SILENT KNIGHT by Honeywell

# IDP-Photo, IDP-Photo-T and IDP-Acclimate Intelligent Photoelectric Smoke Sensors

12 Clintonville Road, Northford, CT 06472
203.484.7161; Fax: 203.484.7118
www.silentknight.com

## SPECIFICATIONS

| | |
|---|---|
| Operating Voltage Range: | 15 to 32 VDC |
| Standby Current: | 300µA @ 24 VDC Maximum |
| Alarm Current (LED on): | 6.5 mA @ 24 VDC |
| Operating Humidity Range: | 10% to 93% Relative Humidity, Non-condensing |
| Operating Temperature Range: | 32°F to 120°F (0°C to 49°C), IDP-Photo; 32°F to 100°F (0°C to 38°C), IDP-Photo-T and IDP-Acclimate |
| Height: | 2.0″ (51mm) installed in SS-B6 Base |
| Diameter: | 6.1″ (155 mm) installed in SS-B6 Base; 4.1″ (104 mm) installed in B501 Base |
| Weight: | 5.2 oz. (147 g) |

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 IDP-Photo, IDP-Photo-T and IDP-Acclimate are plug-in type smoke sensors that combine a photoelectronic sensing chamber with addressable-analog communications. The sensors transmit an analog representation of smoke density over a communication line to a control panel. Rotary decade switches are provided for setting the sensor's address.

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 RA400Z/RA100Z). Models IDP-Acclimate and IDP-Photo-T combines a photoelectronic sensing chamber and 135°F (57.2°C) fixed temperature heat detector.

Please refer to the operation manual for the UL listed control unit for specific operation of the IDP-Photo, IDP-Photo-T and IDP-Acclimate.

The IDP-Photo, IDP-Photo-T and IDP-Acclimate require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

## SPACING

Silent Knight recommends spacing sensors in compliance with NFPA 72. In low air flow applications with smooth ceilings, space sensors 30 feet apart. For specific information regarding sensor spacing, placement, and special applications, refer to NFPA 72.

Duct Applications: IDP-Photo and IDP-Photo-T are listed for use in ducts.

NOTE: These products are not listed for use inside duct smoke detectors.

## 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.

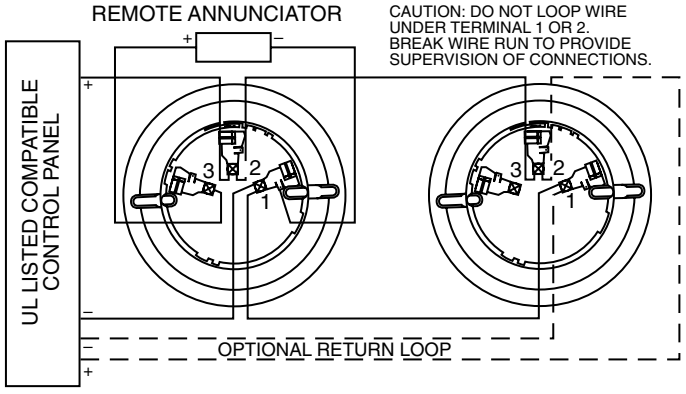
Remove power from the communication line before installing sensors.

1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 1.
2. Set the desired address on the sensor address switches, see Figure 2.
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 unit and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

**⚠CAUTION**

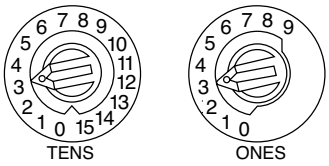
Dust covers provide limited protection against airborne dust particles during shipping. Dust covers must be removed before the sensors can sense smoke. Remove sensors prior to heavy remodeling or construction.

**FIGURE 1. WIRING DIAGRAM:**




C0100-01

**FIGURE 2. ROTARY ADDRESS SWITCHES:**




C0162-00

## TAMPER-RESISTANCE

Models IDP-Photo, IDP-Photo-T and IDP-Acclimate include a tamper-resistant capability that prevents their removal from the bracket 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: Aerosol Generator (Gemini 501 or other UL lised devices)**

The GEMINI model 501 aerosol generator can be used for smoke entry testing. Other UL listed smoke generating devices may be used as well. Set the generator to represent 4%/ft to 5%/ft obscuration as described in the GEMINI 501 manual. Using the bowl shaped applicator, apply aerosol until the panel alarms.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 the Smoke Detector Tester model 25S available from Home Safeguard Industries and Chekkit Smoke Detector Tester models CHEK02 and CHEK06 available from SDi. 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.

For IDP-Acclimate, smoke entry testing should be performed immediately following the magnet test. Magnet test initiates an approximately 10 minute period when the detector's signal processing software routines are not active. Failure to first perform the magnet test will introduce a time delay before the detector alarms.

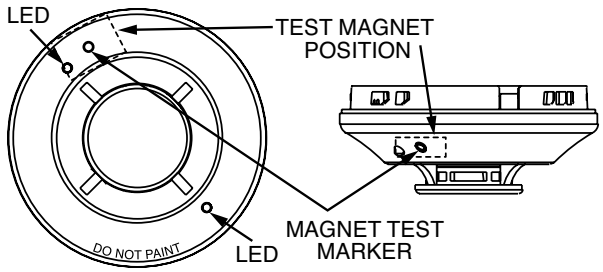
**C. Direct Heat Method (Hair dryer of 1000-1500 watts). IDP-Photo-T and IDP-Acclimate only.**

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 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.

A sensor that fails any of these tests should be cleaned as described under CLEANING, and retested. If the sensor fails after cleaning, it must be replaced and returned for repair.

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

**FIGURE 3:**




C0145-02

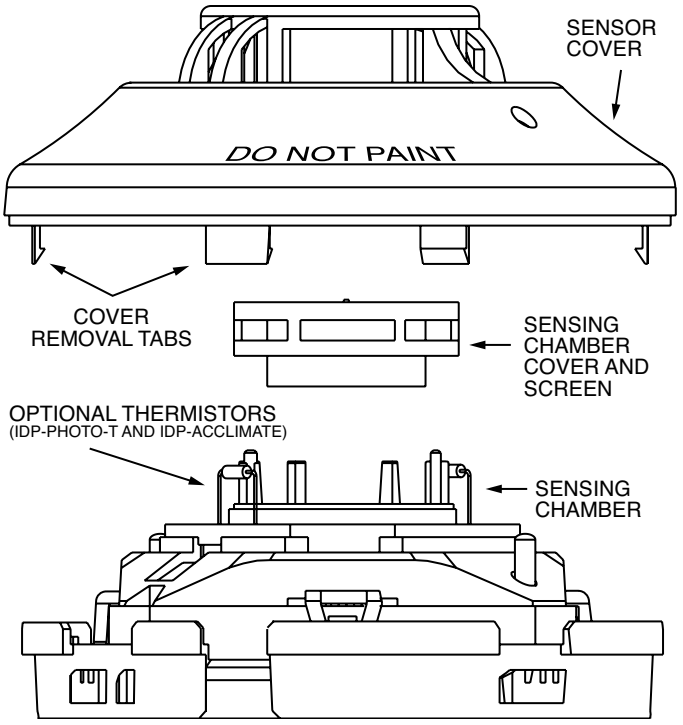
## CLEANING

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 on the IDP-Photo-T and IDP-Acclimate models.
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.

**FIGURE 4. IDP-PHOTO-T AND IDP-ACCLIMATE:**




C0803-00

## 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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