAGE @ LASER TRIM POINT	5.00 VDC @ 1000 sccm
NULL VOLTAGE	1.00± .10 VDC
NULL VOLTAGE SHIFT (-25°C TO +85°C)	± 25mV
OUTPUT VOLTAGE SHIFT (+25°C TO -25°C) (+25°C TO +85°C)	-5% READING MAX +5% READING MAX
REPEATABILITY & HYSTERESIS	±1.0% READING TYP
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

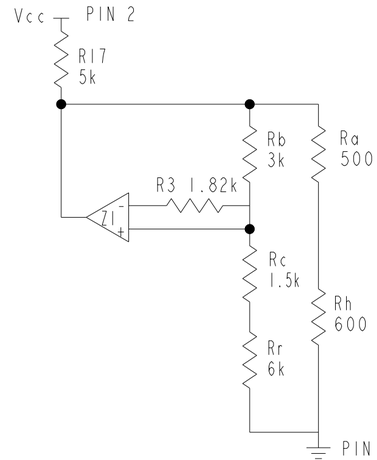
AWM3300V
OUTPUT FLOW VS. INTERCHANGEABILITY

FLOW sccm	NOMINAL (VDC)	TOL. (±VDC)
1000	5.00	0.15
900	4.90	0.16
800	4.80	0.17
700	4.66	0.18
600	4.42	0.19
500	4.18	0.20
400	3.82	0.21
300	3.41	0.19
200	2.96	0.17
100	2.30	0.14
0	1.00	0.10

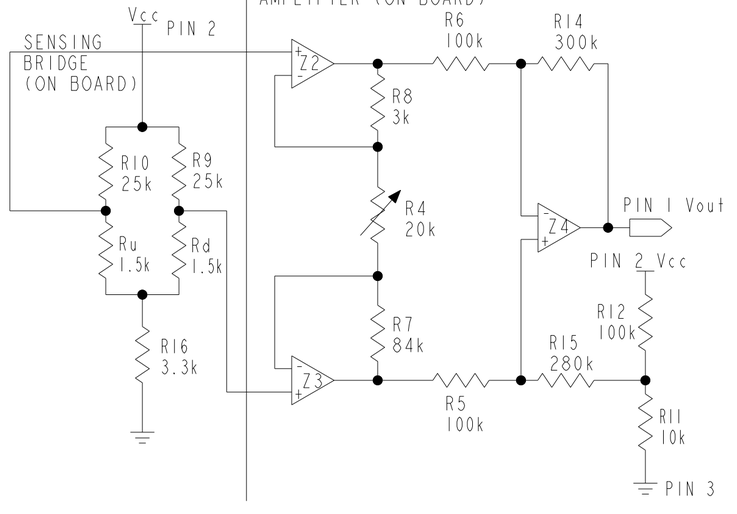




HEATER CONTROL CIRCUIT



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



OUTPUT CONNECTIONS

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

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)

REPLACES: X89614-AW

DESIGN UNITS: INCH
TOLERANCES UNLESS NOTED:

NO PLACE	X	±	
ONE PLACE	.X	±	.030
TWO PLACE	.XX	±	.015
THREE PLACE	.XXX	±	.005
FOUR PLACE	.XXXX	±	
ANGLES	X	±	

THIRD ANGLE PROJECTION

DRAWN	LKJ	26SEP02
CHECK	SAV	26SEP02

INTERPRET PER ANSI Y14.5M-1982
OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY

Pro/ENGINEER 2D

Honeywell

TITLE
MASS AIRFLOW SENSOR

SIZE	TYPE	DRAWING NAME	REV
C	1	AWM3300V	6

SCALE 3:1 SHEET 1 OF 1