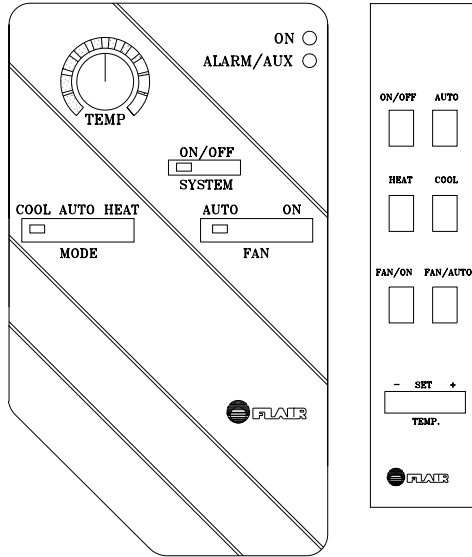# THERMOSTAT *series TF91*

For proportional valve control of heating and cooling systems.
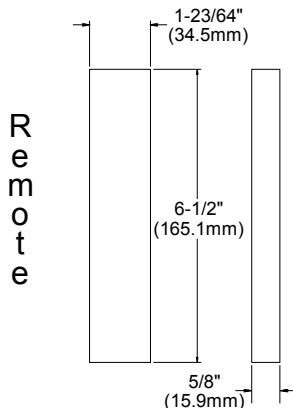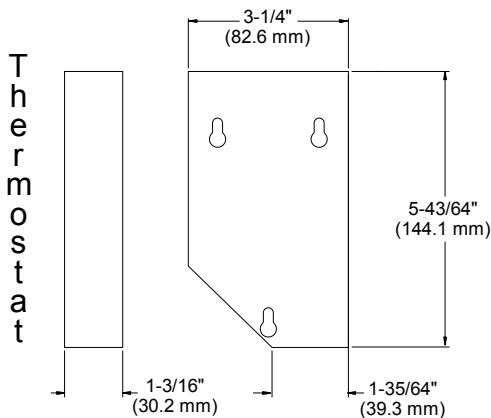
BENEFITS & SPECIAL FEATURES

Same benefits as the TE91 with the addition of remote control:

- Proportional output provides fast and accurate positioning for zone actuators and valves.
- No batteries required.
- Proportional integral control eliminates overshoot and droop.
- Adjustable dead band prevents overlapping between heating and cooling modes.
- Manual on/off override.
- Low and high limit temperature alarms can activate a dry contact to switch an external control.
- Electronic temperature limiting and locking.
- Automatic heating/cooling changeover.
- Continuous (on) or intermittent (auto) fan.
- Direct or reverse acting outputs.
- System status indicators.
- Adjustable differential band.
- Infra-red remote control internal receiver (standard).
- Infra-red remote control transmitter (optional).
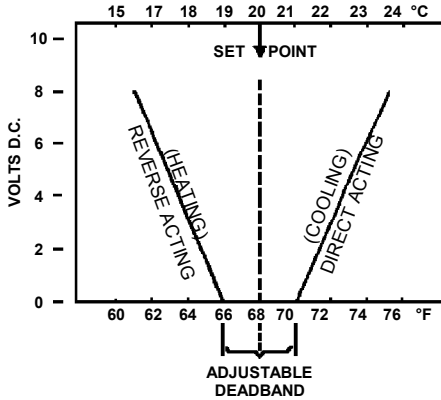- Infra-red remote control external receiver (optional).
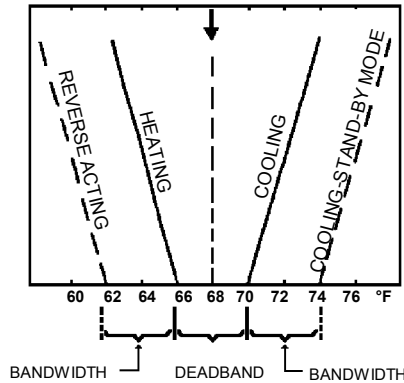
DIMENSIONS

SPECIFICATIONS

Operating Voltage:	24 vac (-15%, +10%, 50-60 Hz)
Output:	0-10 VDC or 4-20mA
Temperature Range:	50° F - 90° F (10° C - 32° C)
Temperature Differential:	
Heating:	0-2° C approximately ±0.8°F (.4° C)
Cooling:	0-2° C approximately ±0.8°F (.4° C)
Bandwidth:	0-2° F (0-1.1° C)
Dead Band:	Adjustable 0 - 4° F (2.2° C) to set point
Sensor System:	Negative Temperature Coefficient (NTC)
Standard:	internal
Optional:	remote temperature
Optional:	return air temperature
Switches:	
Slide:	SYSTEM: ON/OFF
Slide:	MODE: COOL/AUTO/HEAT
Slide:	FAN: AUTO/ON
Rotating:	set TEMPerature
Indicator LED's:	ON (Green)
	ALARM (Flashing Red) / AUX (Steady Red)
Security:	Electronic temperature limiting and 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 $^{5}/_{8}$ 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)

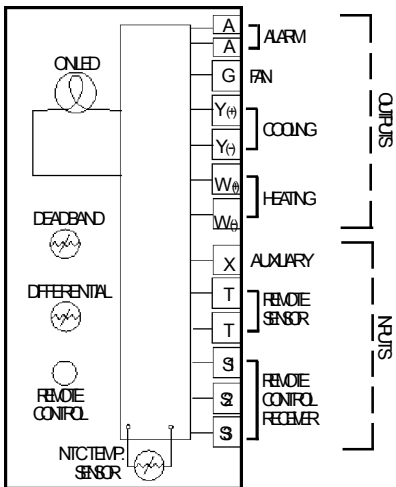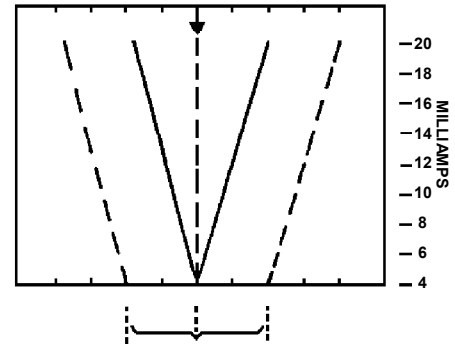# MODEL NUMBERS AND DESCRIPTIONS FOR VARIOUS APPLICATIONS

**Zero Bandwidth
Positive Deadband**

**Positive Bandwidth
and Deadband**

**Positive Bandwidth
Zero Deadband**

Model Number: TF911120
Description: 1 stage heat, 1 stage cool

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

*Warmer/cooler scale is standard

APPLICATIONS

- Central (main) heating or cooling.
- Zone heating or cooling.
- Industrial
- Commercial. (Stores, Restaurants, Offices)
- Institutional. (Hospitals, Hotels, Motels)
- Residential. (Single or multi-family, Apartments, Co-ops, Condominiums)

REFERENCES

For More Information On:	See:
Non-Remote version	TE91 data 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

ACCESSORIES

Remote Temperature Sensor	TX101001
Return Air Temperature Sensor	TX101011
Remote Control Transmitter (Compatible with internal and external remote control receivers.)	TX502001
Remote Control Receiver (external) (Up to 5 receivers may be daisy chained to thermostat and placed at remote locations— relays signal from remote control transmitter to thermostat.)	TX503001

Backplates may be used to cover large holes in walls or mount to utility boxes:
horizontal	TX201001
vertical	TX202001
square	TX203001

Transformers:
40 VA	TR140100
20 VA	TR120100

Relay Transformers:
20 VA (2) SPST 120 VAC relay	TR440200
20 VA (1) SPST 120 VAC relay	TR440300

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

FLAIR INTERNATIONAL CORPORATION

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TF91P2