

**Two-Position Electric Room Thermostat
General Instructions**

Application

For on-off control of unit heater motors, electrical heater, high input motor starter coils.

Features

- Separate units for °C and °F.
- 2°F differential.
- Dial stop pins to limit dial range.
- Lock cover screw kits available.
- Agency approval.
- Switch bases AT-602 and AT-603 available for custom applications.

Applicable Literature

- TAC Cross-Reference Guide F-23638
- TAC Reference Manual F-21683
- TAC Application Manual F-21335



TA-1101



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TA-1101-770



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†See Table-4 for agency approvals.

SPECIFICATIONS

Setpoint Dial Range: See Table-1.

Sensing Element: Bimetal.

Differential: 2°F (1°C) maximum.

Electrical Switch: Snap action SPST switch with heavy-duty contacts.

Amp Ratings, See Table-2.

Connections: Coded screw terminals.

Cover: Beige plastic as standard with brushed bronze inserts.

Mounting: Flush or 2 x 4 wall box.

Locations: NEMA Type 1 indoor only.

Dimensions: 4-3/8" high x 2-3/4" wide x 1-5/8" deep (111 mm x 70 mm x 43 mm).

Table-1 Model Number Description.

Standard Model	Company Identification	Dial Range	Night Depression (24V)
TA-1101	TAC	55 to 85°F	No
TA-1101-116		13 to 29°C	No
TA-1101-602		55 to 85°F	Yes
TA-1101-770	Robertshaw	55 to 85°F	No
TA-1102	TAC	45 to 75°F	No
TA-1102-116		7 to 23°C	No
TA-1102-602		45 to 75°F	Yes
TA-1102-770	Robertshaw	45 to 75°F	No

Table-2 Electrical Ratings.

Full Load Amps		Locked Rotor Amps		Non-Inductive Amps			Pilot Duty VA
24/120 Vac	240 Vac	24/120 Vac	240 Vac	120 Vac	240 Vac	277 Vac	
7.2	3.6	44	22	7.5	7.5	7.0	68 @ 24 Vac 340 @ 120/240 Vac

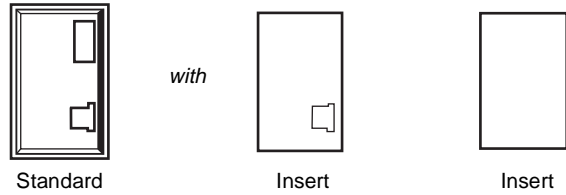
Table-3 Each Standard Model Contains the Following.

Quantity	Description
1	Blank cover insert
1	Cover insert with setpoint dial cutout
1	5/64" Allen head screw for securing cover to thermostat base
1	5/64" Allen head wrench
2	Dial stop pins to limit setpoint range
1	Thermostat

Table-4 Agency Approvals.

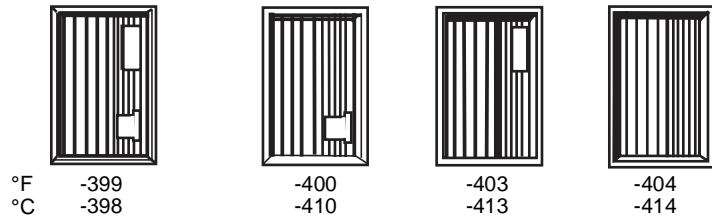
Configuration	Part Number	UL Listed	CSA Certified
Metal cover option	TA2-110X	Yes	Yes
Plastic cover	TA-110X	Yes	No
Night depression option	TA-110X-602	Yes	Yes

Standard Cover



Options for TAC Models Only (for quantities of 24 or more each part number)

Add "dash-number" (-XXX) suffix to base part number for desired option.
For metal covers, specify TA2-110X-XXX.



ACCESSORIES

AT-101	Lock cover kit
AT-104	Dial stop pins (pins included with each unit)
AT-504	Plaster hole cover kit (small)
AT-505	Surface mounting base
AT-546	Auxiliary mounting plate
AT-602	Selector switch sub-base DP4T
AT-603	Selector switch sub-base one DP4T, one DPDT
AT-1103	Wire guard
AT-1104	Cast aluminum guard
AT-1105	Plastic guard
AT-1155	Plastic guard
AT-1165	Plastic guard
TOOL-11	Calibration wrench
TOOL-13	Contact burnishing tool

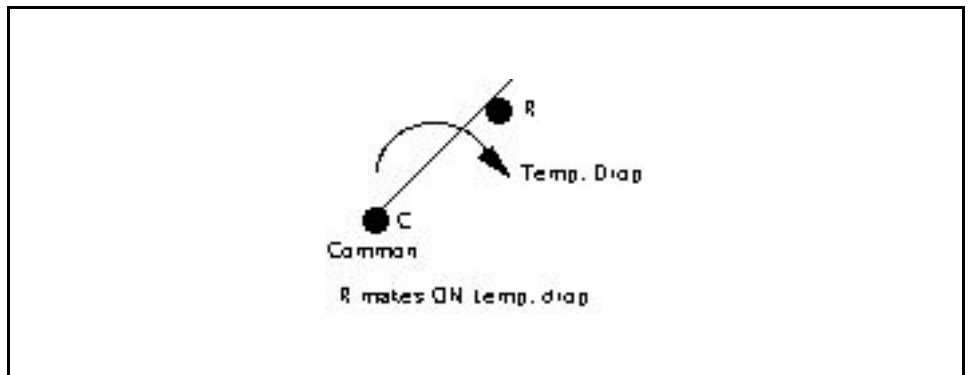


Figure-1 Switch Action and Terminal Identification.

INSTALLATION

Inspection

Inspect the carton for damage. If damaged, notify the appropriate carrier immediately. Inspect the device for obvious damage. Return damaged products.

Requirements

- Job wiring diagrams
- Tools (not provided):
 - Volt-ohm meter
 - Appropriate screwdriver for mounting screws and terminal connections
- Appropriate accessories
- Mounting screws, two (2) provided for securing to a 2 x 4 conduit box
- Training: Installer must be a qualified, experienced technician

▼CAUTION

- Disconnect the power supply before installation to prevent equipment damage.
- Make all connections in accordance with the wiring diagram and in accordance with national and local electrical codes. Class 1 wiring is required unless all circuits to contacts are powered from a Class II source. *Use copper conductors only.*
- Do not exceed ratings of the device.

Mounting and Wiring (See Figure-2 and Figure-7)

Thermostat requires upright mounting on a flat vertical surface. Locate thermostat where it will be exposed to unrestricted circulation of air which represents the average temperature of the controlled space.

▼CAUTION

Do not locate the thermostat near sources of heat or cold such as lamps, motors, sunlight, or concealed ducts or pipes, or where there is a danger of electrocution (i.e., shower rooms).

The thermostat is designed for service in any normally encountered human environment. Avoid locations where excessive vibration, moisture, corrosive fumes or vapors are present. NEMA Type 1 covers are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment.

Thermostats with guards that restrict air flow must have heating or cooling anticipation.

1. Pull all wires.
2. Fasten mounting plate to box or wall.
3. Make electrical connection to thermostat screw type terminals. Green ground wire is located on mounting plate for use in all applications.
4. Hook thermostat on top of mounting plate and swing down into place.
5. Tighten thermostat mounting screw.

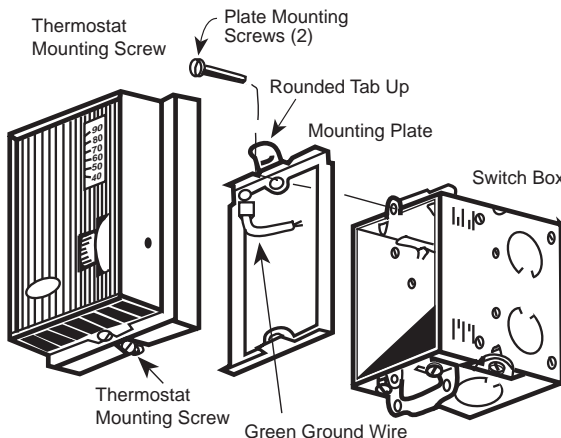


Figure-2 Thermostat Mounting.

CHECKOUT

After installing a thermostat, make an initial check of the switching action. Verify the switch action by listening to and watching the switch contacts, using a voltmeter between the proper sides of the switch, or by observing the controlled device.

1. Run the setpoint dial to a temperature above ambient. This should cause the thermostat to switch, calling for heat.
2. Turn the setpoint dial setting down gradually. The switch should break contact.

CALIBRATION

All thermostats are calibrated at the factory and normally will not require any such attention. However, if recalibration is necessary for any reason, proceed as follows:

1. Disconnect power to thermostat.
2. Set the adjusting dial to correspond to actual room temperature.
3. Remove thermostat cover, remove screw that secures right-hand side of insulator, fold back insulator, and remove contact cover. (See Figure-3.)

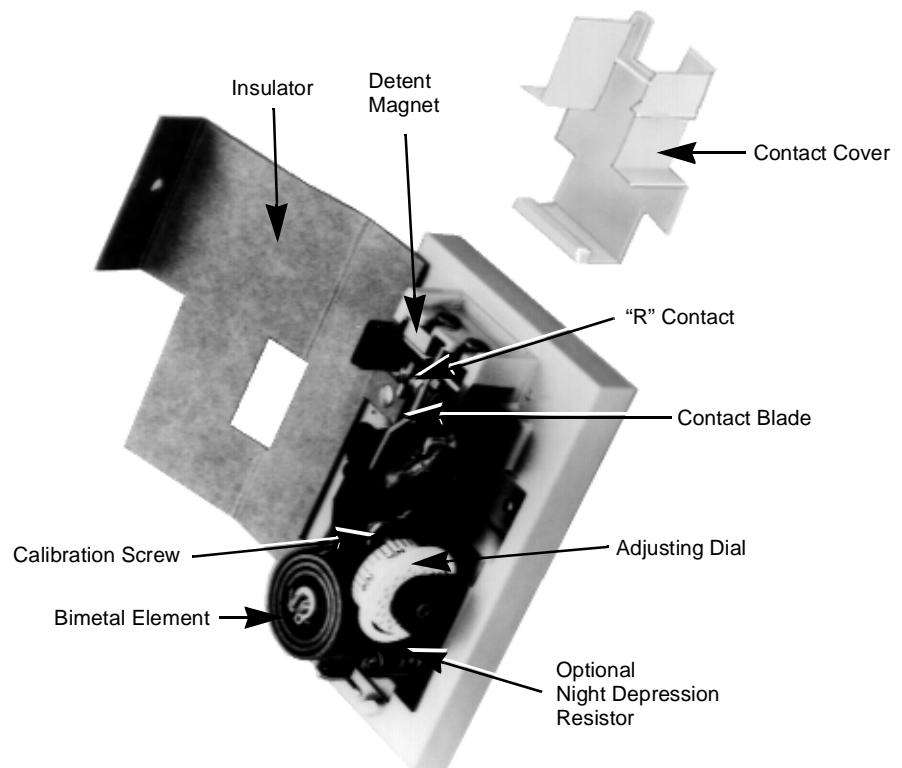


Figure-3 Part Identification.

▼ CAUTION

Do not breathe on the thermostat or handle excessively as this will affect the accuracy of the final calibration.

4. If contact blade is made to the left (R) contact, use a 3/16" open end wrench (TOOL-11) to turn calibration screw counterclockwise (looking at head of screw) until blade just breaks contact. Thermostat is now properly calibrated.

NOTE

Each complete revolution of screw changes calibration approximately 8°F.

5. If contact is **not** made to the left, turn the calibration screw slowly clockwise until element makes to the R contact. Thermostat is now properly calibrated.
6. Replace contact cover insulator and thermostat cover.
7. Restore power to thermostat.
8. Recheck calibration about 30 minutes later to be sure heat from handling did not result in erroneous setting.

ADJUSTMENTS

Concealed Control Dial

Knurled Dial Removal (See Figure-4)

1. Remove the thermostat cover.
2. Secure the control dial with hand so that the dial will not rotate.
3. Place needle nose pliers at knurled ring of the control dial at the points where the knurled ring is attached to the control dial.
4. Twist the pliers at each knurled ring attachment point until the entire knurled ring of the control dial is removed.

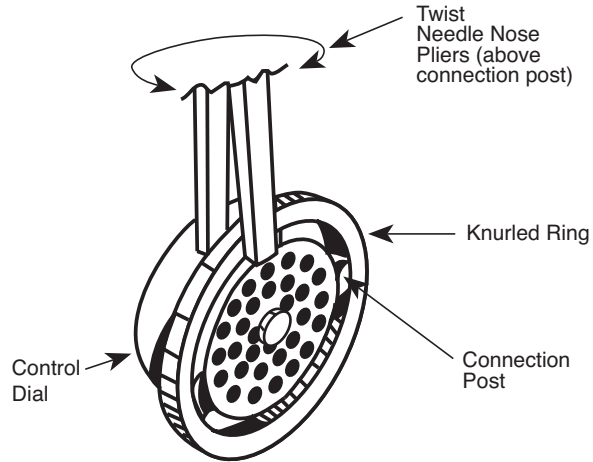


Figure-4 Knurled Dial Removal.

Cover Insert Installation (See Figure-5)

1. Select appropriate cover insert.

NOTE

If blank insert is used, the knurled ring must be removed from the setpoint dial. See Knurled Dial Removal section. Also, remove dial window by sliding and/or pressing window from front of cover.

2. Remove protective backing and protective skin on face of cover insert.
3. Press insert uniformly on thermostat with logo in lower left-hand corner.

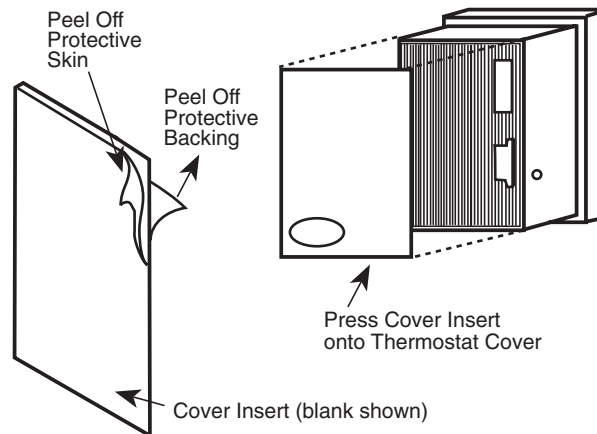


Figure-5 Cover Insert Installation.

Limit Control Dial Range

Dial Stop Pin Insertion (See Figure-6)

1. Remove thermostat cover.
2. Secure the control dial with hand so that the dial will not rotate.
3. Place a dial stop pin in the jaws of a needle nose pliers.
4. Insert the dial stop pin in the appropriate hole on either (or both) side(s) of the control dial to restrict dial rotation.

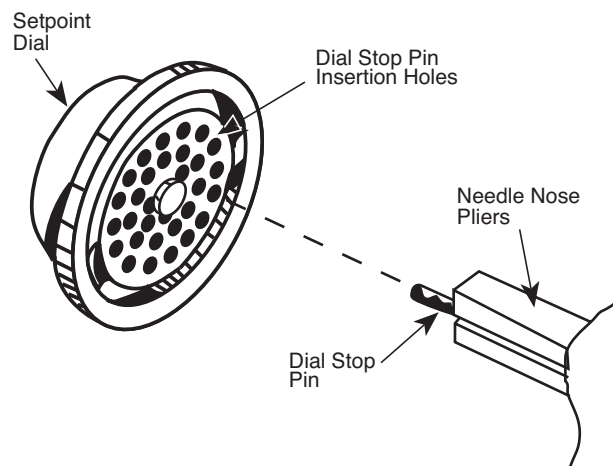


Figure-6 Dial Stop Pin Insertion.

MAINTENANCE

Open areas at bottom and around base of thermostat should be kept clean and free from obstructions to allow proper flow of air. If switch contacts need cleaning, this may be done with a contact burnishing tool.

FIELD REPAIR

These thermostats are not field repairable. Replace entire device.

DIMENSIONAL DATA

All dimensions are in inches (millimeters in brackets). See Figure-7.

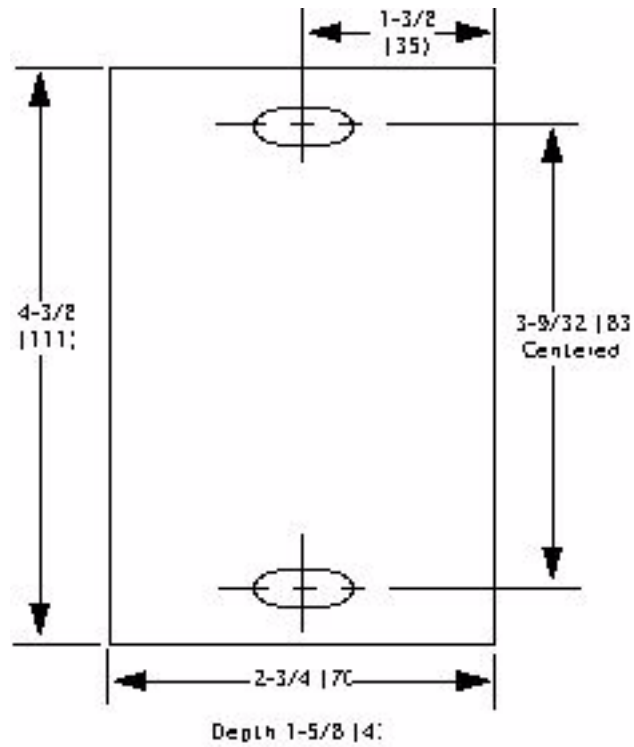


Figure-7 Mounting Dimensions.