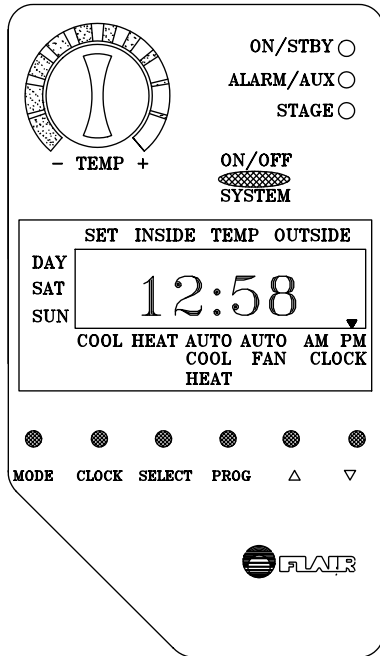# FLAIR

THERMOSTAT *series TP31*

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

BENEFITS & SPECIAL FEATURES

- 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.
- Vacation mode—up to 365 days.
- Electronic program and termperature 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).
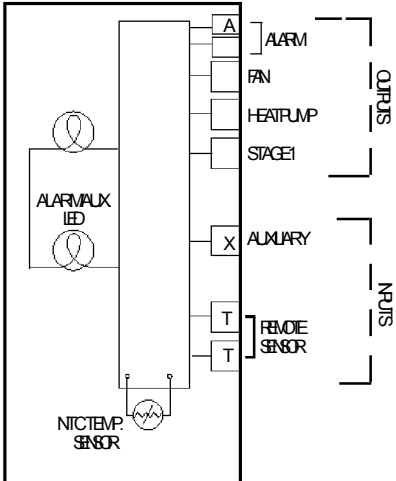- Continuous (on) or intermittent (auto) fan.

DIMENSIONS

3-1/4"
(82.6 mm)
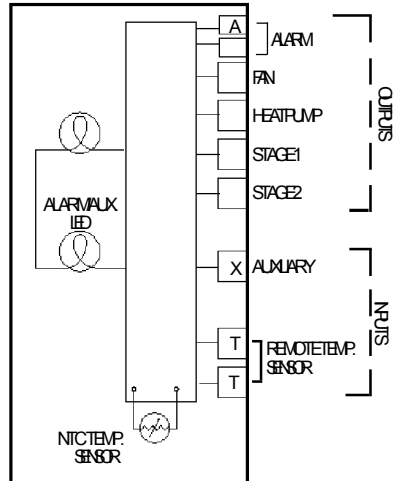
5-43/64"
(144.1 mm)

1-3/16"
(30.2 mm)

1-35/64"
(39.3 mm)
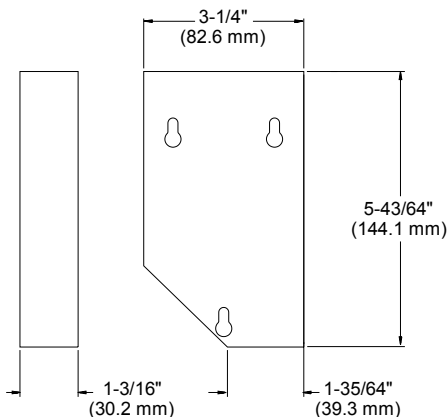
SPECIFICATIONS

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 (Flashing Red) / AUX (Steady 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:	5^{43}/$_{64}$ x 3^{1}/$_{4}$ x 1^{3}/$_{16}$ Inches (144.1 x 82.6 x 30.2 mm)

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MODEL NUMBERS AND DESCRIPTIONS FOR VARIOUS APPLICATIONS

ALARM/AUX LED — NTC TEMP. SENSOR
Outputs: ALARM (A), FAN, HEATPUMP, STAGE1
Inputs: AUXILIARY (X), REMOTE SENSOR (T, T)

Model Number: TP311120
Description: 1 stage heat, 1 stage cool

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)

ALARM/AUX LED — NTC TEMP. SENSOR
Outputs: ALARM (A), FAN, HEATPUMP, STAGE1, STAGE2
Inputs: AUXILIARY (X), REMOTE TEMP. SENSOR (T, T)

Model Number: TP312120
Description: 2 stage heat, 1 stage cool

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

ALARM/AUX LED — NTC TEMP. SENSOR
Outputs: ALARM (A), FAN, HEATPUMP, STAGE1, STAGE2
Inputs: AUXILIARY (X), REMOTE SENSOR (T, T)
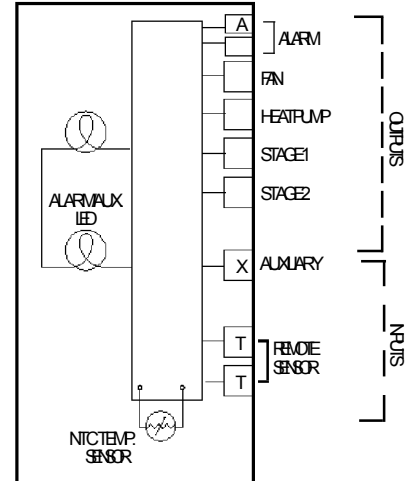
Model Number: TP312220
Description: 2 stage heat, 2 stage cool

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)

ALARM/AUX LED — NTC TEMP. SENSOR
Outputs: ALARM (A), FAN, HEATPUMP, STAGE1, STAGE2, STAGE3
Inputs: AUXILIARY (X), REMOTE SENSOR (T, T)
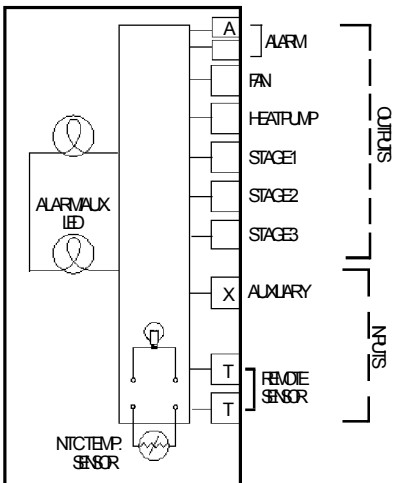
Model Number: TP313120
Description: 3 stage heat, 1 stage cool

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)

ALARM/AUX LED — NTC TEMP. SENSOR
Outputs: ALARM (A, A), FAN (G), HEATPUMP (W), STAGE1 (Y1), STAGE2 (Y2), STAGE3 (Y3)
Inputs: AUXILIARY (X), REMOTE SENSOR (T, T)
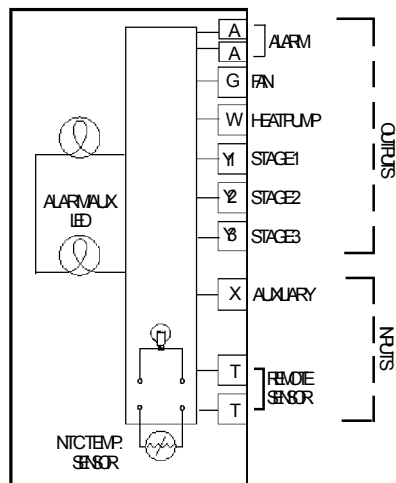
Model Number: TP313220
Description: 3 stage heat, 2 stage cool

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

Backplates may be used to cover large holes in walls or mount to utility boxes:

horizontal	TX201001
vertical	TX202001
square	TX203001

REFERENCES

For More Information On:	See:
Remote version	TQ31 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

⊙ Indicates this output is protected by a switched 4 minute time delay

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Flair pursues a policy of constant improvement. For this reason, all specifications are subject to change without notice.

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