

# SK-PHOTO-W SERIES

## Addressable Photoelectric Smoke Detectors

The Silent Knight® SK-PHOTO-W Series feature a modern design and expanded color options support a variety of contemporary aesthetic demands. In addition, each detector is constructed for exceptional installation and maintenance efficiency.



The SK-PHOTO-W Series intelligent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the SK-PHOTO Series detectors. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The SK-PHOTO-W Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the SK-PHOTO-T-W. The SK-PHOTO-R-W is a remote test capable detector for use with DNR Series duct detector housings.

## FEATURES AND BENEFITS

- Designed to meet UL 268 7th Edition
- Sleek and stylish contemporary design
- Stable communication technique with noise immunity
- Addressable by device
- Rotary, decimal addressing (Refer to the Silent Knight panel manuals for device capacity)
- Two-wire SLC connection
- LEDs blink every time the unit is polled
- 360°-field viewing angle of the visual alarm indicators (two bi-color 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 d351634isplay (an address of 121 will blink the detector LED 12-(pause)-1)
- Low standby current
- 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
- Expanded color options
- SEMS screws for wiring of the separate base
- Optional remote, single-gang LED accessory
- Optional sounder, relay, and isolator bases

## INSTALLATION

The SK-PHOTO-W Series plug-in intelligent thermal detectors use a separate base to simplify installation, service, and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see SK-61045.

**Note:** 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 Class "B" wiring.

**Note:** When using relay or sounder bases, consult the SK-ISO installation sheet I56-3627 for device limitations between isolator modules and isolator bases.

## OPERATION

Each SK-PHOTO-W Series detector uses one of the panel's addresses (total limit is panel dependent) on the Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The SK-PHOTO-W Series offers features and performance that represent the latest in smoke detector technology.

## PRODUCT LINE INFORMATION

**Note:** "-IV" suffix indicates ivory color.

**SK-PHOTO-W:** White, low-profile photoelectric sensor

**SK-PHOTO-T-W:** White, same as SK-PHOTO-W but includes a built-in 135°F (57°C) fixed-temperature thermal device

**SK-PHOTO-R-W:** White, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW

**B300-6:** White, standard flanged low-profile mounting base

**B300-6-BP:** Bulk pack of B300-6, package contains 10

**B300-6-IV:** Ivory, standard flanged low-profile mounting base

**B501-WHITE:** White, standard European flangeless mounting base

**B501-BL:** Black, standard European flangeless mounting base

**B501-IV:** Ivory, standard European flangeless mounting base

**B501-WHITE-BP:** Bulk pack of B501-WHITE, contains 10

**B200S-WH:** White, Intelligent, programmable sounder base

**B200S-IV:** Ivory, Intelligent, programmable sounder base

**B200SR-WH:** White, Intelligent sounder base for retrofit applications

**B200SR-IV:** Ivory, Intelligent sounder base for retrofit applications

**B200S-LF-WH:** White, Low Frequency Intelligent, programmable sounder base

**B200S-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base

**B200SR-LF-WH:** White, Low Frequency Intelligent sounder base for retrofit applications

**B200SR-LF-IV:** Ivory, Low Frequency Intelligent sounder base for retrofit applications

**B224RB-WH:** White, plug-in System Sensor® relay base

**B224RB-IV:** Ivory, plug-in System Sensor relay base

**B224BI-WH:** White, plug-in System Sensor isolator detector base

**B224BI-IV:** Ivory, plug-in System Sensor isolator detector base

## ACCESSORIES

**TR300:** White, replacement flange for B210LP or B300-6 bases

**TR300-IV:** Ivory, replacement flange for B210LP or B300-6 bases

**RA100Z(A):** Remote 3 – 32 VDC LED annunciator, mounts to a U.S. single-gang electrical box, for use with B501 and B300-6 bases only

**M02-04-00:** Test magnet

**M02-09-00:** Test magnet with telescoping handle

**CK300:** White, detector color kit, pack of 10

**CK300-IV:** Ivory, detector color kit, pack of 10

**CK300-BL:** Black, detector color kit, pack of 10

# SK-PHOTO-W SERIES TECHNICAL SPECIFICATIONS

## PHYSICAL/ENVIRONMENTAL

### Sensitivity:

- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration

**Size:** 2.0" (51mm) high; base determines diameter

- B300-6:** 6.1" (15.6 cm) diameter
- B501:** 4" (10.2 cm) diameter

For a complete list of detector bases, see SK-61045.

**Shipping weight:** 3.4 oz. (95 g)

### Operating temperature range:

- SK-PHOTO-W: 32°F to 122°F (0°C to 50°C)
- SK-PHOTO-T-W: 32°F to 100°F (0°C to 38°C)
- SK-PHOTO-R-W installed in a DNR/DNRW: -4°F to 158°F (-20°C to 70°C)

**UL/ULC Listed Velocity Range:** 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts

**Relative humidity:** 10% – 93% non-condensing

**Thermal ratings:** fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

## ELECTRICAL SPECIFICATIONS

**Voltage range:** 15 - 32 volts DC peak

**Standby current (max. avg.):** 200µA @ 24 VDC (one communication every 5 seconds with LED enabled)

**Max current:** 4.5 mA @ 24 VDC ("ON")

## DETECTOR SPACING AND APPLICATIONS

Silent Knight recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document SPAG91, available at [www.systemsensor.com](http://www.systemsensor.com).

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S6173
- **FM Approved**
- **CSFM:** 7272-0559:0512

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

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