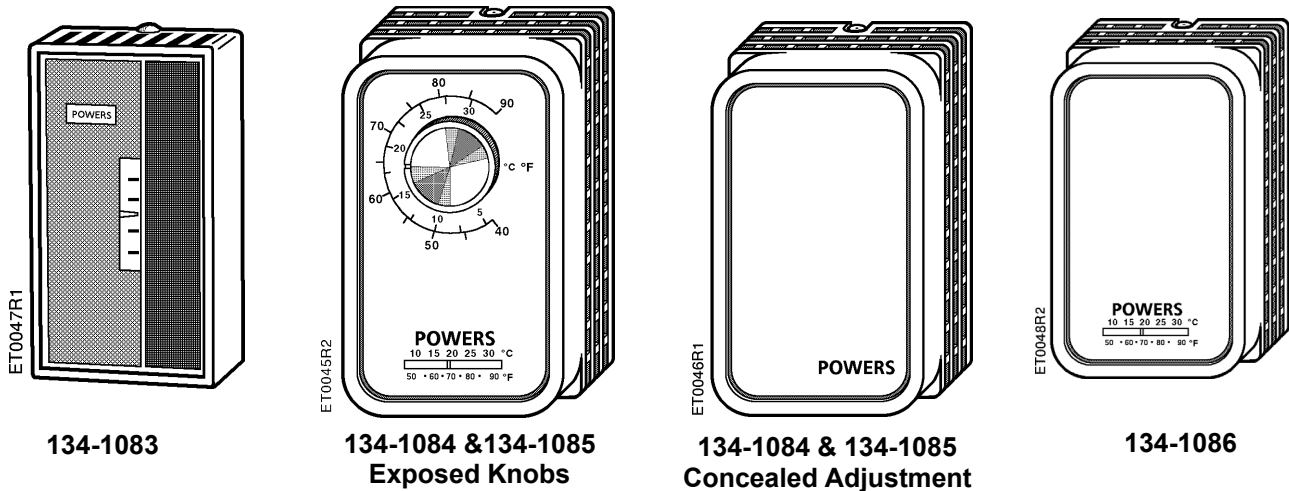


Powers™ Controls

ET 134 Line Voltage Room Thermostats



Description

The ET 134 series are line voltage, wall mounted thermostats that are available with exposed or concealed set point adjustment. Models are available with Single-Pole, Single-Throw (SPST) or Single-Pole, Double-Throw (SPDT) contact action and for standard-duty (nominal 1/4 hp; 10 amps, non-inductive) or heavy-duty (nominal 1 hp; 22 amps, non-inductive) applications.

Features

134-1083

- Locking cover with Allen screws.
- Concealed auto-off-fan selector switch.
- Adjustable high range stop.

134-1084, 134-1085, 134-1086

- Dual Fahrenheit and Celsius scale thermometers.
- Separable mounting plate for mounting and wiring without removing cover.
- Locking cover with Allen screws.
- Concealed, adjustable low and high range stops.
- Large, exposed set point knob (134-1084 and 134-1085)
- Internal, dual Celsius and Fahrenheit scale.
- Optional blank faceplate included (134-1084 and 134-1085).

Warning/Caution Notations

WARNING		Personal injury/loss of life may occur if a procedure is not performed as specified.
CAUTION		Equipment damage may occur if the user does not follow a procedure as specified.

Application

These line voltage thermostats control heating, cooling or year-round air conditioning units in commercial, industrial or residential installations. Typical uses are for unit heaters, fan coils, blast coils, refrigerated storage rooms, electric heat, duct furnaces, greenhouses, etc.



WARNING:

These thermostats are designed for use only as an operating control. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) or systems (alarm, supervisory systems) that protect against, or warn of, control failure.

Product Number Specifications

Table 1. 134-1083 Electrical Ratings.

Description	cULus		
	120	208	240
Volts AC 50/60 Hz	120	208	240
Full load amperes	6	3.4	3
Lock rotor amperes	36	20.4	18
Pilot duty	125 VA, 24 Vac to 277 Vac		

Table 2. 134-1084 and 134-1086 Electrical Ratings.

Description	cULus			
	120	208	240	277
Volts AC 50/60 Hz	120	208	240	277
Full load amperes	12	6.9	5	—
Lock rotor amperes	72	41.4	30	—
Resistive amperes	10	10	10	10
Pilot duty	125 VA, 24 Vac to 277 Vac			

Table 3. 134-1085 Electrical Ratings.

Description	cULus			
	120	208	240	277
Volts AC 50/60 Hz	120	208	240	277
Full load amperes	16	9.2	8	—
Lock rotor amperes	96	55.2	48	—
Resistive amperes	22	22	22	22
Pilot duty	125 VA, 24 Vac to 277 Vac			

Table 4. Product Numbers and Specifications.

Product Number	Set Point Adjustment	Dual Set Point Range °F (°C)	Differential °F(°C)	Switch Action	Weight lbs. (kg)
134-1083	Concealed	40 to 90 (5 to 32)	1.8 (1)	SPST with "AUTO-OFF FAN" Switch	1.3 (0.6)
134-1084	*Exposed Knob, or Concealed		1.8 (1) Htg. 2.3 (1.3) Clg.	SPDT Heating/Cooling	1.0 (0.45)
134-1085			3 (1.7) Htg. 3.5 (2) Clg.		
134-1086	Concealed		1.8 (1)	SPST open on Temperature rise Heating only	1.0 (0.45)

Approval UL File E35198

*Each thermostat is shipped with a blank faceplate for use when concealed adjustment is desired.

Table 5. Conformity Declaration.

Information	134-1083	134-1084, 134-1085, 134-1086
Purpose of control	Line voltage thermostats	
Construction of control	Electromechanical independently mounted control	
Number of cycles	100K cycles (auto reset switch) 6K cycles (manual operated rotary switch)	100K cycles (auto reset switch)
Method of mounting control	Two cross key holes slots in base of case for mounting to a vertical outlet box 2 × 4 in. (51 × 102 mm)	
Method of grounding of control	Wiring binding screw terminal	
Type 1 or Type 2 action	Type 1.C (micro-interruption)	
External pollution	Pollution degree 3	
Internal pollution	Pollution degree 2	
Rated impulse voltage	4,000 Vac	
Ball pressure temperature	Auto reset switch component: 302°F (150°C)	
Field wiring rating	Use copper conductors only	
Switch	SPST: 134-1083, with 3 position rotary switch	SPST: 134-1086 SPDT: 134-1084, 134-1085
Enclosure	UL: TYPE 1 (NEMA)	
Wiring connection	Screw type terminals, terminal identification molded in the block	Screw type terminals, terminal identification labelled on the barrier
Ambient conditions	32°F to 105°F (0°C to 40°C)	
Compliance	North America	cULus listed; UL 60730, E60730, File E35198

Mounting

The proper location of a heavy-duty room thermostat is very important to ensure good performance.

- Make sure the thermostat is in a place where air circulates around it freely.
- Never install the thermostat on or near an outside wall.
- Keep the thermostat away from windows and doors.
- Do not locate the thermostat too close to a strong light or any other false source of heat such as direct sunlight, steam lines, etc.
- Mount the thermostat on a post or partitioning wall, but make sure that there are no pipes or duct work in that wall or in the other side of the wall.
- Mount in a vertical position.

Wiring



WARNING:

Disconnect the power supply before wiring connections are made to avoid possible electrical shock or equipment damage.

Make all wiring connections using copper conductors only and in accordance with the National Electrical Code and local regulations. Loads exceeding the rating of the thermostat should be handled by means of a relay or motor starter.

- Install an electrical conduit box for the thermostat.
- Pull the required wires to this box.



CAUTION:

Use terminal screws furnished (No. 8-32 × 1/4-inch binder head screw). Substitution of other screws can cause problems in making proper connections.

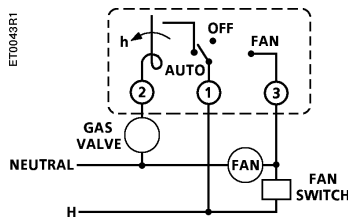
Service

There is no servicing of the thermostat. Replace if inoperative.

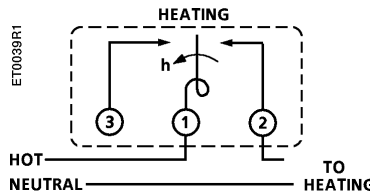
**Installation of
 134-1083**

Read the *Mounting and Wiring* sections.

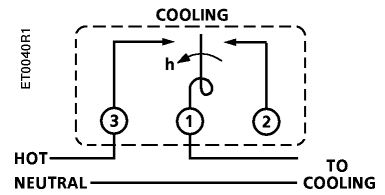
1. Make the wiring connections to the numbered terminals on the back of the thermostat. Figure 1 shows typical wiring diagrams.



Typical Auto-Off-Fan application for 134-1083 thermostat.



Typical heating application for 134-1084, 134-1085, 134-1086 thermostats.



Typical cooling application for 134-1084, and 134-1085 thermostats.

Figure 1. Wiring Diagrams.

2. Remove the thermostat cover by loosening the Allen screws at the top and bottom of the thermostat. The Allen wrench is included with the thermostat.
3. Mount the thermostat to the box using the two keyhole openings in the thermostat base.
4. Set the high temperature cut-out stop.
 - a. Turn the thermostat dial so the desired high temperature setting minus one degree is at the pointer. See Figure 2.
 - b. Loosen the stop screw and slide the screw toward the back of the dial against the step behind the dial.
 - c. Tighten the stop screw.
5. Set the desired temperature. Turn the dial to the pointer located at the nine o'clock position. See Figure 2.
6. Turn the selector switch so that desired AUTO, OFF, or FAN reads vertically. See Figure 2.
7. Replace the thermostat cover. Tighten the screws on the bottom and top of the thermostat.

The installation is now complete.

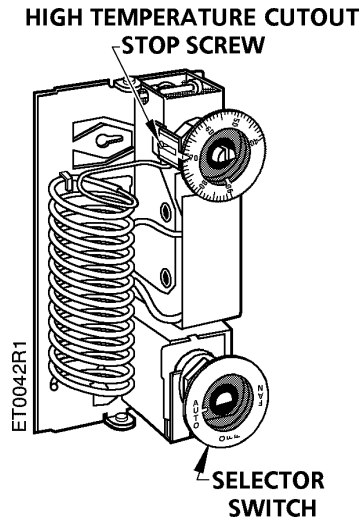


Figure 2. Interior View of the 134-1083.

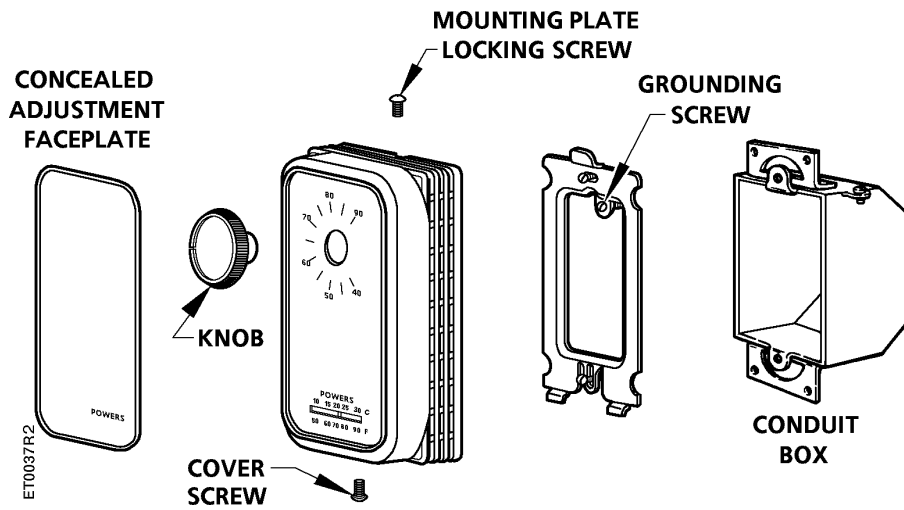


Figure 3. Mounting a 134-1084, 134-1085 or 134-1086 Thermostat to a Conduit Box.

**Installation of
 134-1084, 134-1085,
 134-1086**

Read the *Mounting and Wiring* sections.

1. Do not remove the thermostat cover to install.
2. Remove the mounting plate from the back of the thermostat by unscrewing the mounting plate locking screw (see Figure 3) with the Allen wrench provided.
3. Fasten the plate to the conduit box with the screws provided on the mounting plate.
4. Make the wiring connections to the terminals on the back of the thermostat. Terminal number 1 identification is stamped on the terminal block. See Figure 1 for typical wiring diagrams.
5. Hook the two slots in the back of the thermostat over the prongs of the mounting plate. Swing the thermostat into position on the plate.
6. Tighten the mounting plate locking screw.

The installation is now complete.

Adjustments

To remove the thermostat cover

1. Pull off the knob.
2. Loosen the thermostat cover screw with the Allen wrench provided.

To convert to concealed adjustment

1. Remove the thermostat cover by loosening the Allen screws at the top and bottom of the thermostat. The Allen wrench is included with the thermostat.
2. Peel off the backing from the enclosed faceplate.
3. Position the new faceplate over the factory-installed faceplate.
4. Press firmly onto the cover.
5. Set the thermostat dial by lining up the desired set point at the nine o'clock position.
6. Replace the cover and tighten the thermostat cover screw.

To set high and low range stops

See Figure 4

1. Before the cover is removed, set the dial to the maximum stop setting.
2. Pull off the knob.
3. Hold the dial firmly, press tab "A", and rotate the tab clockwise until it stops against stop "C".
4. Release the tab and be sure it snaps into the desired notch.
5. Set the dial at the lowest temperature stop setting desired.
6. Hold the dial firmly, press tab "B" and rotate it counter clockwise until it stops against stop "C".
7. Release the tab and be sure it snaps into the desired notch.
8. Replace the cover, tighten the cover screw, and push on the knob.
9. Rotate the knob to the desired setting.

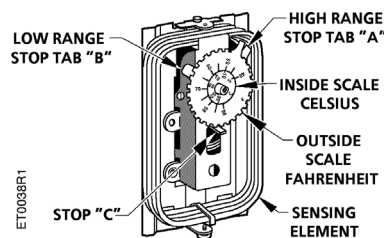


Figure 4. Interior of 134-1084, 134-1085 and 134-1086 Thermostats with High and Low Adjustment Stops.

Dimensions

Dimensions in Inches
 (Millimeters)

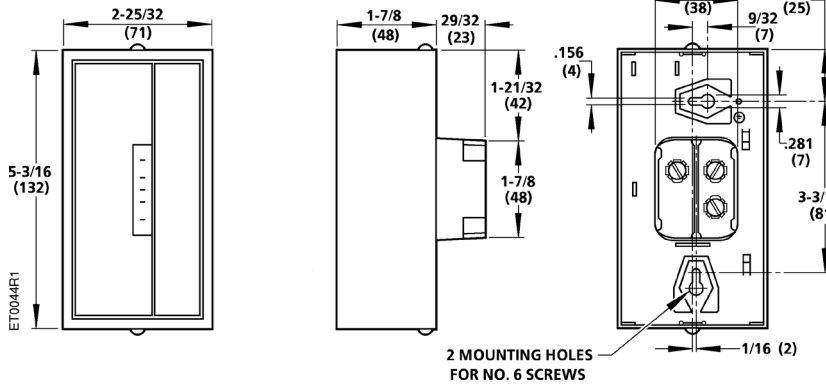


Figure 5. Dimensions of the 134-1083 Thermostat.

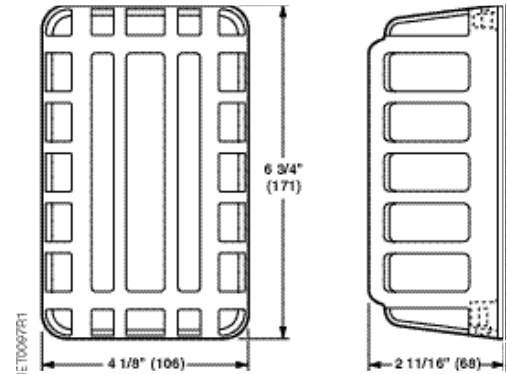


Figure 6. Dimensions of the 134-117 Thermostat Guard.

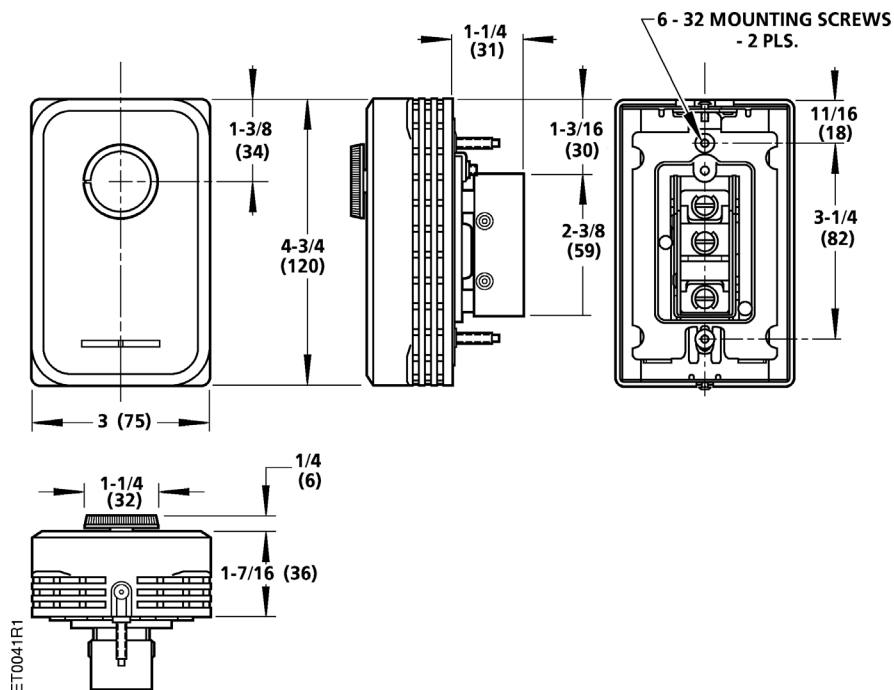


Figure 7. Dimensions of 134-1084, 134-1085 and 134-1086 Thermostats.

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