

ENERGY AND COMFORT

Ventilation Test Instruments



Model 8455



8455

8465

8475

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

Air Velocity Transducers

Models 8455, 8465, and 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.

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 0.05 to 0.5 m/s (10 to 100 ft/min)
- Ideal for unknown or varying flow direction



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Specifications

Models 8455, 8465, 8475

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.

Accuracy

8455	$\pm 2.0\%$ of reading ¹ , $\pm 0.5\%$ of full scale of selected range
8465	$\pm 2.0\%$ of reading ¹ , $\pm 0.5\%$ of full scale of selected range
8475	$\pm 3.0\%$ of reading ² , $\pm 1.0\%$ of full scale of selected range

Field Selectable Range

8455 and 8465	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 (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)
8475	0.05 m/s to 0.5, 0.75, 1.0, 1.25, 1.50, 2.0, 2.5 m/s (10 ft/min to 100, 125, 150, 200, 250, 300, 400, 500 ft/min)

Repeatability

8455 and 8465	$\leq \pm 1.0\%$ of reading ³
8475	N/A

Response to Flow

8455 and 8465	0.2 sec. ⁴
8475	5 sec. ⁵

Temperature Range

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

Resolution (minimum)

0.07% of selected full scale

Input Power

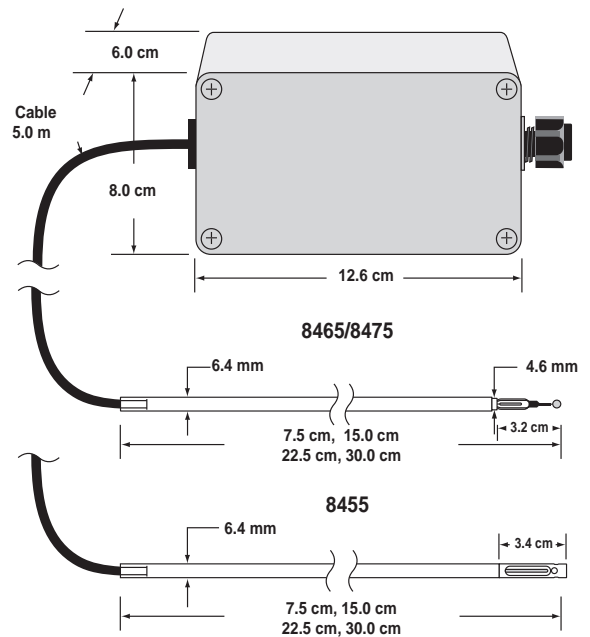
11 to 30 VDC or 18 to 38 VAC, 350 mA max⁶

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

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



	8455/8465	8475
Range	0.127 to 50.8 m/s (25 to 10,000 fpm), selectable	0.051 to 2.54 m/s (10 to 500 fpm), selectable
Accuracy	$\pm(2\%$ of reading at 18 to 28°C (64.4 to 82.4°F) + 0.5% of full scale of selected range)	$\pm(3\%$ of reading at 20 to 26°C (68.0 to 78.8°F) + 1% of full scale of selected range)
Response time	0.2 seconds	5.0 seconds
Input power	11 to 30 VDC or 18 to 28 VAC, 350 mA maximum	

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

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

³ Standard deviation based on one minute average from 0.5 to 5.0 m/s (100 to 1,000 fpm).

⁴ For 63% of final value, tested at 7.5 m/s (1,500 fpm).

⁵ For 63% of final value, tested at 2.5 m/s (500 fpm).

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

Specifications subject to change without notice.

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