## GENERAL

The **FST-751 Series** intelligent thermal detector is used with the intelligent NOTIFIER Fire Alarm Systems to measure thermal levels caused by a fire and report the analog level of the thermal measurement to the control panel. The use of analog information provides significant benefits to the end user, installer, and service personnel in ways which are not possible with a *conventional* type system. Since this detector is addressable, it helps firefighters to more quickly locate a fire in its early stages.

**FlashScan®** (U.S. Patent 5,539,389) is a new communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed *greater than five times* that of earlier designs.

## FEATURES

• Sleek, low-profile, stylish design.
• State-of-the-art thermistor technology for fast response.
• Rate-of-rise model (FST-751R), 15°F (8.3°C) per minute.
• Factory preset at 135°F (58°C).
• Addressable by device.
• Direct 01 – 159 entry of address (01 – 99 on traditional systems).
• Two-wire loop connection.
• Visible LEDs "blink" every time the unit is addressed.
• 360°-field viewing angle of the visual alarm indicators (Two bicolor LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
• Integral communications and built-in device-type identification.
• Remote test feature from the panel.
• Built-in functional test switch activated by external magnet.
• Walk test with address display (an address of 121 will blink the detector LED 12-(pause)-1).
• Low standby current.
• Listed to UL 521.
• Built-in tamper-resistant feature.
• Designed for direct-surface or electrical-box mounting.
• Sealed against back pressure.
• Plugs into separate base for ease of installation and maintenance.
• Separate base allows interchange of photoelectric, ionization and thermal sensors.
• SEMS screws for wiring of the separate base.

California State Fire Marshal
7270-0028:196

**UL LISTED**
S747

**ULC**
CS630

**MARYLAND State Fire Marshal**
Permit 2011

**FM Approved**

**MEA**
278-99-E

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• 94-5V plastic flammability rating.
• Remote LED output connection to optional RA400Z remote LED annunciator.
• Optional sounder, relay, and isolator bases.
• Optional recessed (RMK400) or surface (SMK400) base mounting kits.

## APPLICATIONS

Use thermal detectors for protection of property.

For further information call NOTIFIER for manual I56-407-00, *Applications Manual for System Smoke Detectors*, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

## CONSTRUCTION

These detectors are constructed of Bayblend® in an off-white color.

The FST Series plug-in intelligent thermal detector is designed to commercial standards and offers an attractive appearance.

## INSTALLATION

The FST Series plug-in intelligent thermal detector uses a separate base to simplify installation, service, and maintenance.

Installation instructions are shipped with each detector.

Mount base (all base types) on box which is at least 1.5" (38.1 mm) deep. Suitable boxes include:

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- 4" (101.6 mm) square box.
- 3-1/2" (88.9 mm) or 4" (101.6 mm) octagonal box.
- Single-gang box *(except relay or isolator base)*.
- *With B501BH or B501BHT base,* use a 4" (101.6 mm) square box.
- *With B224RB or B224BI base,* use a 3-1/2" (88.9 mm) or 4" (101.6 mm) octagonal box, or a 4" (101.6 mm) square box.

*NOTES:* **1)** *Because of the inherent supervision provided by the SLC loop,* **end-of-line resistors** *are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring.* **2)** *When using* **relay or sounder bases**, *consult data sheet DN-2243 (ISO-X) for device limitations between isolator modules and isolator bases.*

## OPERATION

Each FST Series uses one of 159 possible addresses (99 on traditional systems) on a control panel SLC loop. It responds to regular polls from the control panel and it reports its type and status, including the analog level of its heat-sensing elements. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm analog level. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel (detector blink is optional). The FST Series offers features and performance that represent the latest in thermal detector technology.

## SPECIFICATIONS

**Size:** *Diameter installed in B710LP:* 6.1" (154.94 mm); *Diameter installed in B501:* 4.1" (104.14 mm). *Height:* 1.66" (42.16 mm). *Weight:* 5 oz. (150 gm).

**Operating temperature:** −4°F to 100°F (−20°C to 38°C).

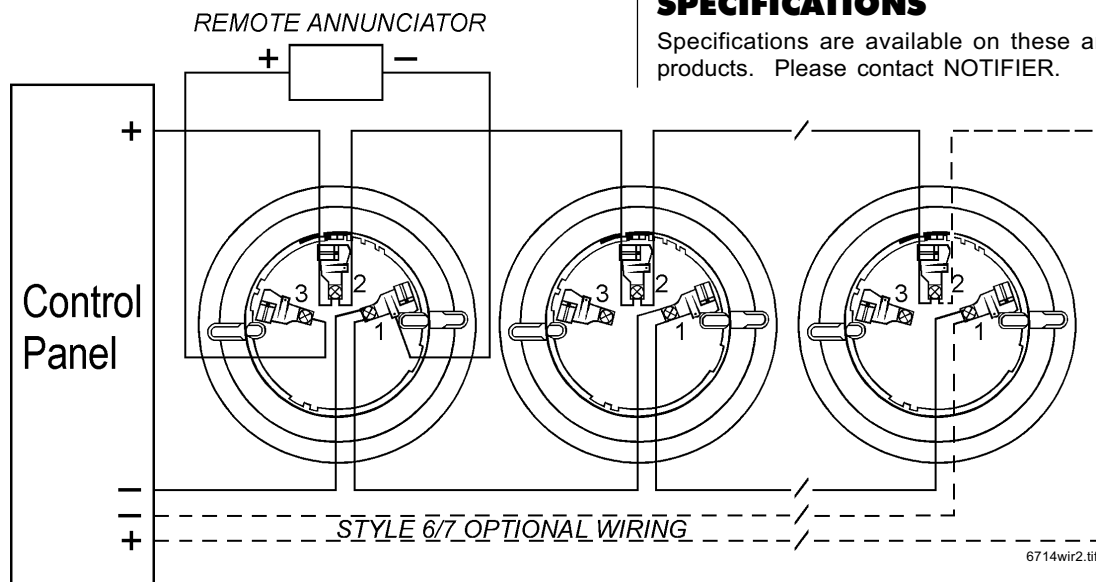**Operating humidity range:** 10% to 93% relative humidity, noncondensing.

**Operating voltage/current range:** 15 - 28 V (Peak DC), 5 mA current for visible LEDs latched on.

**Detector standby current:** 300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled). *For bases B224RB or B224BI:* < 700 µA @ 24 VDC *(includes detector).*

**Sensor:** electronic, dual thermistors.

**Fixed temperature setpoint:** 135°F (57°C).

## WIRING DIAGRAM



REMOTE ANNUNCIATOR

Control Panel

STYLE 6/7 OPTIONAL WIRING

6714wir2.tif

**Rate-of-rise option:** 15°F (8.3°C) per minute.

**Detector spacing:** *UL approved* for 50 ft. (15.24 m) center to center. *FM approved* for 25 x 25 ft. (7.62 x 7.62 m) spacing.

**B224RB relay base:** *Screw terminals:* up to 14 AWG (2.00 mm²). *Relay type:* Form-C. *Ratings:* 2 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive. *Dimensions:* 6.2" (157.48 mm) diameter x 1.2" (30.48 mm) high. *See Note 2 (left column).*

**B224BI isolator base:** *Dimensions:* 6.2" (157.48 mm) diameter x 1.2" (30.48 mm) high. *Maximum:* 25 devices between isolator bases. *See Note 2 (left column).*

## PRODUCT LINE INFORMATION

| Model | Description |
|---|---|
| **FST-751** | Intelligent thermal sensor. |
| **FST-751R** | Intelligent thermal sensor *with* **rate-of-rise** *feature*. |

*BASES:*

| | |
|---|---|
| **B710LPBP** | Standard U.S. style low-profile base, package of ten (10). |
| **B501BP** | Standard European flangeless base, package of ten (10). |
| **B501BH** | Sounder base, includes B501 base above. 24 VDC, 85 dBA internal horn. |
| **B501BHT** | Same as B501BH but with temporal pattern sounder. |
| **B224RB** | Intelligent relay base. |
| **B224BI** | Intelligent isolator base. Isolates SLC from loop shorts. |

*ACCESSORIES:*

| | |
|---|---|
| **RA400Z*** | Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. |
| **SMK400** | Surface mounting kit provides for entry of surface wiring conduit. *For use with B501 base* **only**. |
| **RMK400** | Recessed mounting kit. *For use with B501 base* **only**. |
| **M02-04-00** | Test magnet. |

*\*Supported by B501 and B710LP base only.*

## ARCHITECTURAL & ENGINEERING SPECIFICATIONS

Specifications are available on these and all NOTIFIER products. Please contact NOTIFIER.