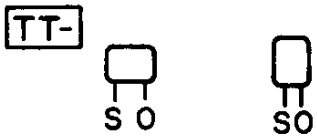
JOHNSON CONTROLS

T-5002 Room Temperature Transmitter

The T-5002 Room Temperature Transmitter measures space or mass temperature and transmits a proportional 3 to 15 PSIG (21 to 105 kPa) output signal to an indicator, receiver-controller, or Building Automation System for automatic temperature control. The space transmitters measure the temperature of the ambient air; the mass transmitters measure the surface temperature of the walls surrounding the space and transmit the signal to an optimal start controller. Refer to Table 1 for models and ranges available.

Mounting

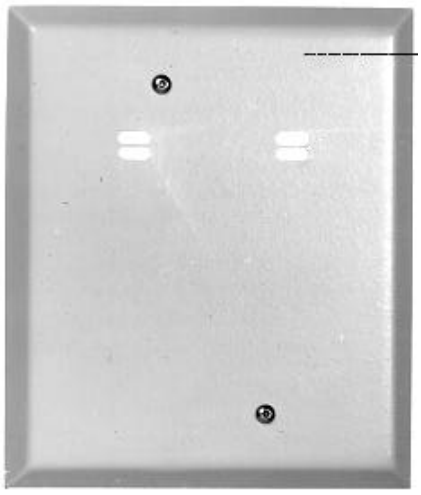
The T-5002 room transmitter is installed similarly to the standard T-4000 series thermostats. Installation instructions are found in T-4000-A Installation Data. Tables 2 and 3 list the various mounting accessories and guards available.



Application and Drawing Identification

See BEIMS 45-2.03-1.

T-5002 Transmitter Surface Mounted



T-5002 Transmitter Concealed Mounted

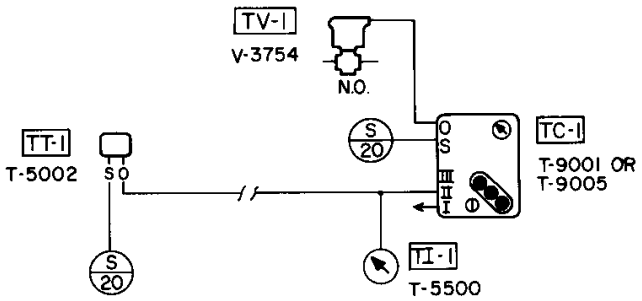
Table 1: Models

Type	Action	Range	T-5002 -Suffix
Space Temperature	DIR	50 to 100F	-201
		60 to 85F	-202
		10 to 35°C	-300
Mass Temperature	DIR	20 to 70F	-205
	REV	120 to 70F	-203

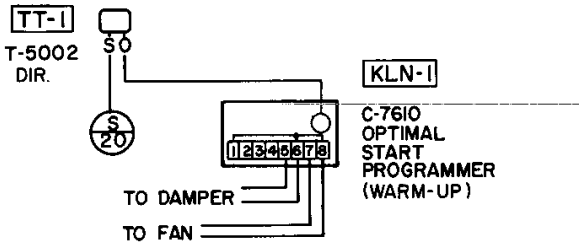
Specifications

Product	T-5002 Room Temperature Transmitter
Models	See Table 1
Supply Pressure	20 ±1 PSIG (140 ±7 kPa) Air Supply Must Be Clean, Dry, and Oil Free
Output Pressure	3 to 15 PSIG (21 to 105 kPa)
Air Consumption	20 SCIM (5.5 mL/s)
Output Flow Capacity	400 SCIM (109 mL/s)
Ambient Operating Temperature Limits	20 to 130F (-7 to 54°C)
Ambient Storage Temperature Limits	-20 to 150F (-29 to 66°C)
Air Connections	Barbed Fittings for 5/32 in. O.D. Polytubing
Shipping Weight	0.4 lbs

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.



Typical Space Temperature Control and Indication Application



Typical Mass Temperature Application

Calibration

The T-5002 has a fixed span and is factory calibrated. The only adjustment necessary is shifting the span for special applications or fine tuning the instrument.

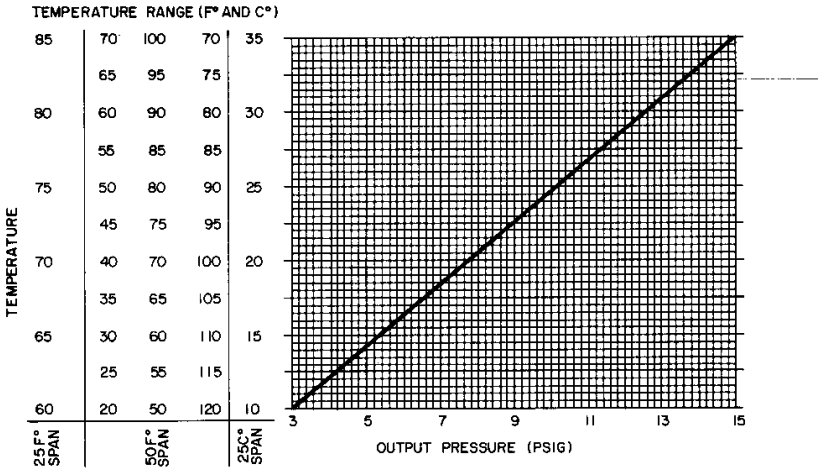
1. Furnish a 20 PSIG (140 kPa) supply pressure to the instrument.

2. Attach a transmission gage (that matches the instrument range) and test probe to the output pressure test connection.

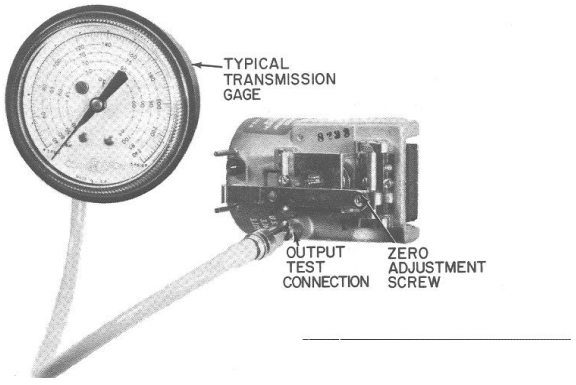
3. Accurately measure the temperature at the element.

4. From the graph above, find the proper transmission pressure corresponding to the measured temperature. Be sure to use the vertical scale on the graph which matches the range of the transmitter.

5. Turn the zero adjustment screw until the output pressure corresponds to the temperature at the element.



Temperature vs Output Pressure

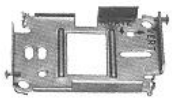


T-5002 Adjustments

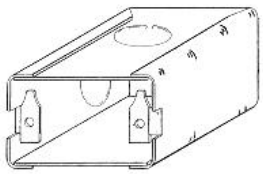
Table 2: Accessories (Order Separately)

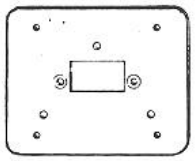
Description		Shipping Weight lbs*	Code Number	Function
Room Instrument Mounting Bracket		0.3	T-4002-124	For surface mounting all transmitters and covers
Plastic Screw Anchors (Mult. of 100)		0.5	F-1000-321	
Plaster Groundplate		0.2	T-4002-6038	For rough-in of surface mounted transmitters in masonry
Metal Wallbox		0.3	T-4002-6029	
Cover for Groundplate or Metal Wallbox		0.3	T-4002-5010	
Wire Guard	For Exposed Tubing	0.3	T-4002-3000	For surface mounted transmitter protection after construction
	For Concealed Tubing	0.3	T-4002-3001	
Optional Wire Guard Mounting Plate		0.2	T-4002-6045	
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 mounting 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
Wallplate Cover Kit	Beige Finish	0.4	T-4000-111	
	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	
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	
Ceiling Suspended Mounting Kit (See T-4000-A Installation Data)		0.5	T-4002-100	Provides a method of installation other than wall mounting

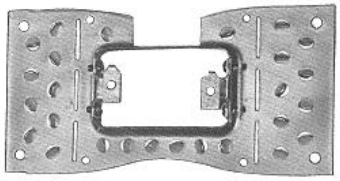
* lbs x 0.454 = kg
**1-3/4 in. Plastic Covers Cannot Be Used With Cast Aluminum Guard


T-4002-124


F-1000-321


T-4002-6029


T-4002-6045


T-4002-6038

T-4002-5010


T-4002-125


T-4002-122


T-4002-123

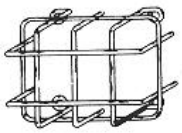

T-4000-100


T-4000-101 & -102

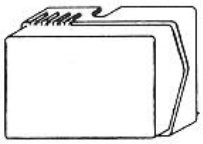

T-4000-103

Table 3: Additional Connection Accessories

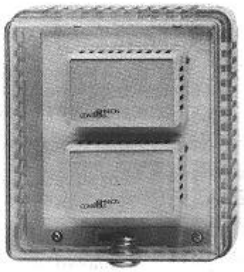
5/32 x 5/32 in. Coupler	F-300-31
5/32 x 1/4 in. Adapter	F-300-30
5/32 or 1/4 in. Plug	F-1000-323
5/32 x 5/32 x 5/32 in. Tee	F-700-84
5/32 in. Anti-Kink Spring	F-700-85



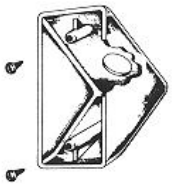
T-4002-3000
or
T-4002-3001



T-4002-3004



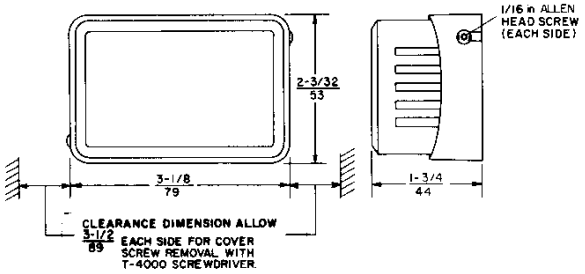
GRD10A-608



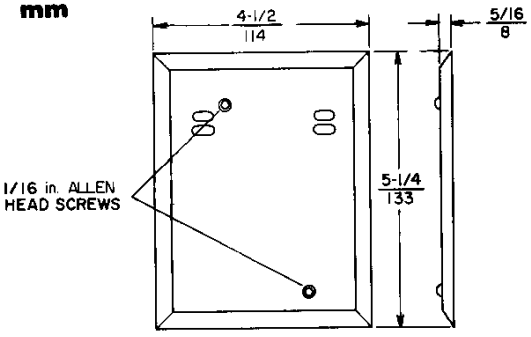
T-4002-100

T-4000 Series Ceiling Mounted Thermostat (Hanger Pipe and Ceiling Plate Purchased Locally)

Dimensions in. / mm

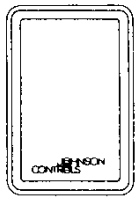


Surface Mounted Cover Mounting Detail

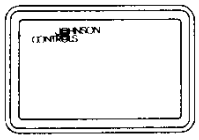


Concealed Mounted Cover Mounting Detail

Beige Plastic Covers



T-4000-2144



T-4000-2139

Without Nameplate
T-4000-2138

Table 4: Repair Parts*

Description	Shipping Weight lbs**	Code Number
Trade-in Exchange Program: Transmitter Movement Complete – With Exchange		
50 to 100F (Fahrenheit)	0.4	T-5002-6201
60 to 85F (Fahrenheit)	0.4	T-5002-6202
120 to 70F (Fahrenheit)	0.4	T-5002-6203
10 to 35°C (Celsius)	0.4	T-5002-6300
Thermometer Assembly Complete for Metal Covers		
Horizontal – Fahrenheit	.01	T-4002-612
Vertical – Fahrenheit	.01	T-4002-613
Screws:		
#4-40 x 1/4 in. Socket Screws for Mounting Brackets and Covers (Order in Multiples of 100)	1.0	T-4002-617
#4-40 x 1/4 in. Hex Tamper Proof (50 Screws w/Driver)	1.0	T-4000-627

* For a list of accessory repair parts, refer to Installation Data T-4000-A.8
** lbs x 0.454 = kg

JOHNSON CONTROLS

Controls Group
507 E. Michigan Street
P.O. Box 423
Milwaukee, WI 53201

Printed in U.S.A.