AIR VELOCITY TRANSDUCERS MODELS 8455, 8465, AND 8475

8455 8465 8475

The 8455, 8465, and 8475 Air Velocity Transducers are ideal for both temporary and permanent installations for air velocity measurements in research and development labs, manufacturing processes, and other applications. The full-scale range, signal output, and time constant are user selectable and can be easily changed to meet the needs of your application.

Applications

- + Comfort and draft studies
- + Critical environment installations (e.g., clean rooms and hospitals)
- + Diffuser design analysis
- + Monitoring drying processes
- + Monitoring air flows in tunnels and subways
- + Used as a standard in wind tunnels and calibration facilities
- + Environmental monitoring in greenhouses and IAQ applications
- + General engineering applications

General Purpose (8455)

- + Protected probe tip
- + Rugged ceramic sensor
- + Wide range of measurement applications
- + Fast response time

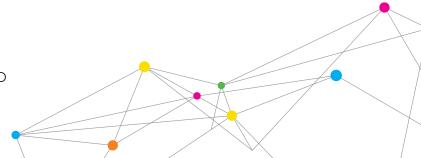
Windowless (8465)

- + Less flow blockage
- + Ideal for measuring in confined spaces
- + Fast response time

Omnidirectional (8475)

- + Omnidirectional probe tip
- + Accurate at low velocities from 10 to 100 ft/min (0.05 to 0.5 m/s)
- + Ideal for unknown or varying flow direction





SPECIFICATIONS

AIR VELOCITY TRANSDUCERS MODELS 8455, 8465, AND 8475

Accuracy

±2.0% of reading¹, 8455

±0.5% of full scale of selected range

±2.0% of reading1, 8465

±0.5% of full scale of selected range

8475 ±3.0% of reading2,

±1.0% of full scale of selected range

Field Selectable Range

8455 and 8465 25 ft/min to 200, 250, 300, 400, 500,

750, 1,000, 1,250, 1,500, 2,000, 2,500,

3,000, 4,000, 5,000, 7,500,

10,000 ft/min (0.125 m/s to 1.0, 1.25, 1.50, 2.0, 2.5, 3.0, 4.0, 5.0, 7.5, 10.0, 12.5, 15.0, 20.0, 25.0, 30.0, 40.0, 50.0 m/s) 10 ft/min to 100, 125, 150, 200, 250, 300, 400, 500 ft/min (0.05 m/s to 0.5,

0.75, 1.0, 1.25, 1.50, 2.0, 2.5 m/s)

Repeatability

8475

8455 and 8465 < ±1.0% of reading3

8475 N/A

Response to Flow

0.2 sec4 8455 and 8465 8475 5 sec⁵

Temperature Range

Compensation 32 to 140°F (0 to 60°C) Operating (electronics) 32 to 200°F (0 to 93°C) 32 to 200°F (0 to 93°C) Operating (sensor) Storage 32 to 200°F (0 to 93°C)

Resolution (minimum)

0.07% of selected full scale

Input Power

11 to 30 VDC or 18 to 38 VAC, 350 mA max⁶

Output

Impedance Voltage mode: less than 1 ohm, 20 mA

max source current

Resistance Current mode: 500 ohms maximum load Signal

Field selectable 0 to 5V, 0 to 10V, 0 to 20, 2 to 10V, mA, 4 to 20 mA

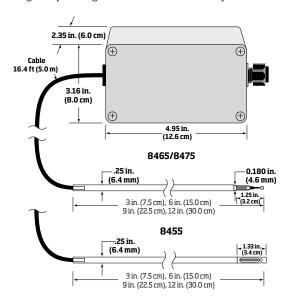
Time Constant Field selectable 0.05 to 10 seconds

Probe length

Germany

3 in., 6 in., 9 in., 12 in. (7.5 cm, 15 cm, 22.5 cm, or 30 cm)

All models contain on-board electronics and calibration curves that provide a linear signal output. This linear signal is sent out as either a current (mA) or a voltage (V) signal, allowing output to a variety of data loggers or data acquisition systems. In addition, the current and voltage output ranges are user-selectable for your convenience.



8455/8465	8475
25 to 10,000 fpm (0.127	10 to 500 fpm (0.05 to
to 50.8 m/s), selectable	2.54 m/s), selectable
\pm (2% of reading at 64.4	
to 82.4°F (18-28°C)	68.0-78.8°F (20 to 26°C)
+0.5% of full scale of	+1% of full scale of
selected range)	selected range)
0.2 seconds	5.0 seconds
11 to 30 VDC or 18 to 28	VAC, 350 mA maximum
	to 50.8 m/s), selectable ±(2% of reading at 64.4 to 82.4°F (18-28°C) +0.5% of full scale of selected range) 0.2 seconds

¹From 64.4 to 82.4°F (18 to 28°C), outside this range and within temperature compensation range add 0.11% per °F (0.2% per °C).

²From 68 to 78.8°F (20 to 26°C), outside this range and within temperature compensation range add 0.28% per °F (0.5% per °C). Directional sensitivity of the Model 8475 is +5%/-20% of reading +0/-10 ft/min (+0/-0.05 m/s) over 270° solid angle regardless of flow direction.

Standard deviation based on one minute average from 100 to 1,000 fpm (0.5 to 5.0 m/s).

For 63% of final value, tested at 1,500 fpm (7.5 m/s). For 63% of final value, tested at 500 fpm (2.5 m/s).

6Input voltage must be maintained within specifications at the transducer.

Specifications are subject to change without notice.

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Tel: +49 241 523030

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Tel: +91 80 67877200 USA Tel: +1 800 874 2811 India Tel: +44 149 4 459200 Tel: +86 10 8251 6588 UK China France Tel: +33 4 91 11 87 64 Singapore Tel: +65 6595 6388

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