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Description

AD-1272 Advanced Thermal Dispersion Airflow and Temperature Measuring System sets a new standard for thermal dispersion airflow and temperature measuring products. The system supports air flow measurements up to 128 sensing points. The AD-1272 provides the most sensing points in the industry.

The AD-1272 Thermal Dispersion Airflow and Temperature Measuring System can measure a velocity range from 0 fpm to 5,000 fpm (0 mpm to 1,523 mpm) and displays the average flow and temperature at the installation location. The AD-1272 is intended for commercial airflow measurement in any outside, return, exhaust, or supply air application.

Each surface-mount thermistor pair provides a measurement for both velocity and temperature and is protected from the elements by a conformal coating.

A number of sensing points on one or more probes establish a measurement array across the area of the duct or plenum to provide an averaged airflow and temperature output.

Probe-sensing elements are factory tested and calibrated, at 20 points, to obtain the highest accuracy over the entire range of airflows.

Refer to the *AD-1272 Thermal Dispersion Probe Airflow Measuring System Product Bulletin (LIT-12012550)* for product application information.

Features

- BACnet®, Modbus®, and analog output standard—multiple methods to interface with building automation systems.
- Cutting-edge technology—has the lowest power consumption of any commercially available thermal dispersion device.
- Display with surface membrane buttons—provides tool-free setup and configuration.
- Standard communication cabling—does not require the use of proprietary cables.
- Airfoil shaped anodized aluminum sensing probes—lower pressure drop and greater resistance to oxidation.
- Up to 128 sensing points—provides accurate air flow measurements even in non-linear air flow.
- Remote display options—wireless or remote displays with cfm and temperature read-outs on easy to use.
- Sensor/Actuator (SA) bus communication compliant—Seamless integration with Johnson Controls® SA bus

Figure 1: AD-1272 Thermal Dispersion Probe Airflow Measuring System

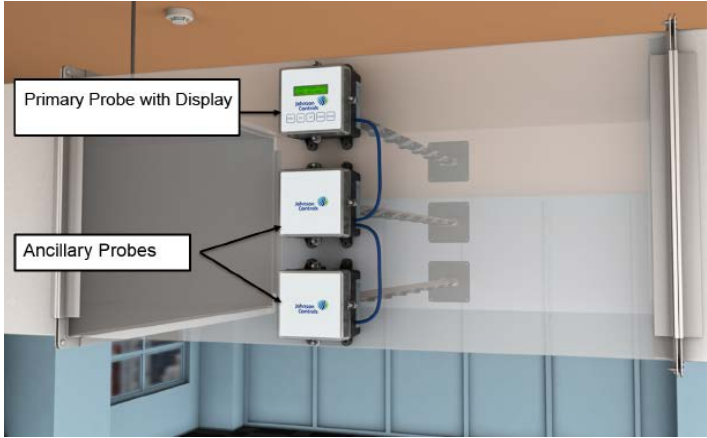
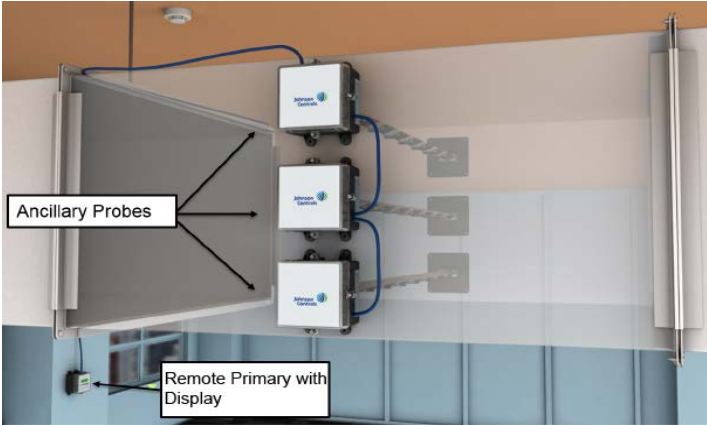
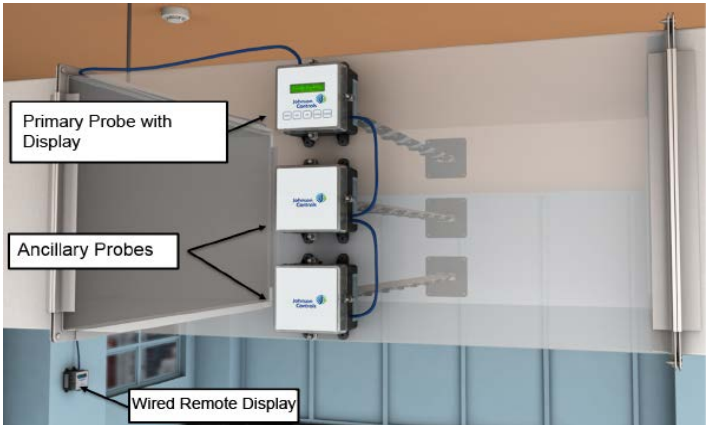


Repair information

If the AD-1272 Thermal Dispersion Probe Airflow Measuring System fails to operate within its specifications contact the nearest Johnson Controls® representative.

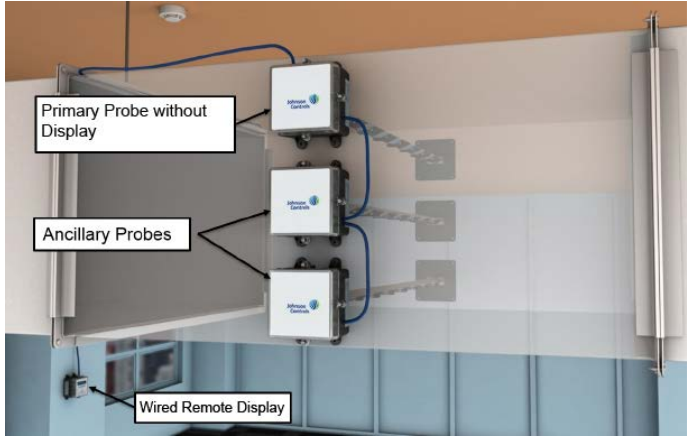
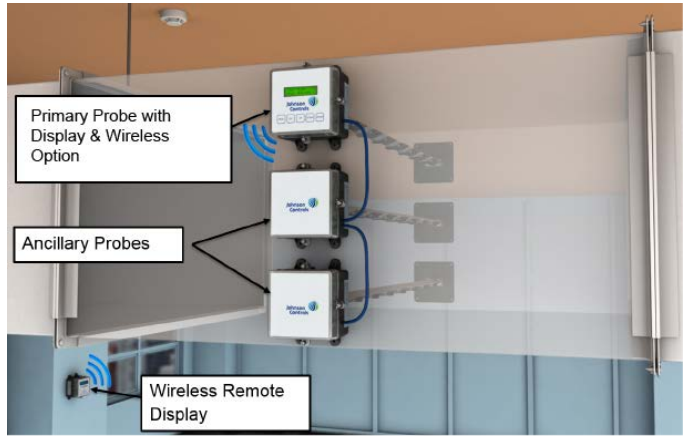
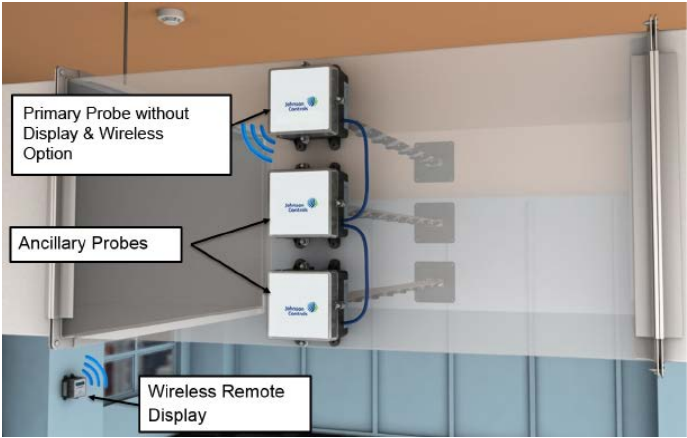
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Table 1: Display options chart

Options	Order code	Displays
Primary probe with display, no remote display	A	 <p>Primary Probe with Display</p> <p>Ancillary Probes</p>
Remote primary with display, all probes are ancillary probes	C	 <p>Ancillary Probes</p> <p>Remote Primary with Display</p>
Primary probe with display that includes wired remote display	R	 <p>Primary Probe with Display</p> <p>Ancillary Probes</p> <p>Wired Remote Display</p>

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Table 1: Display options chart

Options	Order code	Displays
Primary probe without display that includes wired remote display	S	
Primary probe with display that includes wireless remote display	W	
Primary probe without display that includes wireless remote display	Y	

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Table 2: Selection chart

	Code number/character	Field														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Application	A = Air Measuring Station	A	N	S	S	A	-	W	W	W	X	h	h	h	-	-
Duct type	N = Rectangular R = Round x ¹ = Oval (Ruskin01 required)															
Sensor placement	S = Standard equal area distribution T = Log-Tchebycheff rule arrangement (Ruskin01 required)															
Mounting options	S = Insertion mount with stainless steel mounting hardware T = Standoff mount with stainless steel mounting hardware A = Standoff mount with aluminum hardware (not available or valid with round or oval duct)															
UI options See Table 1.	A = Primary probe with display, no remote display C = Remote primary with display, all probes are ancillary probes R = Primary probe with display that includes wired remote display S = Primary probe without display that includes wired remote display W = Primary probe with display that includes wireless remote display Y = Primary probe without display that includes wireless remote display N = Primary probe without display, UI not included. ²															
Length dimensions	8 in. to 120 in. (one inch increments)															
Height dimensions	8 in. to 120 in. (one inch increments)															
Options, up to 2	G = Cord grip (2) dust tight, waterproof cord entry and exit for installed probe enclosure N = NEMA 4 weather resistant enclosure T = 24 VAC 40 VA transformer															

1. Option is only available through a Ruskin01 special quote at this time.

2. Option N does not include a UI. Field configuration and adjustments are not possible without a UI.

Table 3: Replacement parts

Code number	Description
DMPR-EAF-001	UI, wired remote display
DMPR-EAF-002	Wireless cards for the remote display and primary probe, required for conversion of wired remote display to wireless
DMPR-EAF-003	One set of NEMA 4 hole plugs for pre-drilled holes in the enclosure, 6 in each set
DMPR-EAF-004	Cord grip and locking nut, dust tight, waterproof cord entry and exit for probe enclosure when installed
DMPR-EAF-005	One set of NEMA 1 nylon dust plugs for knockouts, 6 in each set
DMPR-EAF-006	Replacement captive screw assembly for the lid
DMPR-EAF-007	500 ft roll power/communication cable
DMPR-EAF-008	JCI remote wired primary

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Table 4: AD-1272 Thermal Dispersion Probe Airflow Measuring System technical specifications

Specification	Description
Probe material	2 in. x 0.75 in. (51 mm x 19 mm) 6063T6 high-yield extruding aluminum with acid-etch, clear anodized finish
Communication bus	2-wire RS-485, BACnet MS/TP, Modbus RTU 2-wire, RS-485 proprietary bus between the primary transmitter, ancillary probes, and remote display
Thermistor	Thermistor pair in flexible polyimide membrane sensor
Size range	8 in. x 8 in. to 120 in. x 120 in. (20 cm x 20 cm to 305 cm x 305 cm)
Brackets	0.080 stainless steel
Sensor accuracy	Airflow: $\pm 2\%$ of reading and $\pm 0.25\%$ repeatability
Repeatability	$\pm 0.25\%$
Measurement units	Imperial (I.P.) or International System of Units (S.I.)
Sensor distribution	Equal area
Calibrated range	0 fpm to 5,000 fpm (0 mpm to 1,523 mpm)
Temperature sensor accuracy	$\pm 0.10^\circ\text{F}$ (0.06°C)
Sensor temperature range	-20°F to 120°F (-29°C to 49°C)
Primary probe temperature range	-20°F to 120°F (-29°C to 49°C) ¹
Humidity range	0% RH to 99% RH, noncondensing
Maximum number sensors	128
Power requirement	24 VAC, 15 VA
Power consumption	<10 VA for 2 probes with 8 sensors per probe and LDC display on primary probe
Output signals	4 mA to 20 mA standard, 2 VDC to 10 VDC requires 500 ohm resistor across output terminals.
Display	16 x 2 character LCD (airflow, temperature, setup, and diagnostics) and optional remote display
Velocity requirements	Minimum: 0 fpm (0 mpm) Maximum: 5,000 fpm (1,524 mpm)
Shipping weight	12 lb (5.4 kg) for AD-1272 Airflow Measuring System with two probes

1. Standard LCDs can be difficult to read at low temperatures. If display operation at less than -5°F (-20°F) is expected, consider remote display options.

Measuring stations are tested at an AMCA Certified Laboratory using instrumentation and procedures in accordance with AMCA Standard No. 610-93, Air flow Station Performance.

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

United States emissions compliance

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is may cause harmful interference, in which case the users will be required to correct the interference at their own expense.

Canadian emissions compliance

This Class (A) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Single point of contact

APAC	EU	UK	NA/SA
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