

H-5100 Pneumatic Room Humidity Transmitter

The H-5100 Room Humidity Transmitter accurately measures room or space relative humidity and transmits the measurement, in the form of a pneumatic signal, to a remote receiver. The H-5100 is designed primarily for use with Pneumatic Transmission Systems where the receivers are located on a central panel. Pneumatic feedback, which is an integral part of the H-5100, makes certain that the transmitted signal will accurately follow any variation in space humidity.

All models feature a CAB (cellulose acetate butyrate) sensing element and have a shock and vibration resistant mechanism which allows accurate output pressure changes

corresponding to the sensed humidity conditions. A volume amplifier is incorporated to provide fast response time and an output flow capacity of 400 SCIM (109 mL/s).

Installation

Humidity transmitter installation procedures are similar to thermostat installation procedures; refer to the *T-4000 Technical Bulletin* for details.

The H-5100 can be mounted horizontally or vertically; air connections are made to barbed fittings for 5/32 in. O.D. polytubing. Various accessories are available to facilitate mounting the room humidity transmitter on virtually any wall



H-5100 Surface Mounted Humidity Transmitter



H-5100 Concealed Mounted Humidity Transmitter

Specifications

Product	H-5100 Pneumatic Room Humidity Transmitter	
Operation	H-5100-201	Proportional, Direct Acting Range: 30 to 80% RH
	H-5100-202	Proportional, Direct Acting Range: 10 to 60% RH
Sensing Element	CAB (Cellulose Acetate Butyrate)	
Supply Pressure	18 to 25 psig (126 to 175 kPa) Nominal 20 psig (140 kPa) Air supply must be clean, dry and oil free.	
Sensitivity	Fixed at .24 PSI (1.7 kPa)/1% RH	
Transmitted Pressure Range	3 to 15 psig (21 to 105 kPa) for entire range	
Air Consumption	20 SCIM (5.5 mL/s)	
Output Flow Capacity	400 SCIM (109 mL/s)	
Ambient Temperature	40 to 150°F (4 to 66°C)	
Operating Limits Humidity	0 to 100% RH *	
Mounting	Surface	Horizontal or Vertical
	Concealed	With Aspirator Wall Box and Flush Wallplate
Accessories (Order Separately)	See Table 1.	
Shipping Weight	0.4 lb. (.18 kg)	

* The H-5100 may be ordered with corrosion resistant finish for high humidity atmospheres.

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

surface. The H-5100 can be concealed mounted using an aspirator wallbox and flush wallplate. Other accessories can be used for ceiling suspended mounting. Several kits are also available for converting existing installations. Refer to Table 1 for a complete list of mounting accessories available.

Repair Information

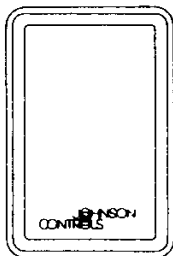
Generally, if the H-5100 fails to operate within its specifications, unit replacement is required; field repairs cannot be made. Refer to the *T-4000 Repair Parts Bulletin* for a limited list of available repair parts.

Table 1: Accessories (Order Separately)

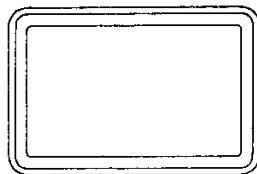
Transmitter, Mounting or Air Connection Accessory Description	Shipping Weight lb*	Code Number	Function
Room Instrument Mounting Bracket	0.3	T-4002-124	For surface mounting all transmitters and covers
Plaster Groundplate	0.2	T-4002-6038	For rough-in of surface mounted transmitters in masonry
Metal Wallbox	0.3	T-4002-6029	
Cover for Groundplate or Metal Wallbox	0.2	T-4002-5010	To keep dirt out of groundplate and wallbox during construction
Plastic Screw Anchors (Order in Multiples of 100)	0.5	F-1000-321	For mounting brackets and wallbox
Wire Guard	For Exposed Tubing	0.3	T-4002-3000
	For Concealed Tubing	0.3	T-4002-3001
Optional Wire Guard Mounting Plate	0.2	T-4002-6045	For surface mounted transmitter protection after construction
Cast Aluminum Guard and Mounting Bracket	0.3	T-4002-3004	
Plastic Guard	0.4	GRD10A-608	
Plastic Surface Mounting Back	0.5	T-4002-125	For surface mounted transmitters with exposed tubing
Terminal Connector with 2 Angle Fittings	0.1	T-4002-123	
Aspirator Wallbox Kit	0.5	T-4000-110	For concealed mounted transmitters without pushbuttons
Wallplate Cover Kit	Beige Finish	0.4	
	Stainless Steel Finish	0.4	T-4000-112
2-Tube Sheathed Polyethylene Strain Relief Bushing	0.1	T-4000-101	For rough-in box or metal wallbox to instrument air system tubing adaptation (1/2 in. knockout)
1/2 in. Conduit (EMT) Connector	0.1	T-4000-103	
Wallbox Mounting Kit	0.2	TE-1800-9600	To adapt 4000 series brackets and covers to standard conduit wallboxes
Terminal Connector with 2 Straight Fittings	0.1	T-4002-122	For optional plug-in connection to 5/32 in. O.D. polyethylene tubing
Terminal Connector Protector Cap (For Rough-in Only)	0.1	T-4000-100	
Two 5/32 x 5/32 in. Elbow Fittings	0.1	F-500-45	
Ceiling Suspended Mounting Kit	0.5	T-4002-100	To provide a method of installing a transmitter other than wall mounting
Hypodermic Needle Test Probe	0.2	X-200-140	Calibration
Screw-in Gage	0.3	X-200-19	

*lb x 0.454 = kg

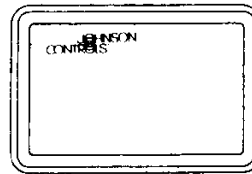
Beige Plastic Cover Selection Guide



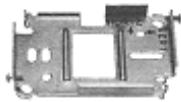
T-4000-2144



T-4000-2138



T-4000-2139



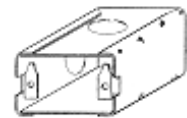
T-4002-124



F-1000-321



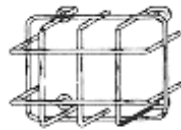
T-4002-6038



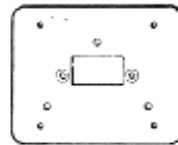
T-4002-6029



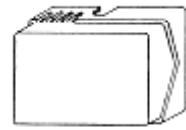
T-4002-5010



T-4002-3000
or
T-4002-3001



T-4002-6045



T-4002-3004



T-4002-125



T-4002-123



T-4000-101



T-4000-103



T-4002-122



T-4000-100



GRD10A-608



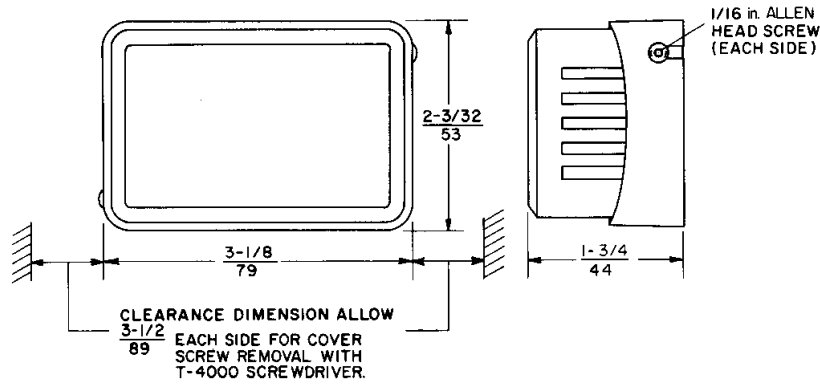
H-5100 Series Ceiling
Mounted Transmitter
(Hanger Pipe and Ceiling
Plate Purchased Locally)



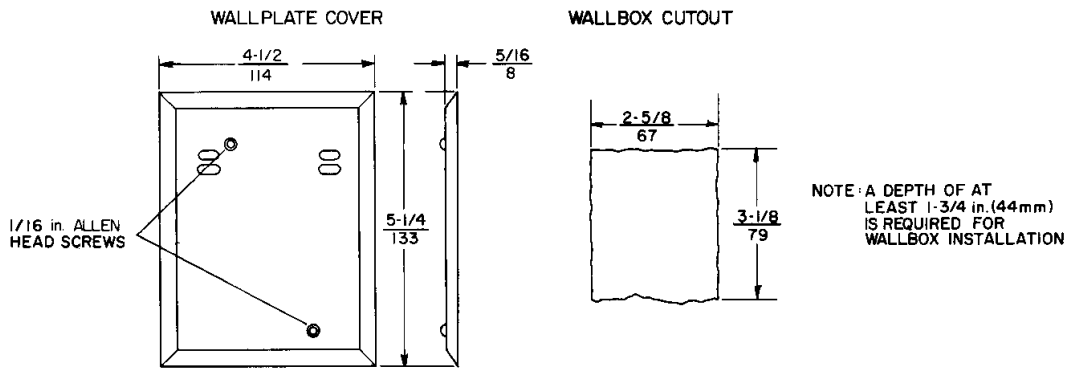
T-4002-100

**Table 2: Additional
Connection Accessories**

5/32 x 5/32 in. Coupler	F-300-31
5/32 x 1/4 in. Coupler	F-300-30
5/32 x 3/16 in. I.D. Coupler	F-100-20
5/32 x 5/32 x 5/32 in. Tee:	
Brass	F-700-83
Plastic	F-700-86
1/4 x 1/4 x 5/32 in. Tee	F-700-84
3/8 x 3/8 x 5/32 in. Tee	F-700-85
Anti-Kink Spring	F-1000-322

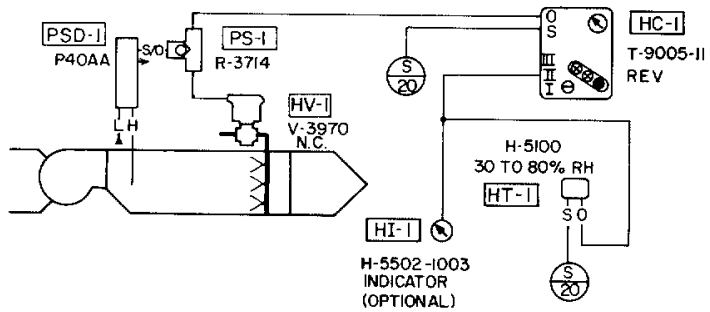
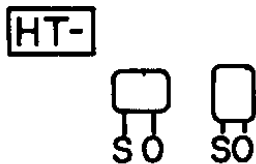


Surface Mounted Cover Dimensions $\frac{\text{in.}}{\text{mm}}$



Concealed Mounted Wallplate & Cutout Dimensions $\frac{\text{in.}}{\text{mm}}$

Application and Drawing Identification



Typical Application Using H-5100

**JOHNSON
CONTROLS**

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