

ELECTRONIC PROGRAMMABLE HEAT PUMP

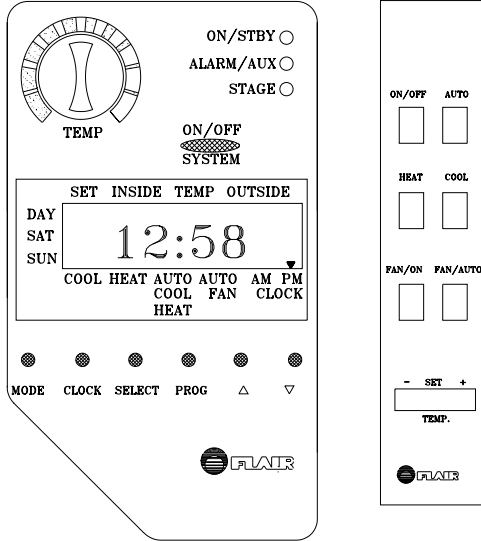
THERMOSTAT series TQ31

For central (main) control of heating and cooling heat pump systems. Optional remote control capability.

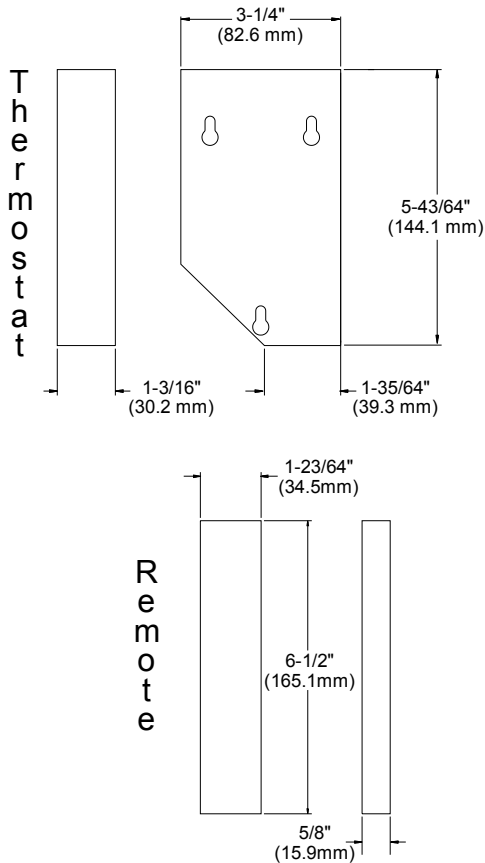
BENEFITS & SPECIAL FEATURES

Same benefits as the TP31 with the addition of remote control:

- 4 daily programs for M-F, Sat. and Sun.
- Digital 12/24 hour real time clock.
- 4 minute automatic time delay for compressor protection.
- Ten year lithium battery for back up during power outages.
- Easy programming—Easy setting.
- Large, easy to read, LCD display.
- Temperature display—set point, inside and outside air—in F° or C°.
- System status indicators.
- Learned response feature adjusts for changing climate.
- Manual on/off override.
- Temporary override with automatic resumption of program.
- Electronic program and temperature limiting and locking.
- Low and high limit temperature alarms can activate a dry contact to switch an external control.
- Remote temperature sensor (optional).
- Auto-changeover (heating/cooling).
- Continuous (on) or intermittent (auto) fan.
- Infra-red remote control (internal) receiver (standard).
- Infra-red remote control transmitter (optional).
- Infra-red remote control (external) receiver (optional).



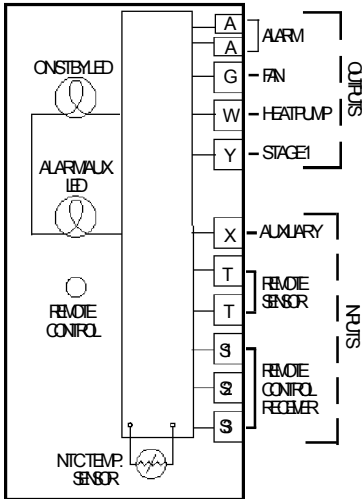
DIMENSIONS



SPECIFICATIONS

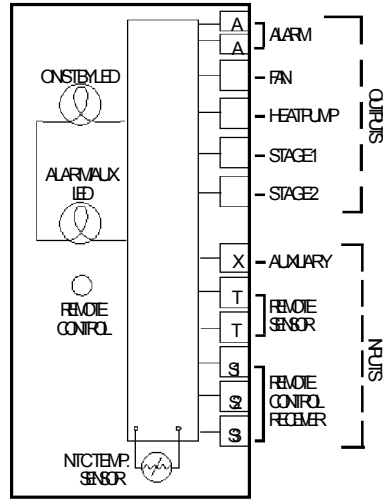
Operating Voltage:	24 vac (-15%, +10%, 50-60 Hz)
Temperature Range:	50°F - 90°F (10°C - 32°C)
Temperature Differential:	
Heating:	approximately ±0.8°F (.4°C)
Cooling:	approximately ±0.8°F (.4°C)
Between stages:	2° F (.8° C)
Dead Band:	4°F (2.2° C)
Sensor System:	Negative Temperature Coefficient (NTC)
Standard:	internal
Optional:	remote temperature
Optional:	return air temperature
Optional:	outside air temperature
Compressor Protection:	4 minute time delay
Switches:	
Push-button:	MODE/CLOCK/SELECT/PROG/UP/DOWN
Push-button:	system: ON/OFF
Rotating:	set TEMPERATURE
Indicator LED's:	ON (Steady Green) / STBY (Flashing Green)
	ALARM (Steady Red) / AUX (Flashing Red)
Staging (orange):	Stage One (Off); Stage Two (On); Stage Three (Flashing)
Display:	LCD, 4 character, .5" (1.27 cm) height.
Security:	Electronic temperature limiting and locking.
	Program locking.
Dimensions:	
Thermostat:	5 ⁴³ / ₆₄ x 3 ¹ / ₄ x 1 ³ / ₁₆ Inches (144.1 x 82.6 x 30.2 mm)
Remote:	6 ¹ / ₂ x 1 ²³ / ₆₄ x 5 ⁵ / ₈ Inches (165.1 x 34.5 x 15.9 mm)
Remote Control Transmitter (optional):	7-button infra-red
Battery:	(2) AAA
Range:	36' (10 meters)
Remote Control Receiver (optional):	infra-red
Range:	36' (10 meters)

MODEL NUMBERS AND DESCRIPTIONS FOR VARIOUS APPLICATIONS



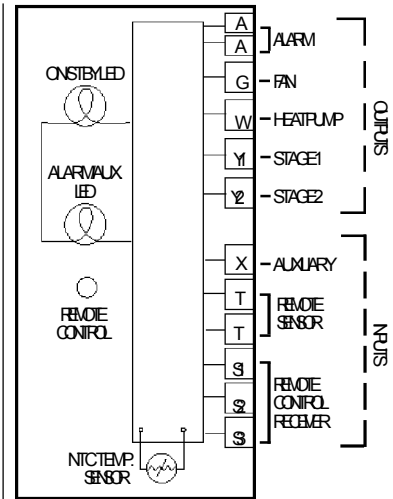
Model Number: TQ311120
Description: 1 stage heat, 1 stage cool, Remote control

Switching Current at 24 VAC:
Cooling: 1 Amp
Heat Pump: 1 Amp
Fan: 1 Amp
Alarm: 1 Amp
Auxiliary: 1 Amp
Weight: .4 lbs. (880 g)



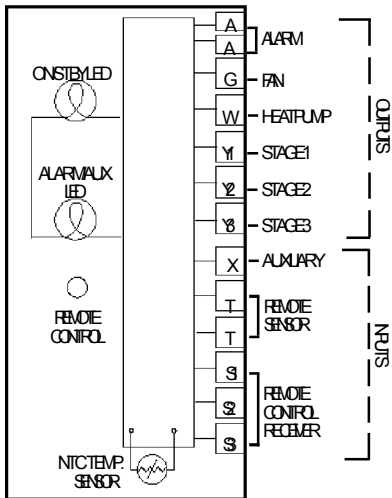
Model Number: TQ312120
Description: 2 stage heat, 1 stage cool, Remote control

Switching Current at 24 VAC:
Cooling: 1 Amp
Heat Pump 1: 1 Amp
Heating: 1 Amp
Fan: 1 Amp
Alarm: 1 Amp
Auxiliary: 1 Amp
Weight: .4 lbs. (880 g)



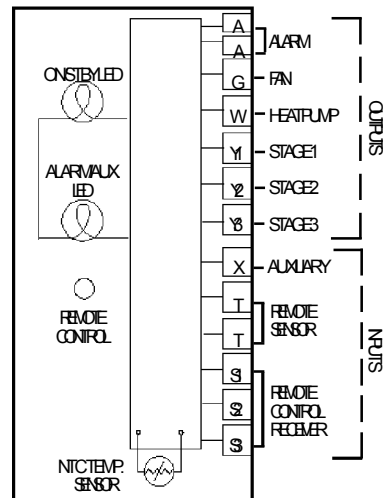
Model Number: TQ312220
Description: 2 stage heat, 2 stage cool, Remote control

Switching Current at 24 VAC:
Cooling 1: 1 Amp
Cooling 2: 1 Amp
Heat Pump 1: 1 Amp
Heating: 1 Amp
Fan: 1 Amp
Alarm: 1 Amp
Auxiliary: 1 Amp
Weight: .4 lbs. (880 g)



Model Number: TQ313120
Description: 3 stage heat, 1 stage cool, Remote control

Switching Current at 24 VAC:
Cooling: 1 Amp
Heat Pump 1: 1 Amp
Heating: 1 Amp
Heating: 1 Amp
Fan: 1 Amp
Alarm: 1 Amp
Auxiliary: 1 Amp
Weight: .4 lbs. (880 g)



Model Number: TQ313220
Description: 3 stage heat, 2 stage cool, Remote control

Switching Current at 24 VAC:
Cooling 1: 1 Amp
Cooling 2: 1 Amp
Heat Pump 1: 1 Amp
Heating: 1 Amp
Heating: 1 Amp
Fan: 1 Amp
Alarm: 1 Amp
Auxiliary: 1 Amp
Weight: .4 lbs. (880 g)

ACCESSORIES

Remote Temperature Sensor TX101001
Return Air Temperature Sensor TX101011
Outside Air Temperature Sensor TX101021

Remote Control Transmitter TX502001
(Compatible with internal and external remote control receivers.)

Remote Control Receiver (external) TX503001
(Up to 5 receivers may be daisy chained to thermostat and placed at remote locations—relays signal from remote control transmitter to thermostat.)

REFERENCES

For More Information On:	See:
Non-remote version	TP31 sheet
Wiring, jumper, potentiometer settings and applications	Instruction sheet
Other thermostats	This section
Zone Actuators	Star Actuator section
Zone Valves	Star Valve section
Wiring Panels	Control Panels section
Warranty & pricing	Pricing & terms section



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