

## Installation Instructions for the AWM 5000 Series Microbridge Mass Airflow Sensor

ISSUE 4  
PK 88762

### GENERAL INFORMATION

The AWM5000 Series Microbridge Mass Airflow Sensors operate on the theory that airflow directed across the surface of a sensing element causes heat transfer. Output voltage varies in proportion to the mass of air or other gas flowing through a given sensor's inlet and outlet ports.

### CURRENT SINK/SOURCE

Maximum current ratings are 10 mA sinking and 20 mA sourcing, governed by an LM224 operational amplifier in the final stage of the instrumentation amplifier.

### MEDIA CONTAMINATION

Media flowing through the sensor should be free of condensing moisture and particulate contaminants. A 5 micron filter upstream of the sensing element reduces the risk of damage due to contaminants.

### MOUNTING INSTRUCTIONS

Mount AWM5000 Series sensors with 6-32 screws. The use of washers below the screw head is recommended. Mounting torque is 1,1 N m (9.75 in lb) max. for steel screws, or 0,75 N m (6.75 in lb) max. for brass screws.

### NOTICE

- When making flow connections to a mounted sensor, the AWM5000 **must** be supported at the flow adapter.
- If end adapters are twisted with respect to the flow tube during installation, the seal between O-ring and flow tube will be broken, causing a small temporary leak. The leak can be as high as 1 psi, or may remain within specification. It will self-heal as the O-ring conforms. About 85% of the leak will be gone within approximately 24 hours, with complete recovery within approximately 48 hours.
- Do not expose ports to forces greater than 1 kg [2 lb] in a direction perpendicular to the port centerline.
- Torque on ports should not exceed 4,52 N m [40 in lb].

### ELECTRICAL CONNECTION

The AWM5000 Series accepts a latch detente connector, such as:

1. Amp part number 5-103956-3.
2. Sensing and Control part number SS-12143

Information and literature on the latch detente connector is available from Amp Product Information Center, 1-800-522-6752 or the Customer Hotline, 1-800-722-1111.

### RECOMMENDED AMP LITERATURE

–	MTE Interconnection System (AMPMODU) Catalog
108-25034	Product Specification (technical performance information)
114-25026	Application Specification (describes product, proper assembly, full tooling information)
408-6790 408-9359	Instruction Sheet for assembly procedure

### TO MAKE ELECTRICAL CONNECTIONS

1. Remove (unlatch) the connector from the AWM5000.
2. Hand-crimp the interface wire to the appropriate pin on connector. Suggested tool: AMP Hand-Crimp Tool, part number 58074-1 and terminating head 58336-1.
3. Insert the terminal contacts into the connector housing after the carrier strip (lead-frame) is removed.
4. Reconnect (latch) connector to the AWM5000 device.

### CLEANING

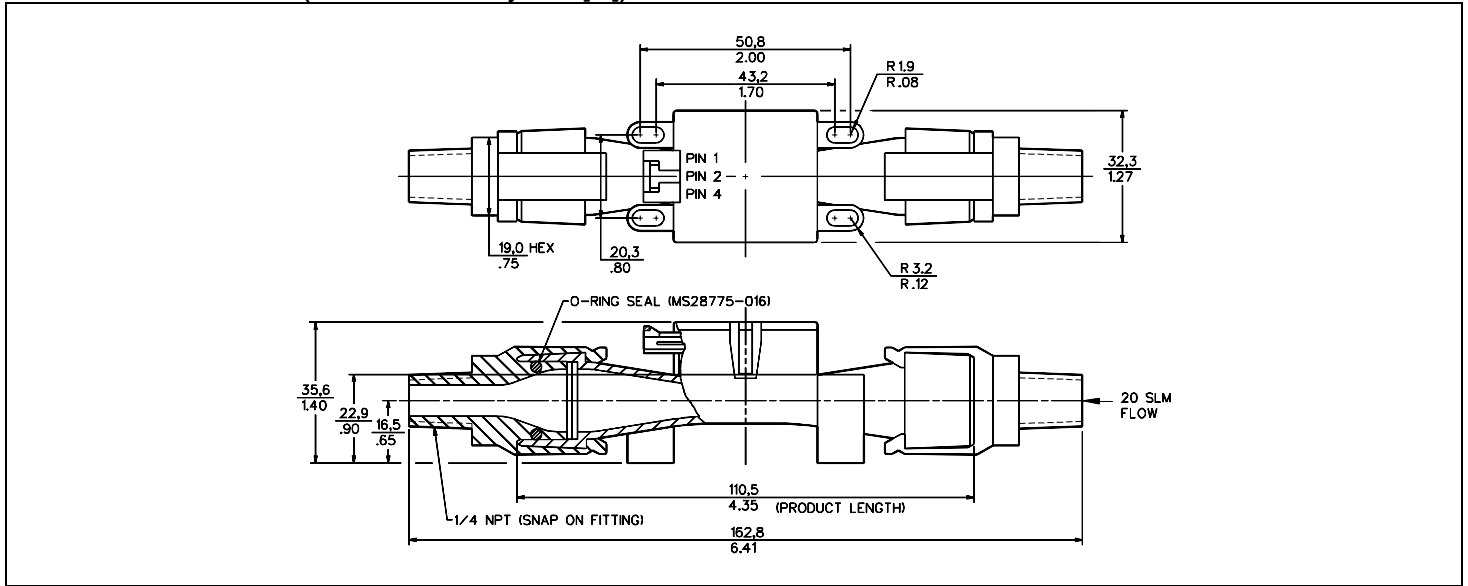
#### CAUTION

#### PRODUCT DAMAGE

- Do not use ultrasonics.
- Do not use III Tri-chloroethane, methylene chloride, methyl pyrrolidone or any oxidizing type acid such as formic acid.
- Cover the ends of the tube during cleaning because certain solvents may attack the epoxy which seals the chip tube to the ceramic substrate.

**Failure to comply with these instructions may result in product damage.**

## MOUNTING DIMENSIONS (For reference only. mm/[in])

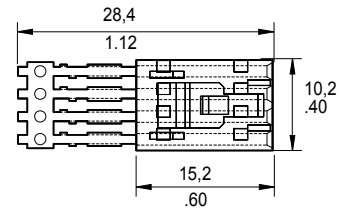


## OUTPUT CONNECTIONS

Pin 1	+ Supply voltage
Pin 2	Ground
Pin 3	No connection
Pin 4	Output voltage

**Note:** Flow direction is marked on housing.

## SS-12143 CONNECTOR



## WARNING

**PERSONAL INJURY**  
DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. **Failure to comply with these instructions could result in death or serious injury.**

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PK88762-4-EN IL50 GLO Printed in USA

January 2007

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