Conventional Heat Detection Range

Description
VIGILANT 614T heat detectors use a fast response thermistor based design to provide temperature sensing that quickly, accurately and consistently identifies when the ambient temperature exceeds the fixed temperature threshold. For Type A and Type C detectors, rate-of-rise detection is achieved by comparing the response of two thermistors, one of which has a slower thermal response. By combining accurate thermistors with proper physical placement, this patented rate-of-rise detection design achieves a high level of detection performance. 614T detectors include a built-in diode on the remote indicator output and do not require a series resistor when used on F3200 as was previously required on the original T614 detectors. The 614T detectors may be intermixed with MINERVA and VIGILANT T614 detectors and are compatible with VIGILANT MX1, F3200, MX4428 and SIMPLEX 4100ESi CIE. They may be used as service replacements for the MINERVA 614 series detectors both on these and the obsolete F08 and F4000 panels.

Installation
The base should be fixed such that the park plunger faces toward the door or trafficable area. This ensures the detector LED will be visible from the direction of entry, in accordance with AS 1670.1–2015. Refer to the base information sheet for more details. With a clockwise rotational motion, the detector mounts quickly and easily onto the base. Rotating the detector anticlockwise past an indent to the park position disconnects the detector from the circuit whilst still retaining it in the base, allowing circuit separation. Depressing the plunger at the side of the base allows the detector to be rotated back into its operating position.

Testing
The 614T detectors should be maintained in accordance with the relevant section of AS 1851. The heat sensor can be tested in-situ using the X461 test unit.

Locking Device
A detector locking device is moulded into the 5B base. This must be detached and inserted into the locking aperture if required, prior to the selected detector being installed. The detector may then be removed only after inserting an unlocking tool (a Ø3 x 22mm long rod) into the hole on the detector cover to depress the locking device.

Specifications

Mechanical (including 5B base)
Dimensions:
- Height: 53mm
- Diameter: 127mm
- Mass: 174g
Compatible Bases: 4B, 5B, MUB (M614)

Electrical
- Operating Voltage: 11Vdc to 32Vdc
- Quiescent Current¹: 85μA @ 24Vdc
- Alarm State Current: 2 mA to 80mA
- Alarm State Voltage: 3V to 12.4V
- Remote Indicator: Tyco E500 Mk2

Specifications are typical unless stated otherwise.
1. Max. quiescent current 110μA. 2. Min. 5mA for LED visibility; max. current must be externally limited. 3. Min. voltage with remote indicator shorted @ 5mA. Max. @ 80mA without remote indicator connected.

Environmental
- Indoor applications only

<table>
<thead>
<tr>
<th>Type</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Type D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Temp.</td>
<td>-10°C to +45°C</td>
<td>-10°C to +75°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temp.</td>
<td>-20°C to +75°C</td>
<td>-20°C to +75°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rel. Humidity</td>
<td>10% to 95% (non-cond.)</td>
<td>10% to 95% (non-cond.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ActivFire Listed
- afp-1813
- afp-1814
- afp-1815
- afp-1816

Part Numbers
- 4098-9637EA
- 4098-9638EA
- 4098-9639EA
- 4098-9640EA
Applications Warning

In many fires, hazardous levels of smoke and toxic gas can build up before a heat detectors will initiate an alarm. In cases where safety is a factor, the use of smoke and/or CO detection is highly recommended. Heat detectors are used where property protection is desired. Typical heat detector applications are satisfied by use of rate-of-rise and fixed temperature electronic detectors. The addition of rate-of-rise operation provides faster heat detection for use where normal temperature fluctuations are controlled and are less than 6°C/min. Where temperatures may fluctuate more quickly, use fixed temperature detection only (Type B or Type D).

Detector Selection Guide

The 614T heat detectors are part of the VIGILANT 614 series of detectors. In the table below, detectors in BOLD are recommended as the most suitable for detecting the given type of fire in the particular environment. Non-bold detectors are suitable but will not give optimum performance for that application.

<table>
<thead>
<tr>
<th>Fire type</th>
<th>Environment</th>
<th>Very clean (computer room)</th>
<th>Clean (office, hotel)</th>
<th>Moderately clean (warehouse)</th>
<th>Moderately dirty/smoky (loading area)</th>
<th>Dirty/smoky (car park)</th>
<th>Dirty/Hot (kitchen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overheating (electrical/equipment)</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smouldering (wood, paper)</td>
<td>614CH</td>
<td>614CH</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td></td>
</tr>
<tr>
<td>Flaming (wood, paper, flammable liquids)</td>
<td>614CH</td>
<td>614CH</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td>614P</td>
<td></td>
</tr>
<tr>
<td>Flaming with high heat (late stage flaming)</td>
<td>614P</td>
<td>614P</td>
<td>614CH</td>
<td>614P</td>
<td>614P</td>
<td>614T**</td>
<td>614T**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Detectors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>614I</td>
<td>Ionisation Smoke Detector</td>
</tr>
<tr>
<td>614P</td>
<td>Photoelectric Smoke Detector</td>
</tr>
<tr>
<td>614CH</td>
<td>combined Carbon Monoxide (CO) and Class A1R Heat Detector</td>
</tr>
<tr>
<td>614T**</td>
<td>614T Heat Detector. These detectors can be used separately, or combined, to provide fire detection for most applications. ** Refer to 614T Information sheet</td>
</tr>
</tbody>
</table>

Wiring

A maximum of two 1.5mm² cables can be connected at any one terminal. All wiring terminates at the base as follows:
- **R**: Remote*
- **L**: In and Out
- **L1**: + In & Remote
- **L2**: + Out

* When a common remote indicator is used for two or more detectors, join the 'R' terminal to the next base 'R' terminal. The remote indicator will then activate when any of the connected detectors signals an alarm.