**ACTA DE ENTREGA**

## 1. INFORMACIÓN GENERAL DEL CONTRATO:

En Bogotá D.C., a los diecinueve (19) días del mes de diciembre de 2024, se reunieron los intervinientes del contrato que se describe a continuacion:

| | |
|---|---|
| **Nº CONTRATO:** | CONTRATO DE OBRA O CONEXO No. 132 DE 2024 |
| **CONTRATANTE:** | INSTITUTO NACIONAL DE METROLOGÍA |
| **CONTRATISTA:** | MAKINGENIERIA S.A.S. |
| **OBJETO:** | "CONTRATAR EL MANTENIMIENTO PREVENTIVO Y CORRECTIVO AL SISTEMA DE DETECCIÓN DE INCENDIOS, CONTROL DE ACCESO, LUMINARIAS DE EMERGENCIAS Y DETECTORES DE GASES PARA MANTENER LA SEDE ACTUAL DEL INM" |

## 2. PRODUCTOS / ENTREGABLES POR APROBACIÓN:

Con el objeto de dejar constancia de la entrega y de recibo a por las partes, para los elementos que se relacionan, sobre los cuales se realizaron las revisiones y validaciones pertinentes y se estableció que cumplen con los requerimientos y especificaciones técnicas establecidas en el contrato.

| ÍTEM | EQUIPO | CANTIDAD |
|---|---|---|
| Sensores detectores direccionable de humo, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel MS9600LS. | HONEYWELL SK-PHOTO-W | 1 |
| Sensores detector direccionable de temperatura, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel MS9600LS. | HONEYWELL H365 | 1 |
| Sensor detector direccionable de Humo Inteligente Fotoeléctrico y Temperatura, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel MS9600LS. | HONEYWELL SD365T | 1 |

## 3. APROBACIÓN DE ENTREGA Y RECIBO:

JaimeViviGarcia
Apruebo este documento
2024-12-24 13:24-05:00

Nombre:
Cargo:
**MAKINGENIERIA S.A.S.**
Quien Entrega

Javier Hernando Nuñez

Nombre:
Cargo:
**INSTITUTO NACIONAL DE METROLOGÍA**
Quien Recibe



3225171187 contacto@makingenieria.com @makingenieria

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+573225171187
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contable@makingenieria.com

Remisión
**No. 1**

| | | | | |
|---|---|---|---|---|
| **SEÑOR(ES)** | U.A.E. INSTITUTO NACIONAL DE METROLOGIA - INM | | | **FECHA DE EXPEDICIÓN** |
| **DIRECCIÓN** | Av. Carrera 50 No. 26 - 55 Int 2 CAN | | | 24/12/2024 |
| **CIUDAD** | Bogotá, D.C. | | | **FECHA DE VENCIMIENTO** |
| **TELÉFONO** | 6012542222 | **NIT** | 900494393 | 24/12/2024 |

| Ítem | Precio | Cantidad | Descuento | Total |
|---|---|---|---|---|
| Sensores detector direccionable de temperatura, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel MS9600LS. | $252,100.840336 | 1 | 100.00% | $0.00 |
| Sensores detectores direccionable de humo, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel MS9600LS. | $252,100.840336 | 1 | 100.00% | $0.00 |
| Sensor detector direccionable de Humo Inteligente Fotoeléctrico y Temperatura, con base, protocolos de lazo CLIP y LiteSpeed, compatible con el panel | $252,100.840336 | 1 | 100.00% | $0.00 |

Cero peso (COP)

| | |
|---|---|
| Subtotal | $756,302.52 |
| Descuento | $756,302.52 |
| Subtotal | $0.00 |
| IVA (19.00%) | $0.00 |
| **Total** | $0.00 |

ELABORADO POR

ACEPTADA, FIRMA Y/O SELLO Y FECHA

# H365 Series

## Addressable Heat Detectors

FIRE·LITE ALARMS by Honeywell

**Addressable Devices**

The Fire•Lite® Alarms H365(A), H365R(A), and H365HT(A) addressable plug-in thermal detectors are designed for both performance and aesthetics and are a direct replacement for the H355 Series. A new modern, sleek, contemporary design and advanced thermal technologies make the H365(A) Series ideal for both system operation and building design.

Exclusively for use with Fire•Lite's addressable fire alarm control panels, the H365(A) Series point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for emergency personnel to quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication.

The H365(A) Series includes fixed temperature, rate-of-rise and high heat fixed temperature detectors that provide effective, intelligent property protection for a variety of applications. Detectors are available for both LiteSpeed™ and CLIP applications as designated.



## Features

***SLC LOOP:***

- Two-wire SLC loop connection
- Unit uses base for wiring

***ADDRESSING:***

- Addressable by device
- Rotary, decimal addressing
  (Refer to the *Fire•Lite panel manuals* for device capacity.)

***ARCHITECTURE:***

- Designed to meet UL 268 7th Edition
- Sleek, low-profile, stylish design
- State-of-the-art thermistor technology for fast response
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Built-in functional test switch activated by external magnet

***OPERATION:***

- Fixed temperature model (H365(A)) factory preset to 135°F (57°C)
- Rate-of-rise model (H365R(A)), 15°F (8.3°C) per minute
- High-temperature model (H365HT(A)) factory preset to 190°F (88°C)
- 360°-field viewing angle of the two visual alarm indicators, LEDs blink red in Normal condition and turn on steady red in Alarm
- LEDs blink every time the unit is polled

***MECHANICALS:***

- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

***OTHER SYSTEM FEATURES:***

- Remote test feature from the panel
- Walk test with address display
- Low standby current

***OPTIONS:***

- Remote LED output connection to optional RA100Z remote LED annunciator

## Installation

H365 Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector 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 *DF-60059.*

***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 Style 4 (Class "B") wiring only.*
*When using relay or sounder bases, consult the I300(A) installation sheet I56-3626 for device limitations between isolator modules and isolator bases.*

## Applications

Use thermal detectors for protection of property. For further information, refer to I56-6525, 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 fire-resistant plastic. The H365 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

## Operation

Each H365 Series detector uses one of the panel's addresses (total limit is panel dependent) on the Fire•LiteJCI 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 H365 Series offers features and performance that represent the latest in thermal detector technology.

## Product Line Information

***NOTE:** "-IV" suffix indicates CLIP and LiteSpeed device.*

***NOTE:** "A" suffix indicates Canadian version.*

**H365:** White, low-profile intelligent 135°F fixed thermal sensor, LiteSpeed only

**H365A:** Same as H365 but with ULC listing

**H365-IV:** Ivory, low-profile intelligent 135°F fixed thermal sensor, LiteSpeed and CLIP

**H365A-IV:** Same as H365-IV but with ULC listing

**H365R**: White, low-profile intelligent rate-of-rise thermal sensor, LiteSpeed only

**H365RA:** Same as H365R but with ULC listing

**H365R-IV:** Ivory, low-profile intelligent rate-of-rise fixed thermal sensor, LiteSpeed and CLIP

**H365RA-IV:** Same as H365R-IV but with ULC listing

**H365HT**: White, low-profile intelligent 190°F fixed thermal sensor, LiteSpeed only

**H365HTA**: Same as H365H but with ULC listing

**H365HT-IV:** Ivory, low-profile intelligent 190°F thermal sensor, LiteSpeed and CLIP

**H365HTA-IV** Same as H365H-IV but with ULC listing

### *INTELLIGENT BASES*

***NOTE:** For details on intelligent bases, see DF-60059.*

**B300-6:** White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

**B300-6-IV:** Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

**B300A-6:** Same as B300-6, ULC listed

**B300A-6-IV:** Ivory, 6" standard flanged low-profile mounting base, ULC listed

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

**B501-WHITE:** White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

**B501-BL:** Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

**B501-IV:** Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

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

**B224RB-WH:** White, relay base (*CSFM: 7300-1653:0216)*

**B224RB-IV:** Ivory, relay base (*CSFM: 7300-1653:0216)*

**B224RBA-WH:** White, relay base, ULC listing

**B224RBA-IV:** Ivory, relay base, ULC listing

**B224BI-WH:** White, isolator detector base (CSFM: 7300-1653:0216)

**B224BI-IV:** Ivory isolator detector base (CSFM: 7300-1653:0216)

**B224BIA-WH:** White, isolator detector base, ULC listing

**B224BIA-IV:** Ivory isolator detector base, ULC listing

**B200S-WH:** White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

**B200S-IV:** Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

**B200SA-WH:** Same as B200S-WH, ULC listing

**B200SA-IV:** Same as B200S-IV, ULC listing

**B200SCOA-WH:** White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

**B200SCOA-IV:** Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

**B200S-LF-WH:** White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

**B200S-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

**B200SR-WH:** White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

**B200SR-IV:** Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

**B200SRA-WH:** Same as B200SR-WH with, ULC listing

**B200SRA-IV:** Same as B200SR-IV in Ivory color, ULC listing

**B200SR-LF-WH:** White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

**B200SR-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

### *MOUNTING KITS AND ACCESSORIES*

**TR300**: White, replacement flange for B210LP(A) base

**TR300-IV:** Ivory, replacement flange for B210LP(A) base

**RA100Z(A):** Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

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

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

**CK300:** Color Kit (includes cover and trim ring), white, 10-pack

**CK300-IV:** Color Kit (includes cover and trim ring), ivory, 10-pack

**CK300-BL:** Color Kit (includes cover and trim ring), black, 10-pack

# SYSTEM SPECIFICATIONS

**Size:** 2.0" (5.3 cm) 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 DF-60983*

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

**Operating temperature range:**

- H365, H365R Series: –4°F to 100°F (–20°C to 38°C)
- H365H Series: –4°F to 150°F (–20°C to 66°C)

**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

**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)

**Mounting:** B300-6(A) flanged base, included

See **"Product Line Information: Intelligent Bases,"** if using a different base.

### *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")

## Listings and Approvals

Listings and approvals below apply to the H365 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S2517
- FM Approved
- CSFM: 7272-0075:0501

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX:(877) 699-4105.
www.firelite.com

Country of Origin: Mexico

FIRE·LITE ALARMS by Honeywell

# SD365T and SD365T-IV
# Intelligent Photoelectric and Temperature Sensors

One FireLite Place
Northford, CT 06472
Phone: 203.484.7161

## SPECIFICATIONS

| | |
|---|---|
| Operating Voltage Range: | 15 to 32 VDC |
| Operating Current @ 24 VDC: | 200 uA (one communication every 5 seconds with green LED blink on communication) |
| Maximum Alarm Current: | 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on) |
| Maximum Current: | 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on) |
| Operating Humidity Range: | 10% to 93% Relative Humidity, Non-condensing |
| Operating Temperature Range: | 32°F to 100°F (0°C to 38°C) |
| Air Velocity: | 0 to 4000 ft./min. (0 to 1219.2 m/min.) |
| Height: | 2.0″ (51 mm) installed in B300-6 Base |
| Diameter: | 6.2″ (156 mm) installed in B300-6 Base; 4.1″ (104 mm) installed in B501 Base |
| Weight: | 3.4 oz. (95 g) |
| Isolator Load Rating: | 0.0063* |

*Please refer to your isolator base/module manual for isolator calculation instructions.

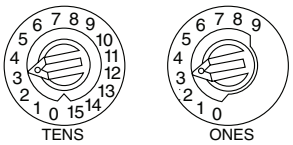
UL 268 listed for Open Air Protection
UL 521 listed for Heat Detectors

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

## GENERAL DESCRIPTION

Models SD365T and SD365T-IV are plug-in type multi-sensor smoke sensors that combine a photoelectronic sensing chamber and 135°F (57.2°C) fixed temperature heat detector across addressable-analog communications. The sensors transmit an analog representation of smoke density over a communication line to a control panel. Rotary dial switches are provided for setting the sensor's address. (See Figure 1.) The intelligent photoelectric and temperature sensors also transmit an alarm signal due to heat at 135°F (57.2°C) per UL 521.

**FIGURE 1. ROTARY ADDRESS SWITCHES:**




C0162-00

Two LEDs on the sensor are controlled by the panel to indicate sensor status. An output is provided for connection to an optional remote LED annunciator (P/N RA100Z).

Fire-Lite panels offer different features sets across different models. As a result, certain features of the photoelectric and temperature sensors may be available on some control panels, but not on others. SD365T will support only LiteSpeed® protocol mode. SD365T-IV will support either LiteSpeed or CLIP (Classic Loop Interface Protocol) mode. The possible features available if supported by the control panel are:

1. The sensor's LEDs can operate in three ways—on, off, and blinking–and they can be set to red, green, or amber. This is controlled by the panel.
2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs.
3. Devices are point addressable up to 159 addresses.

Please refer to the operation manual for the UL listed control panel for specific operation. The photoelectric and temperature sensors require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

## SPACING

Fire-Lite recommends spacing sensors in compliance with NFPA 72. In low air flow applications with smooth ceilings, space sensors 30 feet apart (9.1 m). When using the photoelectric and temperature sensors as a heat detector in FM3210 compliant applications, space sensors 20 feet apart (6 m). For specific information regarding sensor spacing, placement, and special applications, refer to NFPA 72 or the System Smoke Detector Application Guide, available from Fire-Lite.

## WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes, and any special requirements of the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color-coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

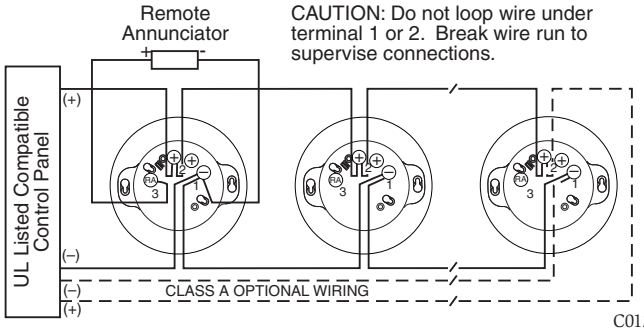
**Remove power from the communication line before installing sensors.**

1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 2.
2. Set the desired address on the sensor address switches, see Figure 1.
3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
4. After all sensors have been installed, apply power to the control panel and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

**⚠CAUTION**

Dust covers provide limited protection against airborne dust particles during shipping. Dust covers must be removed before the sensors can sense smoke. Remove sensors prior to heavy remodeling or construction.

**FIGURE 2. WIRING DIAGRAM:**




C0129-10

## TAMPER-RESISTANCE

Photoelectric and temperature sensors include a tamper-resistant capability that prevents their removal from the base without the use of a tool. Refer to the base manual for details on making use of this capability.

## TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

The sensor can be tested in the following ways:

**A. Functional: Magnet Test (P/N M02-04-01 or M02-09-00)**

This sensor can be functionally tested with a test magnet. The test magnet electronically simulates smoke in the sensing chamber, testing the sensor electronics and connections to the control panel.

1. Hold the test magnet in the magnet test area as shown in Figure 3.
2. The sensor should alarm the panel.

Two LEDs on the sensor are controlled by the panel to indicate sensor status. Coded signals, transmitted from the panel, can cause the LEDs to blink, latch on, or latch off. Refer to the control panel technical documentation for sensor LED status operation and expected delay to alarm.

**B. Smoke Entry**

Sensitivity readings are available through the FACP. Refer to the manufacturer's published instructions for proper use.

Additionally, canned aerosol simulated smoke (canned smoke agent) may be used for smoke entry testing of the smoke detector. Tested and approved aerosol smoke products are:

| Manufacturer | Model |
|---|---|
| HSI Fire & Safety | 25S, 30S (PURCHECK) |
| SDi | SMOKE CENTURIAN, SOLOA4, SMOKESABRE, TRUTEST |
| No Climb | TESTIFIRE 2000 |

When used properly, the canned smoke agent will cause the smoke detector to go into alarm. Refer to the manufacturer's published instructions for proper use of the canned smoke agent.

**⚠CAUTION**

Canned aerosol simulated smoke (canned smoke agent) formulas will vary by manufacturer. Misuse or overuse of these products may have long term adverse effects on the smoke detector. Consult the canned smoke agent manufacturer's published instructions for any further warnings or caution statements.

**C. Direct Heat Method (Hair dryer of 1000-1500 watts).**

A hair dryer of 1000-1500 watts should be used to test the thermistors. Direct the heat toward either of the two thermistors, holding the heat source approximately 12 inches (30 cm) from the detector in order to avoid damaging the plastic housing. The detector will reset only after it has had sufficient time to cool. Make sure both thermistors are tested individually.

**D. Multi-Criteria Method.**

A Testifire® by SDi provides testing of the smoke and heat sensors. Consult the manufacturer's published instructions for complete instructions.

A sensor that fails any of these tests may need to be cleaned as described under CLEANING, and retested.

When testing is complete, restore the system to normal operation and notify the proper authorities that the system is back in operation.

## CLEANING

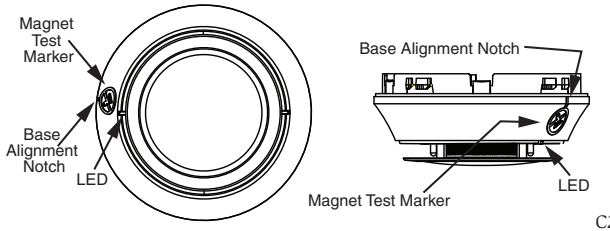
Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

1. Remove the sensor to be cleaned from the system.
2. Remove the sensor cover by pressing firmly on each of the four removal tabs that hold the cover in place.
3. Vacuum the screen carefully without removing it. If further cleaning is required continue with Step 4, otherwise skip to Step 7.
4. Remove the chamber cover/screen assembly by pulling it straight out.
5. Use a vacuum cleaner or compressed air to remove dust and debris from the sensing chamber.
6. Reinstall the chamber cover/screen assembly by sliding the edge over the sensing chamber. Turn until it is firmly in place.
7. Replace the cover using the LEDs to align the cover and then gently pushing it until it locks into place. Make sure that the thermistors do not become bent under the cover.
8. Reinstall the detector.
9. Test the detector as described in TESTING.
10. Reconnect disabled circuits.
11. Notify the proper authorities that the system is back on line.

## SPECIAL NOTE REGARDING SMOKE DETECTOR GUARDS

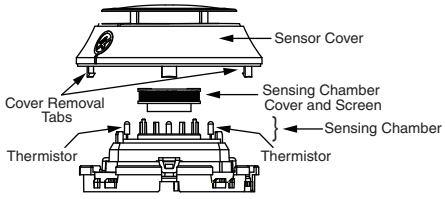
Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

**FIGURE 3: FEATURES OF THE PHOTO/HEAT DETECTOR**




C2023-00

**FIGURE 4: CLEANING THE PHOTO/HEAT DETECTOR**




C2024-00

**Please refer to insert for the Limitations of Fire Alarm Systems**

### FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

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# 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

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## 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.

## 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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