



THERMAL DISPERSION PROBE AIRFLOW MEASURING SYSTEM ASTNN OR AD-1252 SERIES

DESCRIPTION

The Johnson Controls ASTNN Series or AD-1252 thermal dispersion probe airflow measuring system averages velocity and temperature from up to four probes and sixteen sensing points in a duct or plenum.

The transmitter provides accurate, dependable airflow measurement from 40 to 40,000 feet per minute (FPM) (12 to 1,219 meters per minute [MPM]) within $\pm 2\%$ accuracy.

The factory assembled **ASTNN Series** thermal dispersion probe airflow measuring system incorporates up to four thermal dispersion probes, a shielded CAT5e communications cable, and a DMPR-RA002 electronic controller, depending on the size of the duct.

FEATURES

- *Airfoil-shaped aluminum probes*
- *Digital controller display*
- *Multiple microprocessor-based circuits*
- *LCD screen*
- *Wind gust filter*
- *Plenum rated*
- *4-20 mA or 2-10VDC*

NEW!

Johnson
Controls



ASTNN-012-012

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FLOW

SPECIFICATIONS

Supply Voltage	Dedicated 24 VAC transformer	Installed Airflow Accuracy	$\pm 2\%$ of reading
4 Probes with		Repeatability	$\pm 0.25\%$
4 Sensors	65 VA	Measurement Units	Inch-pound (I.P.) or International System (S.I.)
3 Probes with		Sensor Distribution	Equal area
4 Sensors	48 VA	Calibrated Range	40 to 4,000 FPM (12 to 1,219 MPM)
2 Probes with		Velocity Requirements	
4 Sensors	35 VA	Minimum	40 FPM (12 MPM)
1 Probe with		Maximum	4,000 FM (1,219 MPM)
4 Sensors	17 VA	Temperature Sensing Accuracy	$\pm 10^\circ\text{F}$
Signal Output	4-20 mA standard; 2-10 VDC requires 499 ohm resistor across output terminals	Display	16 x 2 character LCD (airflow, temperature, and diagnostics)
Output Signal Adjustments	Field adjustable offset/gain	Operating Temperature	-25° to 140°F (-32° to 60°C)
Probe	Airfoil shaped 2" x 3/4", 6063T5 aluminum	Operating Humidity	0 to 99% RH, noncondensing
Maximum Number of Sensors	2 to 16 (size dependent)	Enclosure Rating	NEMA 1, 0.080" (0.2 cm) aluminum
Pressure Drop	Four 48" (122 cm) long probes in 48" x 48" (122 x 122 cm) duct: 0.1" w.g.	Weight	
Thermistor	Bead-in glass type	Controller	2.9 lb (1.32 Kg)
Size Range	8" x 8" to 120" x 120"	Sensor	1.0 lb (0.45 Kg)
Standard Insertion Brackets		Warranty	1 year
Multiplexer Side	0.080" (2.0 mm) aluminum		
Non-Multiplexer side	22 gauge galvanized steel		

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DUCT DIAMETER/HEIGHT CHARTS

Table 1

DUCT DIAMETER	No of Probes / No of Sensors per Probe
12	1/2
18	2/2
24	2/2
36	2/4
42	2/4
48	3/4
60	4/4
72	4/4
96	3/4
120	4/4

Table 2

Number of Probes/Sensors Per Probe for Rectangular Duct Applications

Duct Height (in.)	Duct Width (in.)									
	12	18	24	36	42	48	60	72	96	120
12	1/2	2/2	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
16	2/2	2/2	2/2	2/3	2/3	2/3	2/3	2/4	2/4	2/4
24	2/2	2/2	2/3	2/3	2/3	2/4	2/4	2/4	2/4	2/4
36	2/2	3/2	3/2	2/4	2/4	2/4	2/4	2/4	2/4	2/4
42	2/2	3/2	3/2	4/2	3/4	3/4	4/4	4/4	4/4	4/4
48	3/2	3/2	4/2	4/3	4/3	4/4	4/4	4/4	4/4	4/4
60	3/2	3/2	4/3	4/3	4/4	4/4	4/4	4/4	4/4	4/4
72	3/2	4/2	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
96	4/2	4/3	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
120	4/2	4/3	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4

ORDERING INFORMATION

MODEL	DESCRIPTION
ASTNN	Thermal Dispersion Probe Airflow Measuring System
	WIDTH OF DUCT
www	Duct width (sets the length of the probe)
	HEIGHT OF DUCT
hhh	Duct height (sets the number of probes) (See tables 1 and 2 above)
	OPTIONS (Maximum of 2)
C	Clear / anodized finish
I	Aluminum internal duct mounting brackets
J	SS Internal duct mounting brackets
M	Aluminum damper stand-off mounting brackets
N	NEMA 4 electronic controller enclosure
O	Shielded CAT5e communication cable 25ft
P	Shielded CAT5e communication cable 30ft
Q	Shielded CAT5e communication cable 40ft
R	Shielded CAT5e communication cable 50ft
S	SS damper stand-off mounting bracket
V	Round or oval duct (provides additional foam material to form a seal around duct)

ASTNN - 120 - 096 - CM

Example: ASTNN-120-096-CM Thermal dispersion airflow system, 120" width, 96 inch height, clear finish, aluminum bracket

ACCESSORIES

DMPR-KA001	Aluminum damper stand-off mounting brackets (2)
DMPR-KA002	SS damper stand-off mounting brackets (2)
DMPR-RA021	Shield CAT5e communications cable 10 ft (1.5m)
DMPR-RA022	Shield CAT5e communications cable 20 ft (1.5m)
DMPR-RA023	Shield CAT5e communications cable 30 ft (1.5m)
DMPR-RA024	Shield CAT5e communications cable 40 ft (1.5m)
DMPR-RA025	Shield CAT5e communications cable 50 ft (1.5m)
DMPR-RA026	Shield CAT5e communications cable 15 ft (1.5m)
DMPR-RA027	Shield CAT5e communications cable 25 ft (1.5m)

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