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E-AV-K

Instructions for commissioning and operating HVAC Miniature Air Velocity Transmitter

GENERAL:

The E-AV-K air velocity transmitter operates on the hot-film anemometer principle and features a special sensing element manufactured in thin-film technology combined with an innovative transfer-molding technology.
The positioning of the sensing head in the air stream has a relevant impact on the measurement accuracy. Accurate measurements are only possible if the probe is placed in a nearly laminar flow with an adequate inlet and outlet length.

The sensor is optimized for heating, ventilating and air conditioning (HVAC) applications.

The E-AV-K will report measurements to the E-16D/-5D/-2D (SYSTEM) through a connection with an E-S5VDC Voltage Sensor Adapter (sold separately). With proper configuration, the SYSTEM can be remotely monitored and alert messages can be sent to configured users as desired. For more on installing the E-S5VDC refer to manual man113 and for more on sensor configuration refer to the manual for the SYSTEM (man154) available at www.networktechinc.com.

CAUTION:

The transmitter shall not be exposed to excessive mechanical stress, shocks, vibrations, highly corrosive environment or condensation.

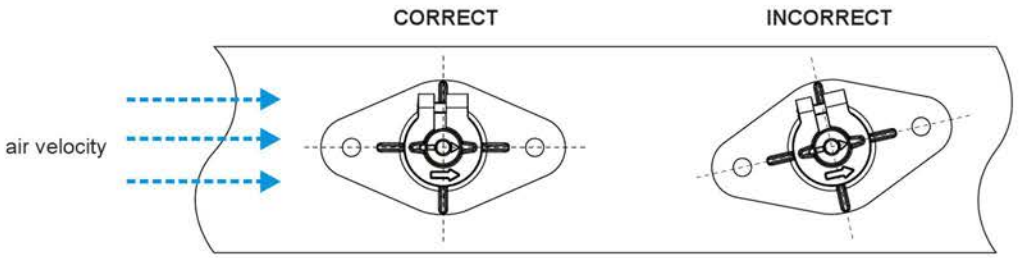
TECHNICAL DATA		
output signal[1)]		0-5V (max. 1mA)
measurement range		0...10m/s (0...2000ft/min)
accuracy air velocity (at 20°C (68°F), 45% RH, 1013hPa (14.7psi))		±(0,3m/s / 60ft/min + 4% from mv)
power supply		10...29V DC SELV (max. 50mA)
response time τ_{90}		typ. 4s (at constant temperature)
temperature range	working temperature	-20...60°C
	storage temperature	-30...60°C
material / protection class	measuring head	polycarbonate / IP50
	housing	polycarbonate / IP54

1) min. output voltage 10mV

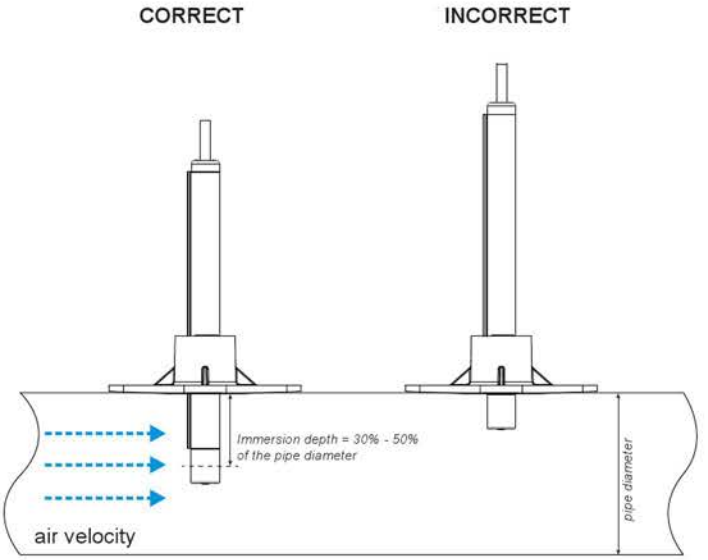
technical data are subject to change

Installation:

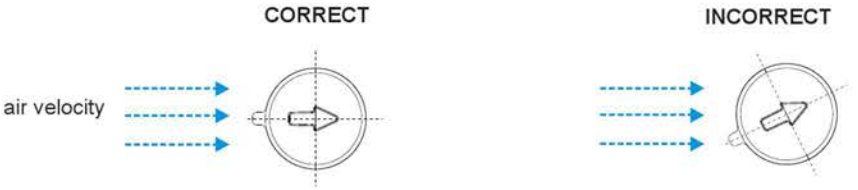
The alignment strip along the probe's tube and the matching mounting flange determine the orientation of the sensor probe. The arrow on the tip of the sensor probe and on the mounting flange marks the direction of the air stream. Install the mounting flange in such a way that the alignment is parallel with the air stream.



The mounting flange allows for an infinite variation of the depth of the sensor probe. It is important to ensure that the sensor head is completely submerged into the flow.

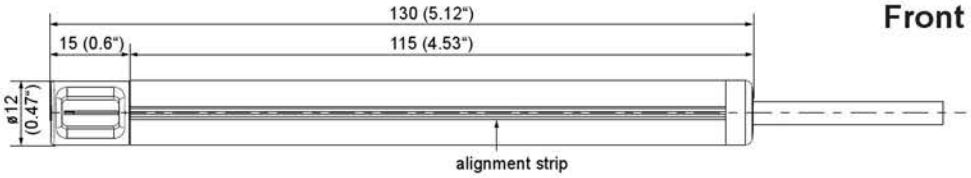


If the sensor probe is installed without a mounting flange, make sure the air velocity sensor is aligned parallel with the air stream.

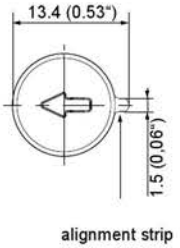


Dimensions:

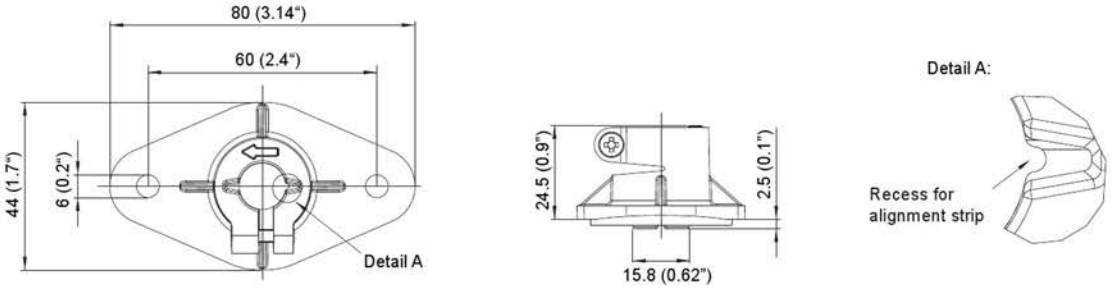
Units: mm (inch)



Front view sensor head:

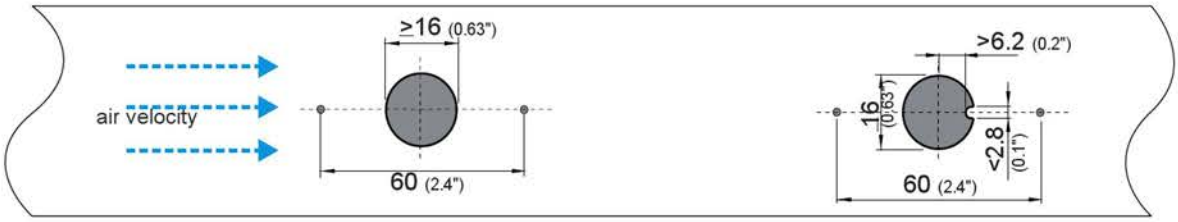


Flange:



Bore hole for mounting:

drilling in the wall of the duct:



optional (laser cutting):
hole in the wall of the duct:

By leaving a key notch in the hole in the wall of the duct, the flange can be mounted in the correct direction of the air stream.

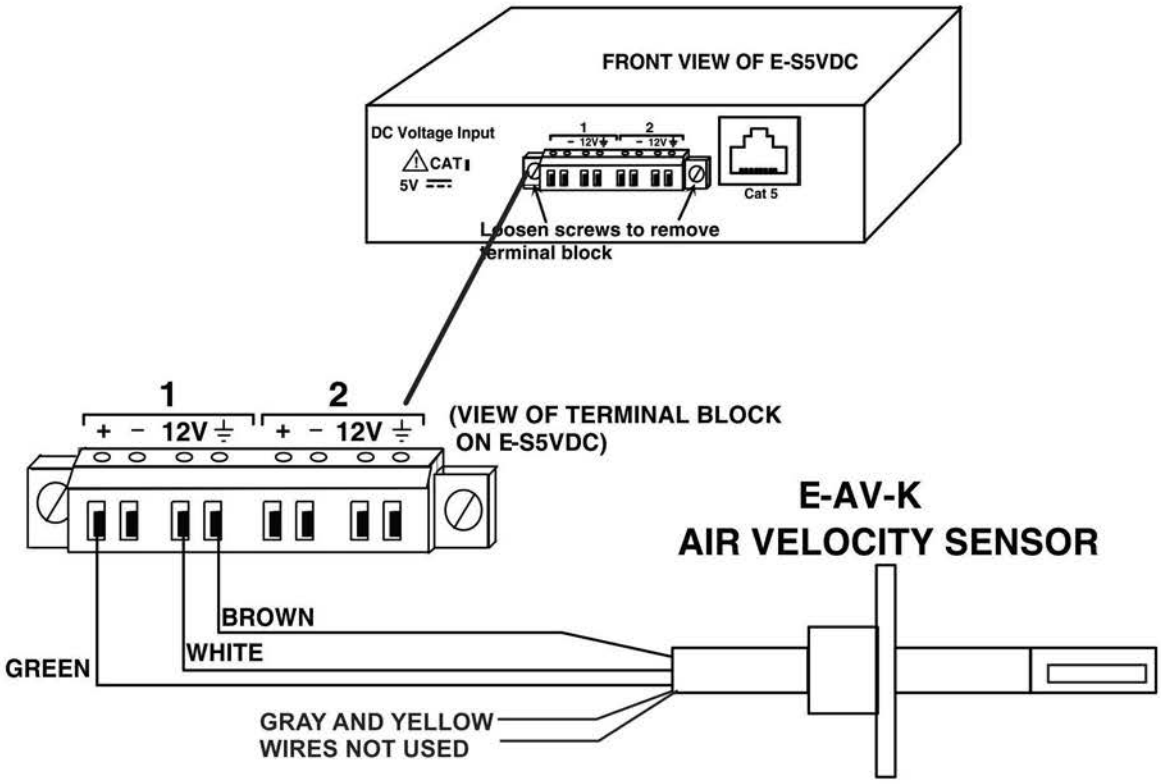
Electrical Connection:

Signal	Wire
V+	white
GND	brown
Analogue output	green
SDA*)	gray
SCL*)	yellow

*) digital interface: E2 bus (similar to I²C with E+E protocol E2)

⚠ The **sensor** is not short-circuit proofed. The two digital lines must not be connected to the supply!

Wire Connections to E-S5VDC



E-S5VDC WITH E-AV-K CONNECTED

Example of Configuration in ENVIROMUX SYSTEM

Server Rack Cooling Fan 1 Configuration (Type: Air Velocity)

Sensor Settings

Description	Server Rack Cooling Fan 1 Descriptive name for the sensor
Min. Level	0.0 Min. supported value for the sensor
Max. Level	5.0 Max. supported value for the sensor
Associate Sensor	☑ Associate sensor to a customized sensor type
Associated Sensor Type	Air Velocity Type of the associated sensor
Associated Sensor Unit	Ft/ M Measurement unit for the associated sensor
SNMP Associated Type ID	32767 ID value for SNMP type of associated sensor
Min. Associated Level	0.000000 Sensor expected value corresponding to 0V
Max. Associated Level	2000.000000 Sensor expected value corresponding to 5V
Min. Non-Critical Threshold	500.0 Min. threshold below which indicates an non-critical alert condition
Max. Non-Critical Threshold	2000.0 Max. threshold above which indicates an non-critical alert condition
Min. Critical Threshold	250.0 Min. threshold below which indicates an alert condition
Max. Critical Threshold	2000.0 Max. threshold above which indicates an alert condition
Refresh Rate	1 Sec The refresh rate at which the sensor view is updated

Group Settings

Schedule Settings

Non-Critical Alert Settings

Critical Alert Settings

Data Logging

Save

Alert Simulation

Simulate Alert | Clear Alert