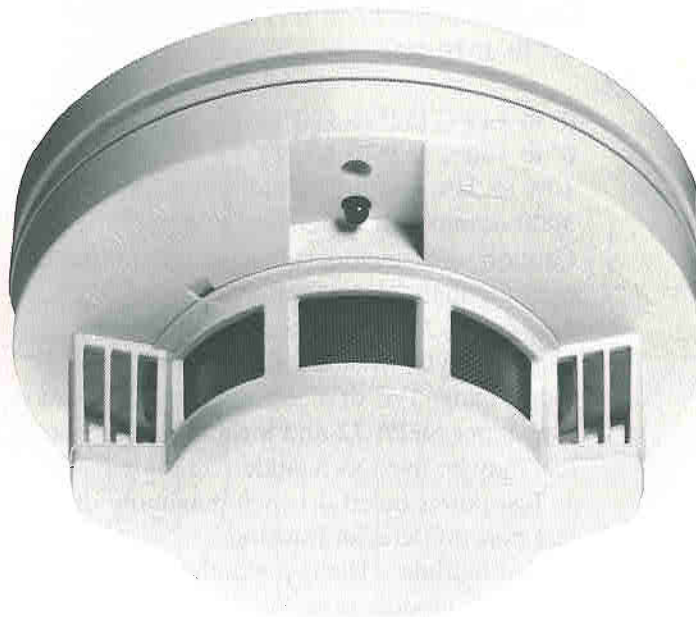


**SENSOR2**

# PHOTOELECTRONIC SMOKE DETECTOR

WITH PLUG-IN TERMINAL WIRING



## FEATURES:

- 12/24 VDC operation in one unit
- 2-wire and 4-wire models available
- Aesthetically pleasing design
- Geometrically optimized photoelectronic sensing chamber
- Visual alarm and power indicator
- Plug-in terminal block for easy installation and maintenance
- Optional supervised electronic thermistor heat sensors rated at 135°F
- Built-in test switch
- Field sensitivity metering of detector to meet the requirements of NFPA 72
- Easy maintenance — replaceable insect screen
- Built-in tamper-resistant feature
- 3-year warranty



**SYSTEM SENSOR**<sup>TM</sup>  
A DIVISION OF PITTWAY

3825 Ohio Avenue, St. Charles, IL 60174, 1-800-SENSOR2 (736-7672), Fax 708-377-6495  
An ISO 9001 Certified Company

# GENERAL DESCRIPTION

System Sensor's 300 Series Photoelectronic Smoke Detectors feature a plug-in wiring system with 12 and 24 volt operation in one aesthetically pleasing housing design. All models contain a patented optical chamber for exceptional reliability. Installation is simple and cost effective — prewire the plug-in terminal block and snap the detector into place. Two- and four-wire models are available.

# SPECIFICATIONS

Size:	5.5" diameter × 2.75" h (14 cm × 6.985 cm)
Shipping Weight:	0.7 lb. (310 gm)
Operating Temperature Range:	
Non-thermal Models:	0° to +49°C (32° to 120°F)
Thermal Models:	0° to +38°C (32° to 100°F)
Operating Humidity Range:	10% to 93% relative humidity noncondensing
Air Velocity Rating:	3000 ft./min. (15 meters/sec.)
	Caution — Detectors subjected to continuous velocities above 300 fpm may require more frequent maintenance.
Sensitivity:	3% (+.6 / -.7) per foot obscuration
Wiring:	14 – 22 AWG, twisted pair recommended
Mounting:	Single gang, 3½" or 4" octagon, or 4" square with plaster ring
Spacing:	Install per NFPA 72 and local requirements. On smooth, flat ceilings, spacing of 30 feet may be used as a guide.
Test Features:	1. Test port – Insert 0.1 inch maximum diameter allen wrench or screwdriver into test port on detector housing. 2. Test module – Using a standard voltmeter interface, insert MOD400R plug into detector's module port. Fulfills calibrated sensitivity test per NFPA 72.
Heat Sensor:	135°F fixed temperature electronic thermistors (2)

# ELECTRICAL RATINGS

	<u>2312/24B / 2312/24TB</u>	<u>2300B / 2300TB</u>
System Operating Voltage:	12/24 VDC (8.5–35 VDC)	12/24 VDC (8.5–35 VDC)
Maximum Ripple Voltage:	30% of nom. (peak to peak)	30% of nom. (peak to peak)
Standby Current:	120 µA maximum	120 µA maximum
Alarm Current:	50 mA maximum	4.2 VDC minimum at 10 mA.* 6.6 VDC maximum at 100 mA.* *Alarm current must be limited to 100 mA maximum by the control panel. If used, the RA400Z Remote Annunciator operates within the specified detector alarm currents.
Reset Voltage:	0.8 VDC minimum	2.5 VDC minimum
Reset Time:	0.3 sec. maximum	0.3 sec. maximum
Start-up Time:	34 sec. maximum (after 60 sec. reset)	34 sec. maximum (After 60 sec. reset)
EOL relay:	A77-716B (12/24 volt)	

# ALARM INITIATION CONTACT RATINGS (2312/24TB / 2312/24B)

Resistive or inductive load (60% power factor):  
Form A: 2.0A @ 30 VAC/DC

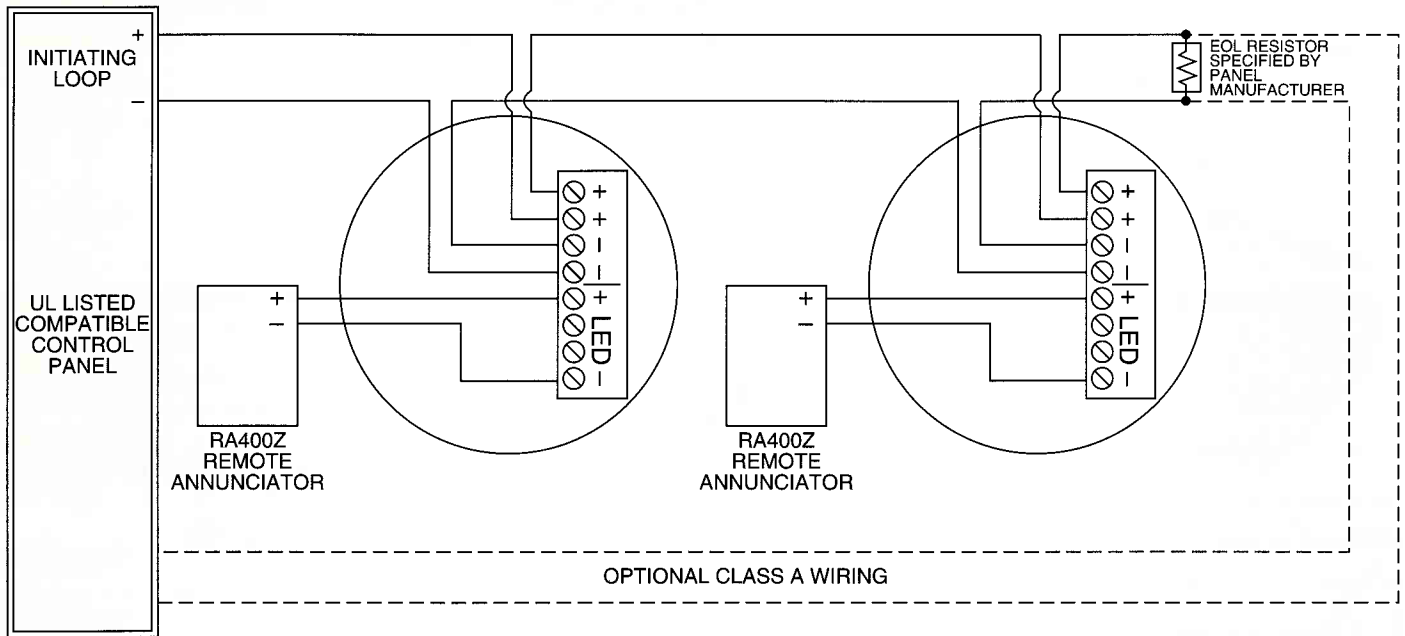
# AGENCY LISTINGS

UL:	268 (S911)
CSFM:	7272-1209:142
FM:	OW5A9.AY

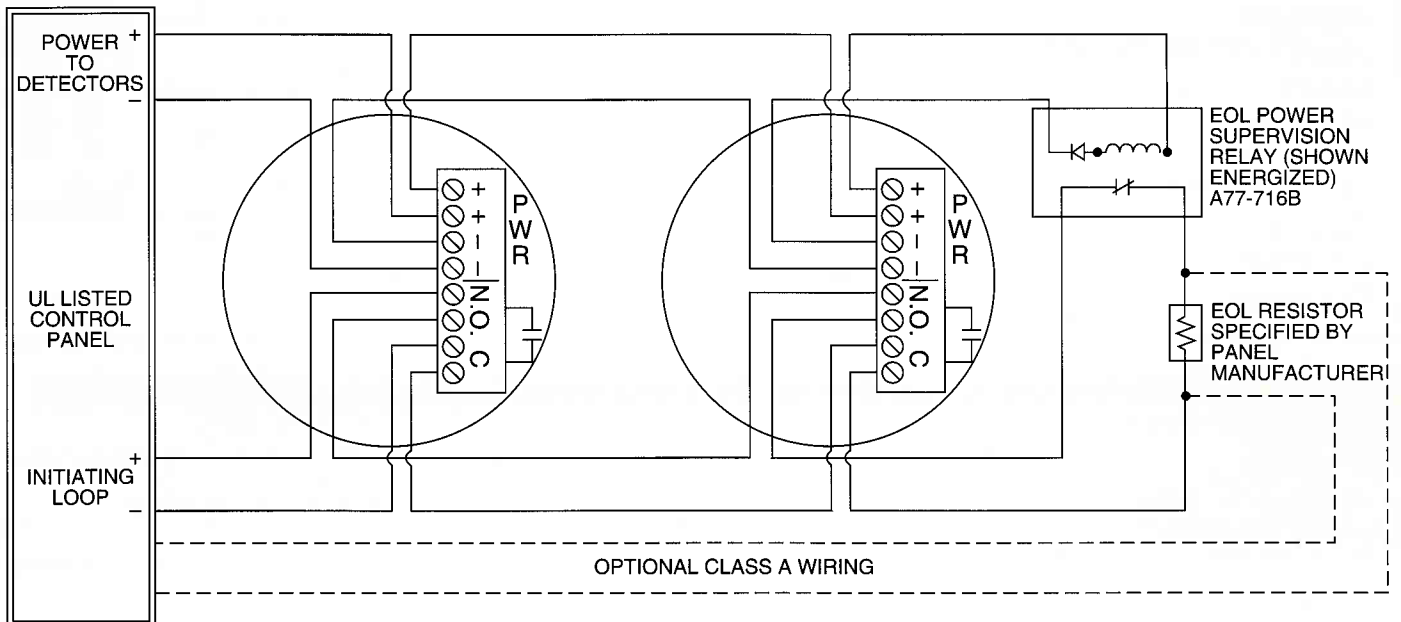
# ENGINEERING SPECIFICATIONS

Smoke Detector shall be a photoelectric type (Model 2300B or 2312/24B) or a combination photoelectric/thermal with dual electronic heat sensors rated at 135°F (Model 2300TB or 2312/24TB) as manufactured by System Sensor. Wiring connections shall be made by means of a plug-in terminal block. Detector shall have a power/alarm LED which will blink in standby. The detector shall have a sensitivity of 3% +.6/- .7 % per foot as measured in the UL smoke box. The detector screen and cover should be easily removable for cleaning. It shall be possible to perform a sensitivity and functional test without the need of generating smoke. Detector circuitry shall perform a self-test on the sensing chamber and internal electronics every 40 seconds. If circuitry fails, the detector LED shall stop blinking. The detector shall have a mounting bracket that allows for mounting to a 3 1/2" or 4" octagon box or 4" square electrical box.

## 300 SERIES WIRING GUIDE

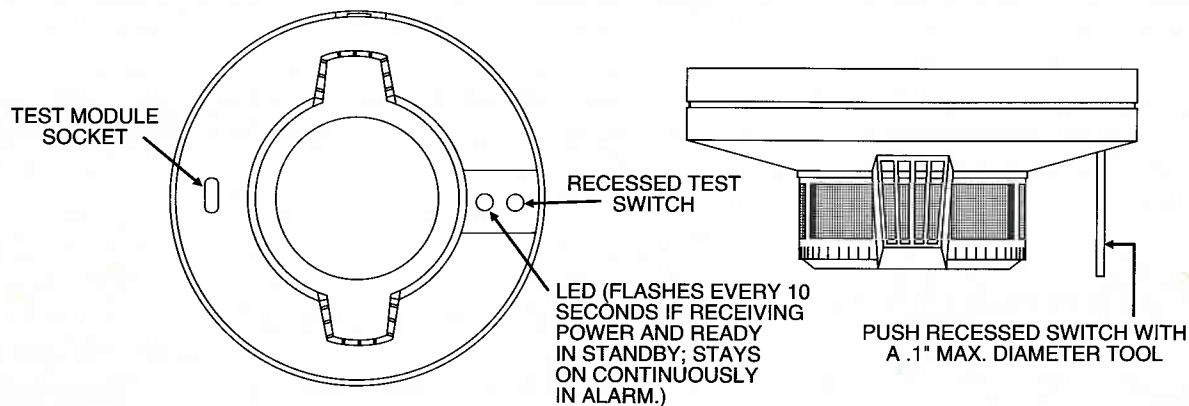


■ 2300B, 2300TB Wiring Diagram



■ 2312/24B, 2312/24TB Wiring Diagram

# TESTING THE 300 SERIES PHOTOELECTRONIC SMOKE DETECTOR



A78-2334-00



- The **MOD400R Field Sensitivity Test Module** can be used with any standard DC voltmeter or multimeter to check the sensitivity range of System Sensor's detectors (satisfies NFPA 72 requirement for sensitivity testing).

## ORDERING INFORMATION

Part No.	Description
2312/24B	Photoelectronic, 4-wire, 12/24 VDC, plug-in terminal block
2312/24TB	Photoelectronic, 4-wire, 12/24 VDC, thermistors, plug-in terminal block
2300B	Photoelectronic, 2-wire, 12/24 VDC, plug-in terminal block
2300TB	Photoelectronic, 2-wire, 12/24 VDC, thermistors, plug-in terminal block
A77-716B	EOL power supervision relay module, 12/24 VDC
MOD400R	Sensitivity test module
RS23	Replacement screen for 300 Series smoke detectors (12 pack)
J2300TB	Shorting plug for 300 Series head removal
T17-174-07	Replacement terminal block, 2-wire
T17-174-08	Replacement terminal block, 4-wire

## SYSTEM SENSOR WORLDWIDE MANUFACTURING & DISTRIBUTION

**Corporate Headquarters:**  
System Sensor  
3825 Ohio Avenue  
St. Charles, IL 60174, USA  
Telephone: 708-377-6580  
FAX: 708-377-6495

**In the United Kingdom:**  
System Sensor Limited  
Horsham Gates III, North  
Horsham, West Sussex  
RH13 5PJ, United Kingdom  
Telephone: 44 1403 276500  
FAX: 44 1403 276501

**In Italy:**  
System Sensor  
Pittway Tecnologica, S.p.A.  
Via Caboto, 19  
34147 Trieste, Italy  
Telephone: 39 40 381887  
FAX: 39 40 382137

**In the Far East:**  
System Sensor Far East Sales Office  
Pittway Far East LTD  
Suite 706, World Shipping Centre  
7 Canton Road  
Tsimshatsui, Kowloon, Hong Kong  
Telephone: 852-730-9090  
FAX: 852-736-6580