



- **24VAC**
- **Microprocessor-operated**
(Processor coordinates operation and diagnostic)
- **Easy remote sense**
(Electronic sensor, wired to control)
- **Break-on-rise operation**
- **Self-checking program**
(Control locks out on diagnostic failure)
- **Diagnostic/status LED's**
(LED's indicate power and call for heat)

EZ-Temp[™]

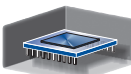
MODEL 90224A

 Microprocessor
Temperature Controls

Data sheet

Specifications

- Carlin's Model 90224A microprocessor-operated temperature control provides one contact (normally-closed).
- Refer to separate product listing sheets for pre-defined models, or request a control to meet your specifications, within the available ranges listed below.

	90224A	Temperature control <ul style="list-style-type: none"> • 1 break-on-rise contact • 1 electronic sensor • lockout on diagnostic failure • reset from lockout via power cycle
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Control model	90224A
Control power input (black-red wire)	24 VAC, 1 VA
Contacts (action on temperature rise:)	1 (breaks)
Contact rating	24 VAC, 1 AMP
Wires Quantity	2
Contact IN / OUT	black-red / black-yellow
Adjustable operating range	Any range between 50°F to 240°F
Fixed differential (subtractive)	Any value from 5°F to 100°F
Operating temperature limits	+32°F to +140°F
Storage temperature limits	-40°F to +185°F
Agencies	UL & ULC recognized component United States & Canada

Model 90224 diagnostic LED's

- GREEN** – OFF – FLASH Slowly (every 3 seconds) *Power on*
 – FLASH Rapidly (every second) *Lockout*
- AMBER** – OFF – ON *Control call for heat*

Operation

(See wiring diagrams below for wiring connections.)

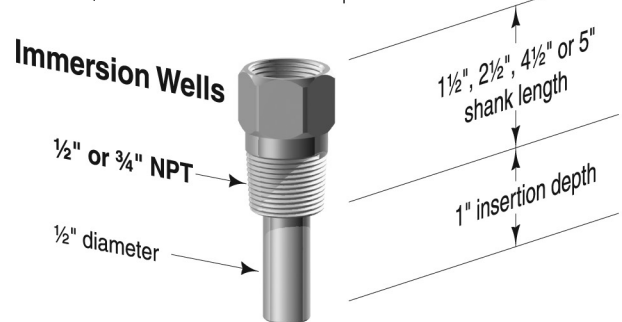
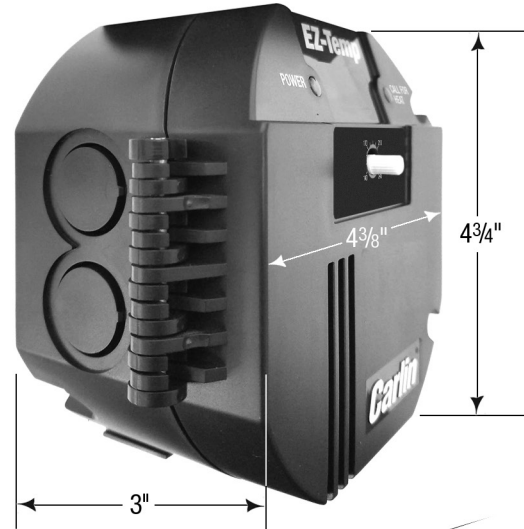
Indicator LED's

90224A controls have a green LED (power/lockout indicator) and amber LED (operation indicator).

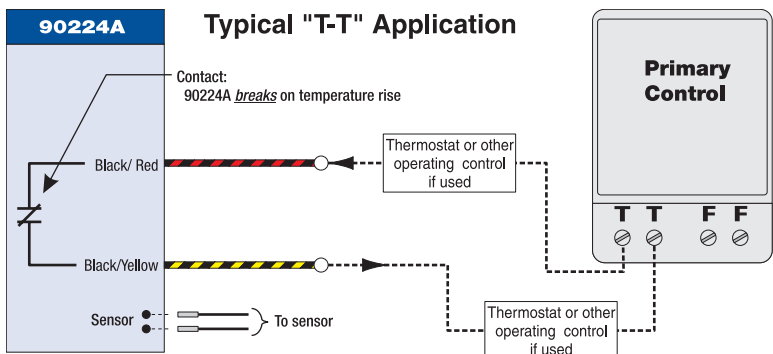
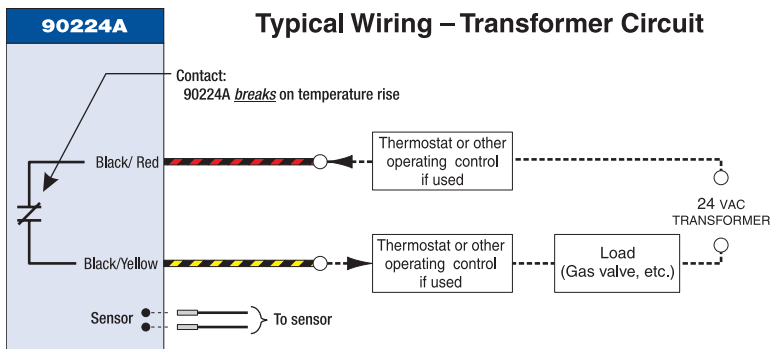
- Power OFF** With no power applied to black/red wire, all lights are off.
- Power ON** When power is applied to the black/red wire, the green LED turns on, flashing every 3 seconds.
- Self-test** When power is applied, the 90224A performs a self-test, checking the sensor and microprocessor. The power-up test lasts from 3 to 5 seconds.
 The 90224A continues diagnostic checking during the operating cycle as well. Any self-check failure causes a lockout (see below).
- Call for heat** When the temperature at the operating sensor is below setpoint minus fixed differential, the 90224A break-on-rise contact is closed, or the make-on-rise contact is open. The amber LED is on.
- Stand-by** When the 90224A operating sensor reaches setpoint temperature or above, the 90224A break-on-rise contact opens and the amber LED turns off.
- Lockout** During lockout, the green LED flashes every second.
 After the temperature drops below setpoint minus differential, reset the control by turning power off, then back on. The green LED will flash more slowly, every 3 seconds. If the control detects a diagnostic failure, **lockout** occurs.

Configurations

- **Mounting** – The 90224A control mounts to any standard well. Mount the 90224A directly to a well (new or existing) with hardware supplied in the separate well mounting kit. See below for dimensions.
- **Well Kits** – Wells for 90224A sensors are available in the sizes shown below. Well kits include sensor mounting hardware designed to hold sensor securely in position.
- **Sensors** – Sensors are available separately for 90224A.



NOTICE Power must flow through the contacts in the direction shown. Changing flow direction will cause the control to lockout or fail to operate.



NOTICE The 90224A is polarity-sensitive with some controls. If the 90224A goes to lockout on power up, disconnect power. Swap the wires coming to the black/red and black/yellow lead wires. Restore power and restart.