

## SLR-835/SLR-835H PHOTOELECTRIC SMOKE DETECTOR



SLR-835 *Shown without a base*



SLR-835H *Shown without a base*

### STANDARD FEATURES

- Low Profile - Only 1.8" high (2.2" 835H)
- 2 or 4 wire base compatibility, relay bases available
- 135°F latching heat sensor (835H only)
- Heat sensor protected by a built-in guard (835H only)
- Highly stable operation, RF/Transient protection
- Low standby current
- Two built-in power/sensitivity supervision/alarm LEDs
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Removable smoke labyrinth for cleaning or replacement
- Backwards compatible with Hochiki SLK and SIH detectors
- Automatic Sensitivity window verification function meets outline requirements in the NFPA 72 Inspection Testing and Maintenance, Chapter 7

### SPECIFICATIONS

Light Source:	GaAlAs infrared L.E.D.
Operating Voltage:	Nominal: 12 VDC or 24 VDC
Working Voltage:	8.0-35.0 VDC
Wave Form:	Filtered DC 15% Ripple Max
Heat Sensor:	135° F (835H only)
Supervisory Current:	38µA AVG @12 VDC 55µA AVG @24 VDC 70µA AVG @35 VDC
Surge Current:	200µA Max @24 VDC
Alarm Current:	150mA Max
Ambient Temperature:	32° F - 120° F (0°C - 49°C)
Compatibility Identifier:	HD-3
Color & Case Material:	Bone/White PC/ABS Blend
Sensitivity Test Feature:	Automatic Sensitivity window verification Test
Ordering Codes:	White: SLR-835W/SLR-835HW Bone: SLR-835/SLR-835H
Dimensions:	1.8" (2.2" 835H) H x 3.94" W
Mounting:	Refer to NS Conventional Detector Base Data Sheet

### APPLICATION

The HOCHIKI America SLR-835/-835H can be used in all areas where photoelectric smoke detectors are required. It is suited for fires ranging from smoldering to flaming fires. NS4 Series, NS6 Series, HSC-4R or HSC-(X)R Style bases may be used with the SLR-835/-835H.

### OPERATION

The SLR-835/-835H Photoelectric Smoke Detector utilizes two bicolored LEDs for indication of status. In a normal standby condition the LEDs flash green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LEDs will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the status LEDs will latch on Red.

The detector utilizes an infrared LED light source and silicon photo diode receiving element in the smoke chamber. In a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the detector smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.

Signals are processed and compared to a reference level, and when two consecutive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch to activate the alarm signal. The status LEDs light continuously during the alarm period.

### PRODUCT LISTINGS

Underwriters Laboratories: S1383  
Factory Mutual: 3007144  
CSFM #: 7272-0410:107

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# ENGINEERING SPECIFICATIONS

The contractor shall furnish and install where indicated on the plans, Hochiki America Model SLR-835 Photoelectric smoke detectors. The combination detector head and twist-lock base shall be UL listed compatible with a UL listed fire alarm panel.

When the supply power is 24VDC, the base shall permit direct interchange with Hochiki America SLR-24H combination photoelectric/heat detector, SLR-24 photoelectric smoke detector, SIJ-24 ionization type smoke detector and DCD-135/190heat detector.

The base shall be the appropriate twist-lock base NS4 Series, NS6 Series, HSC-4R, or HSC-(X)R Series. In the event of partial or complete retrofit, the SLR-835, SLR-835H may be used in conjunction with, or as a replacement for, Hochiki America detectors ( SLK-835H, SLK-24F, SLK-24FH and the SIH-24F) on most HSB and HSC base application.

The smoke detector shall have two flashing status LEDs for visual supervision. When the detector is in standby condition the LEDs will flash Green. When the detector is outside the UL listed sensitivity window the LEDs will flash Red. When the detector is actuated, the flashing LEDs will latch on Red. The detector may be reset by actuating the control panel reset switch.

The sensitivity of the detector shall be capable of being measured. It shall be possible to perform a functional test of the detector without the need of generating smoke. The sensitivity of the detector shall be monitored automatically and continuously to verify that it is operating within the listed sensitivity range.

To facilitate installation, the detector shall be non-polarized. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. Auxiliary SPDT relays shall be installed where indicated on the drawing. The locking feature shall be field removable when not required.

## SLR-835/-835H SENSITIVITY TEST FEATURE

The SLR-835/-835H Photoelectric Smoke Detector has a built-in automatic sensitivity test feature.

1. In normal condition, both LEDs flash Green.
2. When the sensitivity drifts outside of its sensitivity limits, both LEDs flash Red.
3. In the alarm state both LEDs are Red continuously.
4. When the sensitivity drifts outside of its sensitivity limits and both LED's flash Red, the device needs to be cleaned or returned to the factory for cleaning. Refer to HA Technical Bulletin HA-97 for cleaning information.

