

48V & 24V DC Smoke & Heat Detector

with Alarm, Sounder, and Aux Output Relay

OSD380 (48V/24V) – Product Summary

Communication Power Solutions, Inc. (CPS, Inc.) offers the OSD380 Smoke Detector, a modified Commercial Grade Photoelectric Smoke Detector suitable for use in enclosed areas. This product is assembled and modified, for use in 48Vdc & 24Vdc telecommunication applications.

The OSD380 Series self-diagnostic, four-wire smoke detector continuously monitors their own sensitivity and operational status and provides a visual and audible trouble indication if they drift out of sensitivity range or fail internal diagnostics. These detector models use an infrared (IR) LED light source and a silicon photodiode to measure light in a chamber. A fine screen covers the chamber to deter insects and reduce dust accumulation as well as nuisance alarms.

During a fire, smoke particles reflect light onto the photodiode. When the photodiode measurements exceed the alarm threshold, the detector signals an alarm condition. Alarms can be cleared by interrupting power to the detector

An LED indicator flashes approximately every 3.5 sec to verify the detector has power and the smoke sampling circuitry is functioning. The LED latches ON during an alarm, allowing the user to easily verify individual detector alarms.

The detector has a mounting plate that attaches to a standard four-inch j-box. For commercial and industrial installations in accordance with NFPA 72, space each detector 30 ft (9.2 m) apart.

The terminal block accepts up to 12 AWG (ISO 2.5 mm²) wire. You can remove the terminal block from the detector for easier wiring. The terminal block snaps in and out of the detector.



Figure 1: OSD380 Smoke Detector

Specifications:

Operating Voltage (Total):	10-30Vdc & 40-60Vdc
Current Draw (Standby):	0.1mA / 0.0054W
Current Draw (Alarm):	90mA / 4.86W
Sounder Noise Level:	85 dB @10ft(3m)
Dimensions (Diam x H):	5in x 2in (12.7cm x 5.1cm)
Material:	High Impact, Fire Retardant ABS
Relative Humidity:	Up to 93%, Non-Condensing
Operating Temperature:	+32°F(0°C) to +120°F(40°C)
Certifications & Approvals	UL268 & A, cULus, CSFM, NYC-MEA, MSFM,

Standard Features:

- Available in 48Vdc and 24Vdc Configuration.
- 135°F (57°C) Heat Sensor integrated with Smoke Detector alarm relays .
- 85dB Sounder initiates when either the smoke detector or heat sensor alarms have been generated.
- Auxiliary Contact Relays (Form C Relays with Normally Closed and Normally Open Contact).
- Multiple Options for Testing the unit which include; Visual Check, Magnet Check, and Voltage Measurement Test.
- Intelligent, Self-Diagnostic capabilities with Sensitivity Test Functionality.

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Instructions for Installation of OSD380 Smoke and Heat Detector

Mounting the Detector

- Make sure the Dust Cover is removed before operating the detector unit. The dust cover can be replaced during construction but must be removed in order for the unit to work properly.
- Remove the detector from the mounting plate by pressing the locking tab and twisting it counterclockwise. If the locking tab is not desired, it can be broken off.
- Install the mounting plate and insert the wiring through the wire entrance.

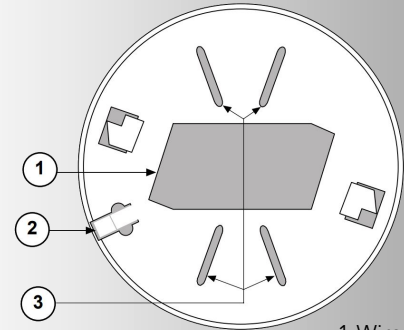


Figure 2: Mounting an OSD380 Detector

1-Wire Entrance
 2-Locking Tab
 3-Mounting Holes

Wiring the Detector

- The terminal block is removable, making it easier to assemble the wire connections. Remove the terminal block by pulling it back and then pulling upwards.
- Connect the wires based on the wire diagram shown in Figure 3.
- The VR302 Voltage Adapter is Required for all -48V applications and is provided with the OSD380-48 Unit.
- When all wiring connections are made, connect the detector to the mounting plate by twisting it clockwise into place.

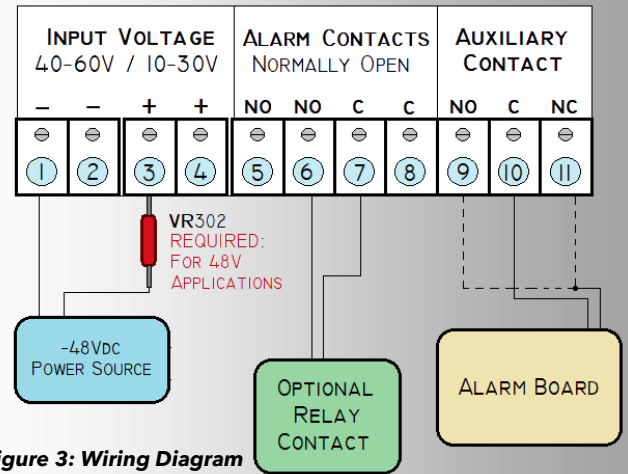


Figure 3: Wiring Diagram

Testing & Maintenance

- The detector will flash red every 3.5 seconds when operating properly. Clean Detector once a year.
- The unit can be tested by placing a magnet over the "T" mark on the head of the unit. It can also be tested by using a UL Listed aerosol smoke detector tester to simulate an alarm.

There are (3) ways to check the calibration of the unit.

- (1) Visually inspect the flashing LED. If the unit is out of calibration for more than 24hrs, the LED will flash every second.
- (2) Perform a Magnet test on the unit. If the unit is calibrated, the test will activate the alarm as normal. If the unit is too sensitive, the LED will rapidly flash 6 times (every 1/2 second) and then activate the alarm. If the unit is not sensitive enough, the LED will slowly flash (every 4 seconds) and then activate the alarm.
- (3) Measure the Voltage from the Calibration Voltage Pins on the head of the unit using the Voltage Cable Tester (VT1005, sold separately). The voltage measured must be at $1.5 \pm 0.45\%$ /1.0FT.

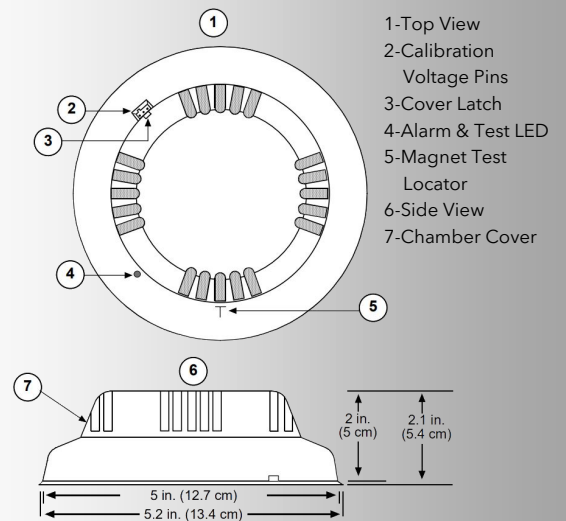


Figure 4: Testing an OSD380 Detector