



THERMACON™

T-90

SERIES
UL Listed

Currently Not RoHS Compliant

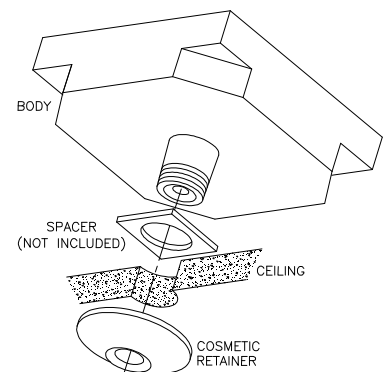
CONCEALED, PASSIVE INFRARED MOTION SENSOR UNIT

APPLICATIONS

- Request to Exit Sensor - PIR
- Entry / Exit Control
- High Profile Concealed Applications
- Guard Tour Monitoring
- Critical Applications Where Ultra Sonic or Microwave Emissions Are Not Permitted

BENEFITS

- Silent Operation and Activation
- Concealed Installation
- Totally Passive Detection
- Ceiling Mount
- Adjustable Activation Time (1 to 30 sec.)
- No Ultra Sonic or Microwave Emission
- Operates for Years with Zero Maintenance
- Radio Frequency (RF) Resistant Design
- No Interference Between Units
- Supports Multiple Unit Applications
- Will Not Detect Through Walls, Doors, or Windows
- UL Listed
- Fire Safety Plenum Rated (In Approved Box)
- Fire Marshall Preferred – No Toxic Emissions
- Automatic Circuit Shunt
- Operates from 12 to 24 Volts AC or DC



DESCRIPTION

Thermacon is a concealed passive infrared (PIR) sensor that detects the presence of natural body heat and activates a relay. Relay activation begins when the detection area is entered and remains on for the duration of the preset relay timing. The housing is an Underwriters Laboratories Inc. (UL) 94-HB fire rated ABS plastic, coated with aluminum to protect against radio frequency interference. The unit is designed for concealed and easy installation in suspended ceilings. Thermacon is acceptable for use in air handling spaces when installed in a UL Listed metal electrical box (see last page). Four interchangeable detection patterns are standard with each unit. Note: While custom-made detection area patterns can be made, they are not tested to UL Listing requirements. The T-90 accepts a power supply range of 12 to 24 volts AC or DC, and is available in both Form A and Form C relay contact configurations.

WARNING: The Thermacon is not recommended where slow movement or an attempt to conceal passage through the detection area may occur; this may result in impaired operation of the T-90. Consult with Dexter Research Center before Thermacon installation in critical security applications. The T-90 is *not* for Intrusion, Burglar Control, or for use with Panic Devices.

T-90 NO/01 Form A: Normally open, 0.3A relay with activation time fixed at 1 second*. Used for most request-to-exit applications where momentary closure is required and the load on the relay contacts is minimal.

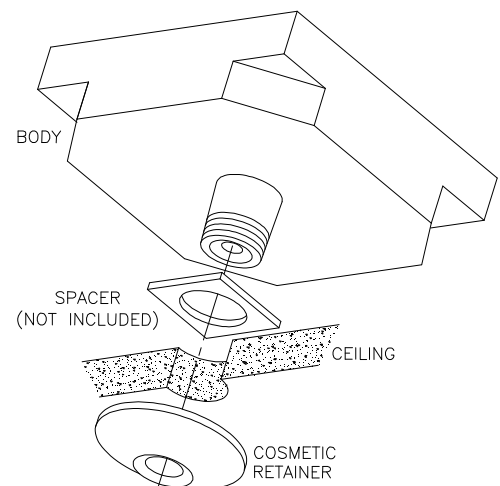
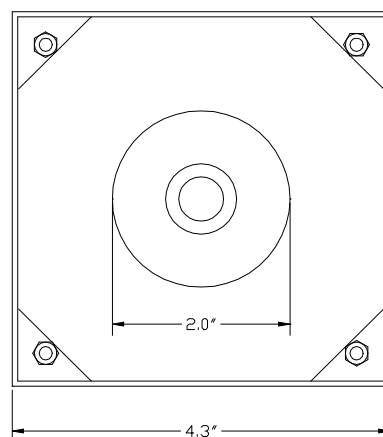
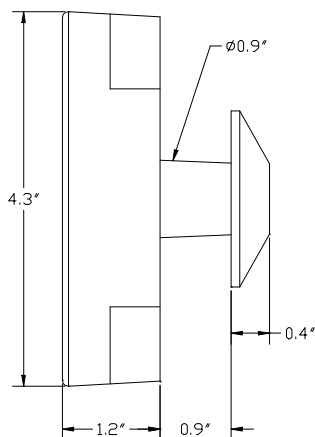
T-90 SPDT/POT FORM C: 1.0A relay with activation time adjustable from 1 to 30 seconds*. Used for request-to-exit and shunt applications where long relay activation times may be required. Relay contacts can drive magnetic locks and electric strikes up to 1 Amp. (see note last page)

* times are $\pm 25\%$

PHYSICAL DESCRIPTION

COLOR: Body: Silver, Cosmetic Retainer: White (paintable)

WEIGHT: 5 ounces



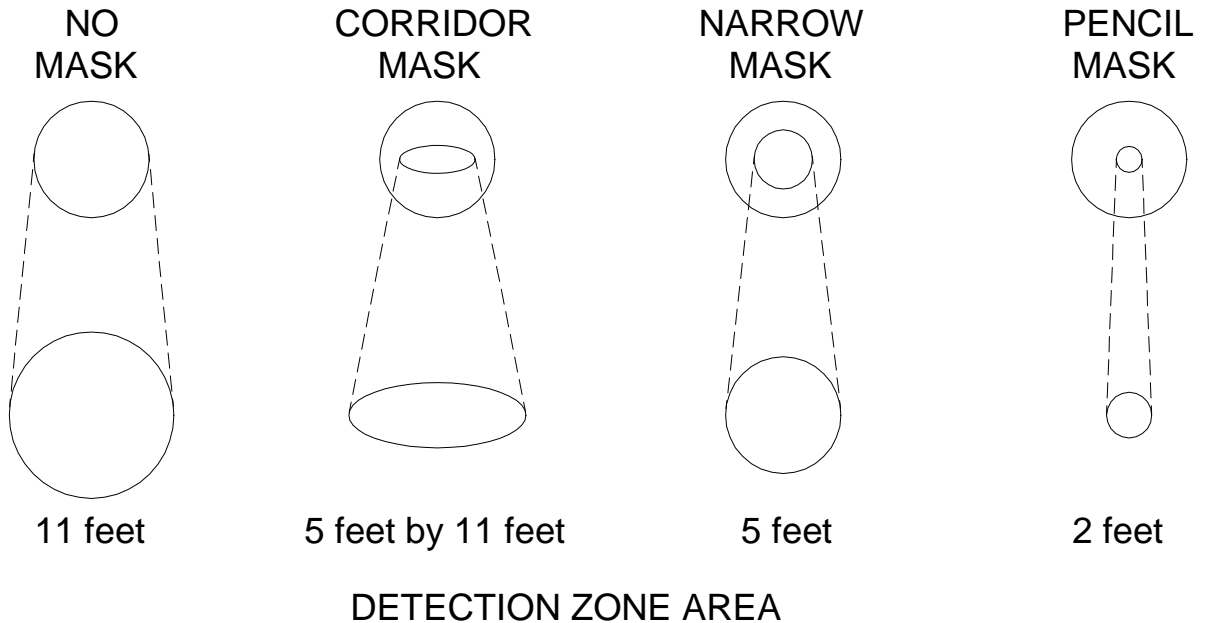
OPERATING REQUIREMENTS

TEMPERATURE: 0°C (32°F) to 48°C (120°F)

POWER: 12 to 24 Volts AC/DC. T-90SPDT/POT: Rated Current draw = 0.09A; T-90NO/01: Rated Current draw = 0.04A. Relay is energized on activation, loss of power results in relay being de-energized.

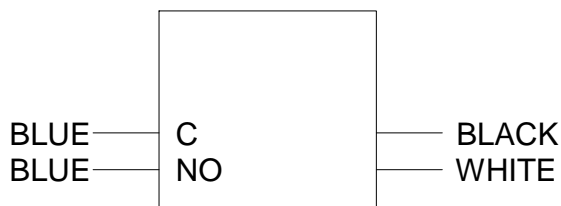
T-90 DETECTION PATTERNS

8 Feet Minimum to 11 Feet Maximum Ceiling Height



WIRING DIAGRAMS

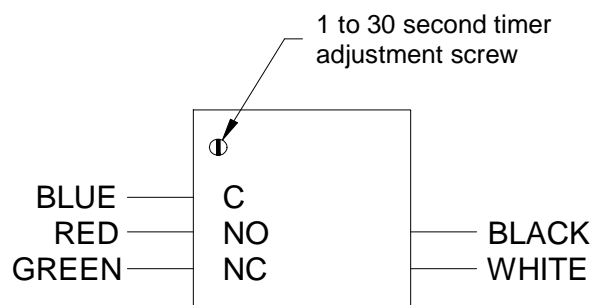
Model T-90 NO/01



RELAY
30VDC MAX
0.3A
1 SECOND
CLOSURE

POWER
REQUIREMENT:
12-24VAC/DC
0.04A

Model T-90 SPDT/POT



RELAY
30VDC MAX
1.0A

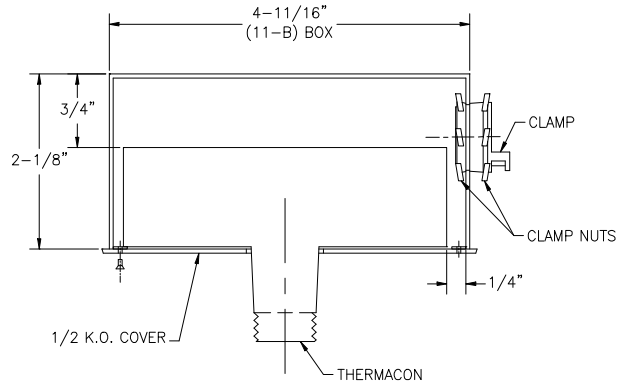
POWER
REQUIREMENT:
12-24VAC/DC
0.09A

INSTALLATION INSTRUCTIONS

OPTIONAL ENCLOSED INSTALLATION

ENVIRONMENTAL AIR HANDLING SPACE MOUNTING REQUIREMENTS

When using the T-90 in Environmental Air Handling Spaces, Underwriters Laboratories Inc. requires the T-90 to be installed utilizing any of the UL Listed metal boxes noted below and mounted with the sensor nose cone through the ceiling material so that no thermoplastic material is exposed to the environmental air handling areas.



Suggested Boxes/Covers: Raco 257-1/833
 Raco Plenum 264
 Any UL Listed Metal Box minimum 4-11/16" Side Lengths and 2-1/8" Deep (11B, Typically)

Note: If box is grounded, do not connect AC or DC +V power supply to ground.

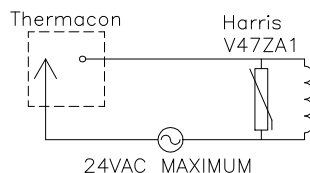
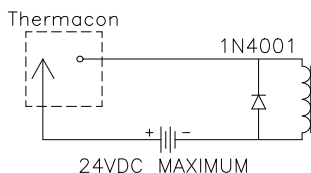
ELECTRICAL CONNECTIONS

1. The power input bridge circuit can operate from either AC or DC power sources. The DC connection is polarity insensitive.
2. The relay wires are completely isolated from internal circuitry and should be used to form a series loop with your control panel or response circuit.

NOTE: WHEN EXTERNAL RELAYS OR INDUCTIVE DEVICES ARE CONNECTED TO THE THERMACON, A REVERSE POLARITY DIODE OR VARISTOR SHOULD BE CONNECTED ACROSS THE INDUCTIVE DEVICE AS CLOSE TO THE COIL AS POSSIBLE (SEE BELOW).

NOTE: DO NOT EXCEED CURRENT, VOLTAGE, OR POWER LIMITATIONS OF RELAY CONTACTS OR POSSIBLE INJURY MAY RESULT.

3. Observe standard safety precautions, all wiring shall be in accordance with the National Electrical Code (NEC), ANSI/NFPA70, and all local codes.
4. No User Serviceable Components, Contact Manufacturer for Repair or Replacement.



Common Mounting Configuration for Request-to-Exit or Shunt

