

DIVISION OF EMERSON ELECTRIC CO.

140 SOUTH UNION BOULEVARD LAKEWOOD, COLORADO 80228 (303) 986-1581 TWX: 910 320 2894

Effective March 1, 1979

OEM PRICING

MODEL #	DESCRIPTION	QUANTITY PRICES
		1000 Minimum per annum
301G	Ionization Detector	23.00
301H	Ionization Detector	29.00
301J	Ionization Detector	Request Quote
-001	Mounting Base	4.10
-002	Mounting Base	13.70
-003	Mounting Base	17.00
-004	Mounting Base	17.00
-0301	Transformer Pack	9.55

Terms: Net 30 days from date of invoice. All shipments are f.o.b. Lakewood, Colorado.

Factory authorized returns subject to 15% restocking charge. No merchandise returns will be accepted for credit without prior written authorization.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Special packing and marking requirements on boxes or cartons are subject to additional charges.



BETTER FIRE DEFENSE PRODUCTS—WORLDWIDE



Effective March 1, 1979  
Supersedes all previous price lists

PRICE LIST  
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**DEALER PRICE LIST/COMMERCIAL**  
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STATITROL DIVISION  
EMERSON ELECTRIC CO  
140 SOUTH UNION BOULEVARD  
LAKEWOOD, COLORADO 80228  
(303) 986-1581

 **STATITROL®**  
BETTER SECURITY PRODUCTS WORLDWIDE

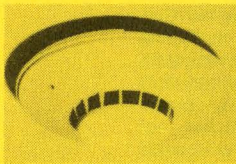
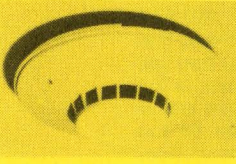


# the MODEL 301

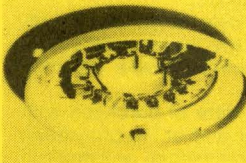
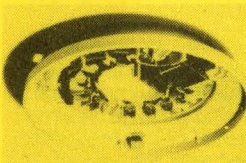
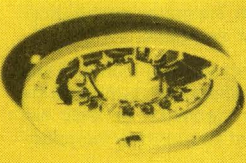
## modular smoke detection

from

# STATITROL®

Models	Features	Dealer Price	Dealer Price with Base	Suggested List
301G 	301G uses Base 002, 003 or 004. Designed as a basic detector containing a built-in alarm LED and Sensitivity Control. The LED is on in alarm.	301G: 1- 5 \$36.00 6-11 34.75 12-24 33.45 25-up 32.45	301G with base:  -002: 1- 5 \$54.40 6-11 52.60 12-24 50.70 25-up 49.10 -003 or -004: 1- 5 \$59.00 6-11 56.95 12-24 54.90 25-up 53.15	301G \$ 72.00  301G with base: -002: \$109.00  -003: \$118.00  -004: \$118.00
301H 	301H uses base 002, 003 or 004. A Sensitivity Control and alarm and sensitivity-indicating LED allows visual monitoring of sensitivity. The LED normally flashes between 60 and 90 pulses per minute in supervisory or standby conditions. If it flashes faster than 90 pulses per minute, the detector has become less sensitive. If it flashes slower than 60 pulses per minute the detector has become more sensitive. The LED is on steady in alarm.	301H 1- 5 \$45.00 6-11 43.45 12-24 41.95 25-up 40.55	301H with base:  -002: 1- 5 \$63.50 6-11 61.30 12-24 59.20 25-up 53.20 -003 or -004: 1- 5 \$68.00 6-11 65.65 12-24 63.40 25-up 61.25	301H \$ 90.00  301H with base: -002: \$127.00  -003: \$136.00  -004: \$136.00



Models	Features	Dealer Price	Dealer Price with Base	Suggested List
-002 	Has Remote Alarm Indicator Lamp connection and a double-pole, double-throw alarm and accessory control relay.	-002 1- 5 \$18.50 6-11 17.85 12-24 17.25 25-up 16.65		-002 \$ 37.00
-003 	Has Remote Alarm Indicator Lamp connection, one single-pole, double-throw accessory relay contact and a normally-closed trouble relay contact to supervise the power circuit.	-003 1- 5 \$23.00 6-11 22.20 12-24 21.45 25-up 20.70		-003 \$ 46.00
-004 	Contains Remote Alarm Indicator Lamp connections, one SPDT accessory relay contact, and a normally-closed trouble relay contact to supervise the power circuit.	-004 1- 5 \$23.00 6-11 22.20 12-24 21.45 25-up 20.70		-004 \$ 46.00
0301	Transformer Power Pack			
	Converts 120 VAC to 24 VDC where DC system power is not available.	1- 5 \$11.50 6-11 11.10 12-24 10.70 25-up 10.35		\$ 23.00



# TERMS AND CONDITIONS

1. The terms and conditions set forth herein are the standard terms and conditions of acceptance of purchase orders by Statitrol Division, Emerson Electric Co., hereinafter referred to as the "Company," and shall constitute the entire agreement between the Purchaser and the Company.
2. PURCHASE ORDERS, ETC. Any terms or conditions of any customer's order or other instrument which are in addition to or inconsistent with the Company's terms and conditions set forth herein, shall not be binding on the Company and shall not apply to this sale. No waiver, change or modification of any of the terms or conditions set forth herein shall be binding on the Company unless in writing signed by an officer of the Company.
3. TERMS OF PAYMENT AND PRICES. Unless otherwise provided for on the face hereof, terms of payment are:
  - a) Thirty days net from date of invoice, unless otherwise stated, on all equipment for destination within the United States and Canada,
  - b) Net cash by irrevocable letter of credit on all equipment for destination outside the United States and Canada, subject to approval of credit by the Company at time of equipment shipment.All payments shall be in legal currency of the United States.

Before any equipment may be returned to Statitrol for credit or other billing adjustment (as opposed to returns for repair and/or replacement provided for in the warranty clause set forth below), prior written authorization must be obtained from an officer of the Company together with appropriate shipping instructions for return or transfer of the equipment, prepaid to destination. All authorized returns are subject to a restocking charge and Statitrol assumes no responsibility whatsoever for unauthorized returns. Prices and terms are subject to change without notice and to correction for error.
4. DELIVERY. Unless otherwise provided for on the face hereof, all shipments are F.O.B. Lakewood, Colorado. Shipment schedules are approximate and are based on conditions at the time of acceptance.

The Company will make every effort to complete shipment as indicated, but assumes no responsibility or liability for loss or damage by reason of delay or inability to ship caused by acts of God, fires, floods, wars, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, sub-contractors or suppliers, voluntary or mandatory compliance with any government act, regulation or request, shortage of labor, materials or manufacturing facilities, or any other cause or causes beyond the Company's reasonable control. If, by reason of any of these things, the Company's supplies of the materials covered hereby are limited, the Company shall have the right to prorate the available supply in such manner as it, in its discretion, determines.
5. PARTIAL DELIVERIES. Partial deliveries shall be accepted and paid for at contract prices on maturity of bills therefor. If any part of the material is not delivered by the Company or is not in accordance with the order, the order for the remainder of the material and Purchaser's obligation thereunder shall not be affected thereby. The Company may, at its option, replace any or all returned material within a reasonable time after it is finally determined that the returned goods are not in accordance with the contract, and in such event the Company shall not be liable for any damages arising from the defective delivery or delay caused thereby.
6. INSPECTION ON ARRIVAL. The Purchaser shall inspect the material immediately on its arrival and shall within five (5) days of its arrival give written notice to the Company of any claim for shortage of material that does not conform with the terms of the contract. If the Purchaser shall fail to give such notice, the material shall be deemed to conform with the terms of the contract, and the Purchaser shall be bound to accept and pay for the material in accordance with the terms of the contract.
7. WARRANTY. Statitrol warrants the equipment of its manufacture to be free from defects in workmanship, materials and construction under normal use and service.
  - a) for a period of one (1) year from date of purchase with respect to SmokeGard\* type of early warning detectors and auxiliary residential fire protection/escape devices. (\*Trademark)
  - b) for a period of two (2) years from date of purchase with respect to all other smoke detection and/or fire protection devices sold by the Company for commercial or industrial applications.Statitrol's obligation under this warranty shall be limited to repairing or replacing, and returning — transportation prepaid, any equipment which shall be returned to Statitrol at its manufacturing facilities, Lakewood, Colorado 80228, with transportation charges prepaid, and which Statitrol's examination shall disclose to its satisfaction to have been defective.

This warranty is expressly in lieu of all other warranties and representations, express or implied, and all other obligations or liabilities on the part of Statitrol including, but not limited to, the warranty of fitness for a particular purpose. In no event shall Statitrol be liable for direct, incidental or consequential loss or damage of any kind connected with the use of its equipment or failure of its equipment to function or operate properly.

This warranty shall not apply to any Statitrol equipment which has been disassembled, repaired, or altered in any way outside Statitrol's manufacturing facilities so as to, in Statitrol's judgment, affect its use, function or reliability or which shall have been subject to misuse, alteration, improper installation, painting, misapplication, negligence or accident.

Statitrol makes no warranty with respect to semi-conductors, batteries, fuses, diodes or any other equipment furnished by Statitrol but manufactured by another inasmuch as they are normally warranted specifically by their respective manufacturers.
8. TAXES. Unless otherwise provided for on the face hereof, Purchaser warrants that the equipment ordered and/or delivered hereunder is intended for re-sale by the Purchaser and/or his agents and that the amount of any and all present or future taxes or other governmental charges upon the production, shipment, installation or sale of the equipment covered hereby, including sales, use or occupation taxes, will be collected from the ultimate consumer by the purchaser and/or his agents and will be paid by said Purchaser or his agents directly to the taxing authorities.
9. NON-ASSIGNMENT. Neither this order nor any interest therein may be assigned by Purchaser, whether by operation of law or otherwise, without the prior written consent of the Company.
10. CANCELLATION. This contract may be cancelled by the Purchaser only upon the payment of reasonable cancellation charges which shall take into account expenses already incurred for labor and material costs and overhead and other commitments made by the Company. Filing of a petition in bankruptcy or commencement of any insolvency proceeding pursuant to State law shall be deemed a cancellation by the purchaser. In cases where the Purchaser has paid part of the cost of the equipment before delivery and the Company is unable to manufacture and deliver equipment in accordance with the specifications within a reasonable period beyond the shipping estimate, the Company agrees to return all payments by the Purchaser and each agrees to terminate this contract without further liability to the other.
11. PATENTS. Statitrol agrees to compensate Buyer for any court awarded damages suffered by reason of actual infringement of any United States patent which actual infringement shall result specifically and solely from use, or resale of, the specific material ordered hereunder; provided, however, that Buyer promptly notifies Statitrol of any infringement suit filed against Buyer's threat thereof and further provided that Buyer tenders to Statitrol the defense of any such suit.



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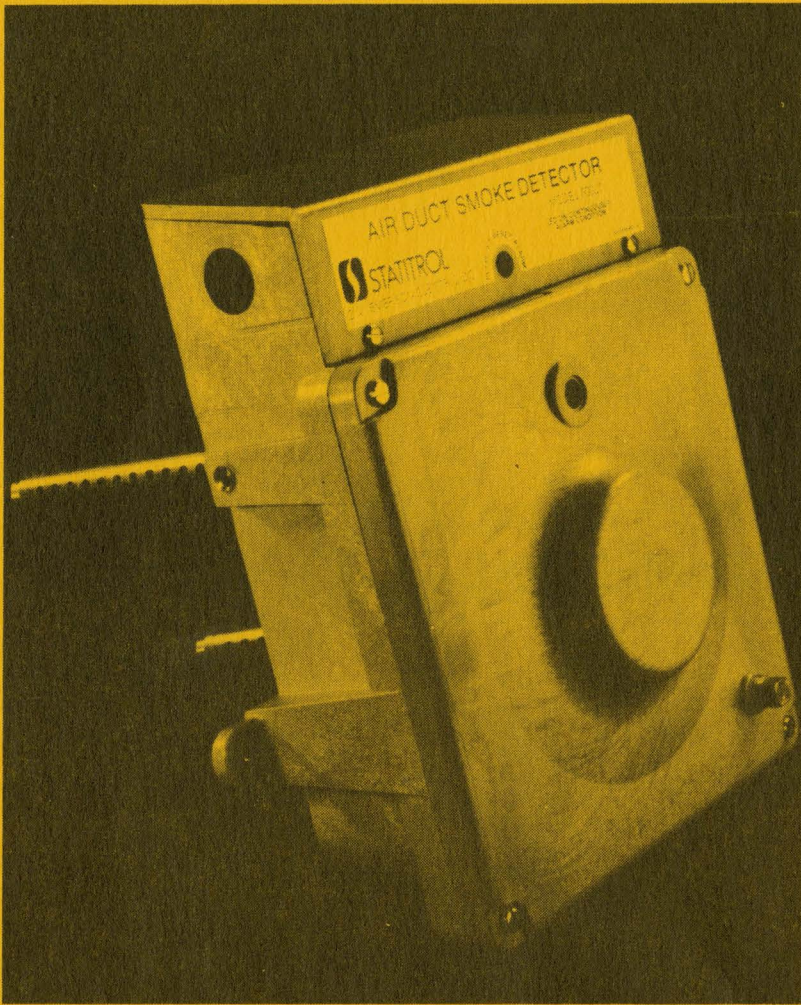
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BETTER SECURITY PRODUCTS WORLDWIDE





The Model 500L7, 501K7 and 501K2 Duct detector have all the following features in common:

- Metallic gray Lexan Housing
- Connections for remote alarm indicator lamp (RAIL).
- Built-in power regulation.
- 24 VDC powered. Not polarity dependent.  
(501K2 accepts 120 VAC and converts to 24 VDC).
- Air duct velocities from 500' to 3,000' per minute.
- Temperature 32° to 120° F.
- Humidity 10% to 85% R.H.
- Adjustable sensitivity.
- Built-in smoke testing facility.
- Accessible push button reset.
- Complete with mounting hardware, instructions and duct template. Order sampling tube sets separately.

Model	Features	Dealer Price	Suggested List
500L7	<p>Includes a built-in ionization detector of the 301G type. A light-emitting diode provides visible alarm indication. A DPDT relay provides separate contacts for alarm signaling and accessory control.</p> <p>Power Requirements: . . . . . 24 VDC (+10 - 15%) 100 mv Max Ripple</p> <p>Relay Contact Rating: . . . . . 3 A Max @ 24 VDC, 24 VAC or 115 VAC Resistive 1.5 A @ 80% P.F. @ 24 VAC or 115 VAC Inductive 1A @ 24 VDC, Inductive</p> <p>Standby Current: . . . . . 100 Micro Amps Max @ 24 VDC</p> <p>Alarm Current: . . . . . (not including remote alarm lamp) 80 MA at 24 VDC</p> <p>Remote Alarm Indicator Lamp (RAIL): . . . . . 40 mA Max @ 24 VDC</p>	<p>1- 5            \$119.45 6-11            115.35 12-24          111.45 25 up           107.65</p>	\$238.90







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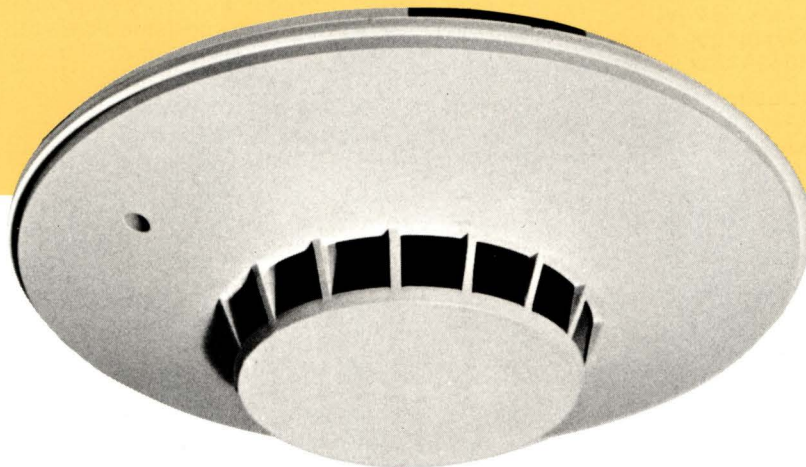
This warranty is expressly in lieu of all other warranties and representations, express or implied, and all other obligations or liabilities on the part of Statitrol including, but not limited to, the warranty of fitness for a particular purpose. In no event shall Statitrol be liable for direct, incidental or consequential loss or damage of any kind connected with the use of its equipment or failure of its equipment to function or operate properly.

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9. NON-ASSIGNMENT. Neither this order nor any interest therein may be assigned by Purchaser, whether by operation of law or otherwise, without the prior written consent of the Company.
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from  
**STATITROL®**  
modular smoke detector



## the MODEL 30I

### features

- Statitrol Quality
  - Dual Ionization Chamber
    - Modular design provides maximum flexibility
      - Sensitivity Control
        - Separate Mounting Base Assembly allows for two-wire, four-wire and six-wire installations
          - Built in circuitry allows for a remote alarm indicating lamp (RAIL) connection
- Low operating current
- Self-wiping contacts
- Low profile design creates a pleasing appearance
- Built-in LED alarm light
- Supervised Mounting Base Assembly provides a trouble indication if a detector is removed
- Choice of normally-open or normally-closed alarm contacts
- Pre-wired Mounting Base Assembly permits pre-installation wiring checkout from the Fire Control Panel

U.L., U.L.C. AND CALIFORNIA  
STATE FIRE MARSHALL LISTED



# the MODEL 301

## technical data

### Power Requirements:

24VDC (+10%, -15%); 100 mV Max. ripple

### Standby Current:

Detector: 301G: 100 micro-amps Max. @ 24VDC  
301H: 10 mA Max. @ 24VDC

Base: -001, -002: No standby current  
-003, -004: 10 mA Max. @ 24VDC

### Alarm Current: (not including RAIL current)

Detector: 301G: 51 mA Max. @ 24VDC  
301H: 65 mA Max. @ 24VDC

Base: -001: No alarm current  
-002: 30 mA Max. @ 24VDC  
-003, -004: 40 mA Max. @ 24VDC

### Formula For Computing Total Zone Current Loads:

$$1 \quad =1 \quad +1 \quad +1$$

TOTAL BASE DETECTORS RAILS

Remote Alarm Indicator Lamp (RAIL):  
40 mA Max. @ 24VDC supplied.

Accessory Relay Contact Rating:  
2A Max. @ 28VDC Or 115 VAC, Resistive

Trouble Contact Rating:  
125 mA at 115 VAC, Resistive

### LED Pulse Rate:

301G: LED does not pulse

301H: 60-90 PPM U.S.  
50-80 PPM Canada

### Wiring:

1. Remote Alarm Indicator Lamp (RAIL) and power input wires are power-limited (refer to NEC 760-30 or CEC Sec. 32).
2. All other accessory relay wires and alarm relay wires can be power-limited, (refer to NEC 760-30 or CEC Sec. 32) or non-power limited (refer to NEC 760-16 and 760-17 or CEC Sec. 32).

### Power Pack:

Input: 120, 50/60 Hz.  
VAC (+10%, -15%)  
100 mA Max.

### Environmental Specifications:

Velocity: 15-140 fpm continuous

Temp: 32° F-120° F

Humidity: 10%-85% R.H.

Altitude: 0 ft. - 10,000 ft.

### Mechanical Specifications:

Dimensions: 7.5" diameter X 2.65" High

Color: Off-white

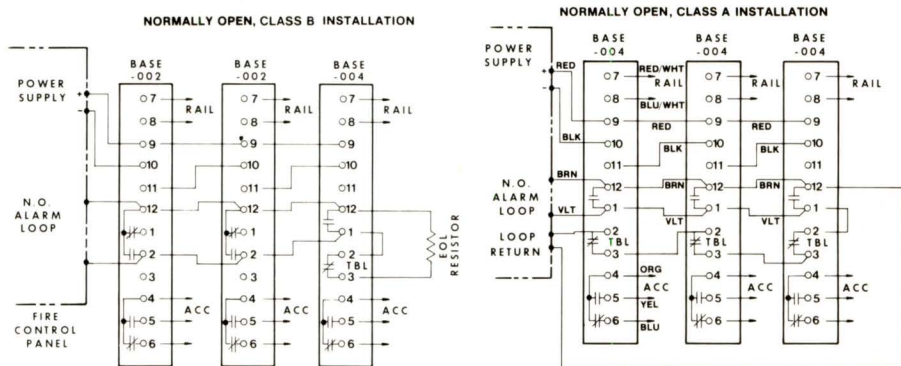
Material: Heat resistant plastic

Ionization source:

Americium 241, .9 uCi

## wiring

The accompanying schematics illustrate typical combined mounting base installation wiring and system connections.



## ordering

Direct inquiries or orders to:

Statitrol Division  
Emerson Electric Company  
140 South Union Boulevard  
Lakewood, Colorado 80228

## two-wire, four-wire or six-wire installations

Mounting Base Assembly Detector	-002 DPDT Alarm or Accessory	-003 N.C. Alarm SPDT Accessory N.C. Trouble	-004 N.O. Alarm SPDT Accessory N.C. Trouble
Model 301G	ORDER Detector: 301G7101-1 Mounting Base: 0301-0003-002	ORDER Detector: 301G7101-1 Mounting Base: 0301-0003-003	ORDER Detector: 301G7101-1 Mounting Base: 0301-0003-004
Model 301H	ORDER Detector: 301H7101-1 Mounting Base: 0301-0003-002	ORDER Detector: 301H7101-1 Mounting Base: 0301-0003-003	ORDER Detector: 301H7101-1 Mounting Base: 0301-0003-004



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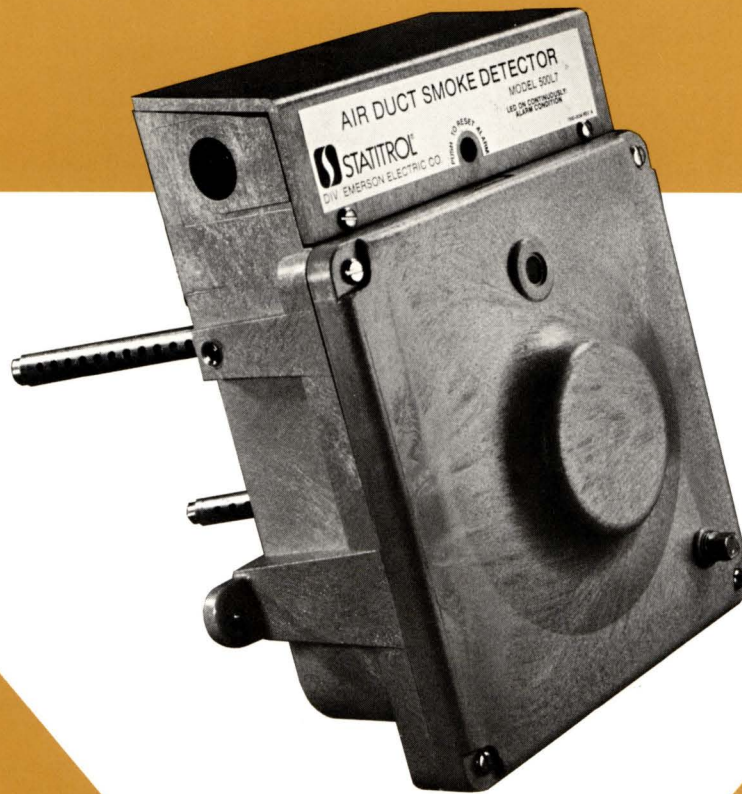
BETTER SECURITY PRODUCTS WORLDWIDE



0110-0020 Rev. A



from  
**STATITROL**<sup>®</sup>  
ionization duct detectors



## features

- Statitrol Quality
  - Up to 10 amps-contact rating
  - Visual L.E.D. alarm indication
  - Two sets SPDT contacts— all models
    - Test and reset without opening housing
    - Self-sealing cover — no gasket required
    - Pulsed L.E.D. gives visual sensitivity indication on 501 models
- Built-in sensor
- 120 VAC or 24 VDC operation
- Remote alarm indicator output
- Trouble contacts on all 501 models
- Single station or system application
- Easy installation — installs without opening housing
- Lexan housing — metallic gray — never rusts — never paint — never chips — light weight
- Sampling and reference tube kits accommodate duct widths from 6 inches to 12 feet

U.L., U.L.C. LISTED



# MODEL 500/501

## technical data

### POWER REQUIREMENTS:

24 VDC MODELS

24 VDC (+10%, -15%); 100 mV max. ripple

120 VAC Models

120 VAC (+10%, -15%); 100 mA max.

### STANDBY CURRENT: (24 VDC Only)

Model 500L7; 100  $\mu$ A max. @ 24 VDC

Model 501K7; 17 mA max. @ 24 VDC

### Alarm Current: (not including RAIL current)

Model 500L7; 80 mA max. @ 24 VDC

Model 501K7; 95 mA max. @ 24 VDC

Model 501K2; max. current 80 mA @ 120 VAC  
(under all conditions)

### Remote Alarm Indicator Lamp (RAIL):

40 mA max. @ 24 VDC

### Accessory Relay Contact Rating: (as applicable)

Models 501K7 & 501K2; 10A max. @ 24 VDC, 24 VAC,  
or 115 VAC, Resistive

5A @ 80% P.F. @ 24 VAC or 115 VAC, Inductive

2A @ 24 VDC, Inductive

Model 500L7; 3A max. @ 24 VDC, 24 VAC or 115

VAC, Resistive

1.5A @ 80% P.F. @ 24 VAC or 115 VAC, Inductive

1A @ 24 VDC, Inductive

### Trouble Contact Ratings: (as applicable)

0.125A @ 120 VAC, Resistive

### LED Pulse Rate:

Model 500L7; LED does not pulse

Model 501K7 and Model 501K2: 50-80 PPM

### Wiring:

For power limited wires, refer to NEC 760-30. For  
non-power limited, refer to NEC 760-16 and 760-17.  
In Canada refer to CEC, Sec. 32.

### Environmental Specifications:

Air velocity: In duct 500 to 3,000 FPM

Temperature: 32° F to 120° F

Humidity: 10% to 85% R.H.

Altitude: 0 ft. - 10,000 ft.

Avoid Corrosive Atmospheres

### Mechanical Specifications:

Dimensions: 10.8" high x 10" wide x 4.4" deep (max.)

(274.32mm x 254mm x 11.76mm)

Color: Metallic Gray

Material: Lexan

Ionization Source: Americium 241, .9 $\mu$ Ci

## wiring

Typical wiring schematics for  
Models 500L7, 501K7 and 501K2.

DAMPER RELEASE SERVICE USING 500L7, 501K2, 501K7

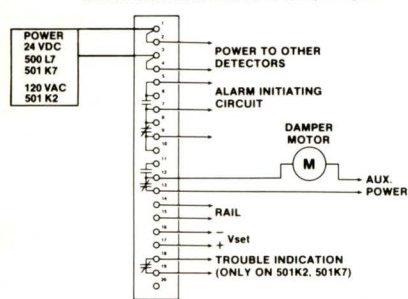


FIGURE 1

HVAC FAN CONTROL USING 500L7, 501K2, 501K7

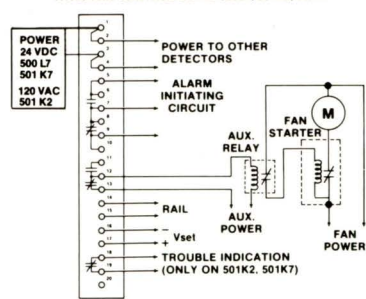


FIGURE 3

FOUR WIRE, CLASS A, INSTALLATION USING 501K2, 501K7

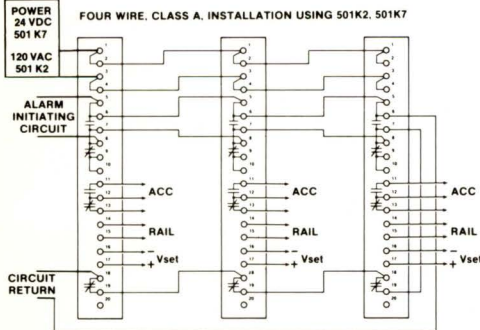


FIGURE 2

FOUR WIRE, CLASS B, INSTALLATION USING 500L7, 501K7

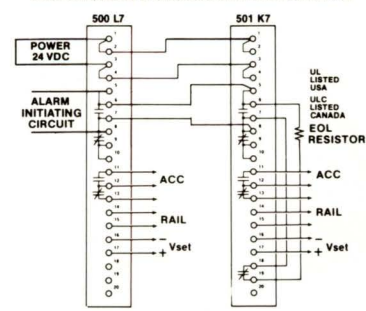


FIGURE 4

## ordering

Order Model 501K2 for 120 VAC  
operation

Select and order Model 500L7  
or 501K7 for 24 VDC operation

Order Detector Sampling Tube Sets  
comprised of one sampling tube  
and one reference tube as follows:

For Duct Widths of:	Model #
2' to 3½'	ORDER ST1
3' to 5'	ORDER ST2
4' to 7'	ORDER ST3
6' to 10'	ORDER ST4
9' to 12'	ORDER ST5
6" to 8"	ORDER ST6
9" to 11"	ORDER ST7
12" to 17"	ORDER ST8
18" to 23"	ORDER ST9

Direct inquiries or orders to:

**Statitrol Division**  
**Emerson Electric Company**  
140 South Union Boulevard  
Lakewood, Colorado 80228  
(303) 986-1581



STATITROL DIVISION  
EMERSON ELECTRIC CO  
140 SOUTH UNION BOULEVARD  
LAKEWOOD, COLORADO 80228  
(303) 986-1581



BETTER SECURITY PRODUCTS WORLDWIDE



0110-0021 Rev. A





# SmokeGard<sup>T.M.</sup> Early Warning Home Smoke Detector

**Factory  
Mutual  
System**  
Approved



## AT LAST! A LOW COST IONIZATION DETECTOR

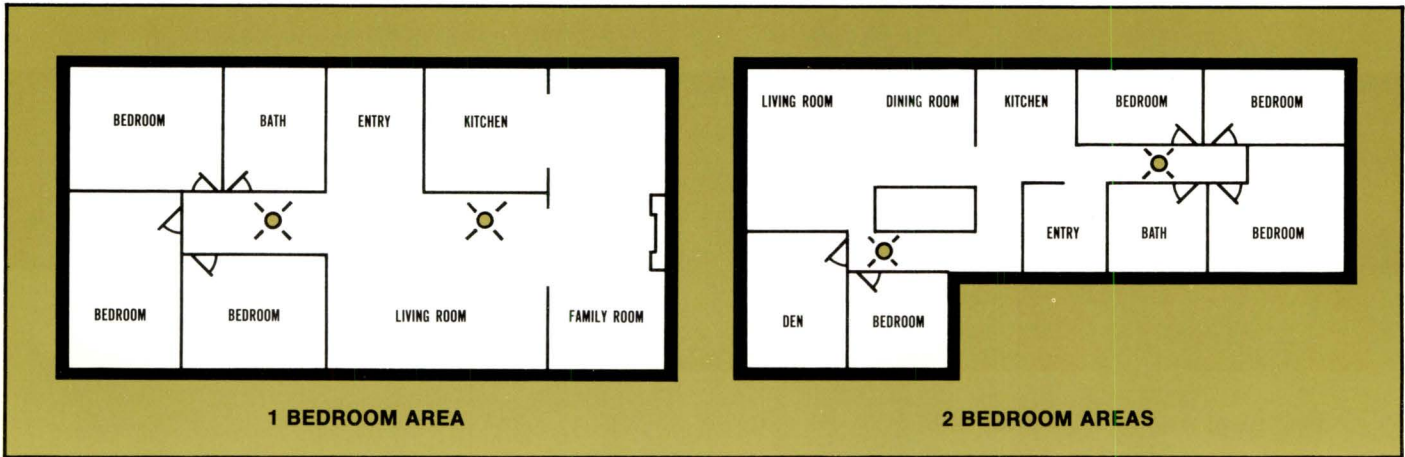
- Designed for *Life Safety*—Alerts the family before smoke or toxic gases accumulate
- Ionization Principle—A new, highly sensitive electronic home smoke detector
- Detects smoldering fires earlier—yet will not alarm in a room full of heavy smokers
- Battery powered—No wiring—Fastens to ceiling with two screws—in minutes
- Fail Safe—Batteries last over one year—horn will “chirp” when the batteries are weak
- One detector protects each bedroom “area”
- Location—on the ceiling of the hall in the immediate area outside of bedroom doors
- Alarm Horn—85 decibels, loud enough to awaken most heavy sleepers through closed bedroom doors
- Suitable for homes, mobile homes, apartments, vacation trailers or campers
- Extra units can guard basement and living room.
- Factory Mutual System Approved.





# Early Warning Smoke Detection For Your Home.

## INSTALLATION:



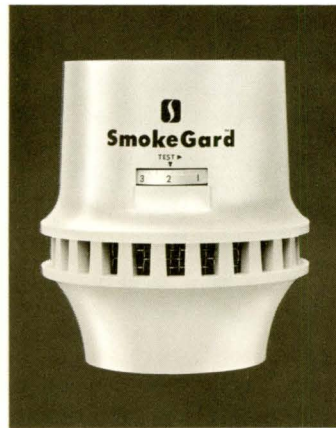
1. Select location on a ceiling, outside of but close to all bedrooms. Additional units can be located as shown:



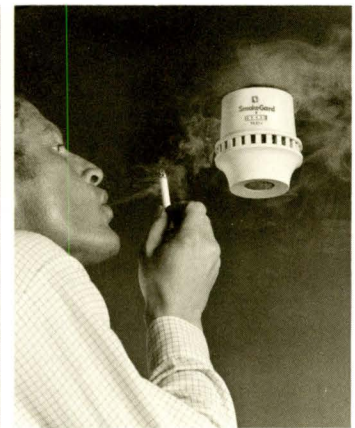
2. Remove mounting cap and insert batteries—3 Mallory #PX21 (4½ volt alkaline). Refer to diagram on top cover.



3. Fasten mounting cap to ceiling with enclosed screws. If necessary, use expanders, toggle bolts or "moly" fasteners to be sure of a secure mounting.



4. To set detector, turn knob to right until alarm sounds intermittently, then back off three divisions. This will be a normal sensitivity setting.



5. Test detector periodically by turning knob to right until alarm sounds or blowing smoke into the grille area. After each test, return to normal setting.

## MAINTENANCE:

All components except the batteries are designed for very long life. When changing batteries, be sure the grille area is free of dust or grease accumulation. Use vacuum cleaner to remove dust or dirt.

The SmokeGard® can sense fire well in advance of either heat or heavy smoke—it will detect *invisible* products of combustion. The ionization principle has long been recognized by fire protection authorities as an "early warning detection instrument recommended

## SPECIFICATIONS:

Batteries—3 Mallory #PX21  
Size—4" diameter x 4½" high  
Shipping weight—two pounds

for life safety and high value property protection." Used world wide in major buildings for years, it is now available to the home owner—at a low cost.

# SmokeGard<sup>T.M.</sup>

Another Fire Defense Product by:

**STATITROL® CORPORATION**  
140 S. Union Blvd., Lakewood, Colo. 80228

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Patents Pending

Form No. 1172-1  
Printed in U.S.A.



**IMPORTANT**

The installer should read the Model 301 Technical Bulletin (Statitrol Technical Literature 0301-0063) for complete information on the design, operation and maintenance of the Model 301 Modular Smoke Detection Device.

**WIRING**

(For exact wiring information reference the wire diagrams supplied with the Fire Control Units.)

All wiring must conform to applicable local codes, ordinances and regulations. Additionally, it is recommended that all smoke detector wiring be installed in electrical metal conduit or tubing and that consistent color coding of wiring should be used as an aide to troubleshooting and minimizing the possibility of wiring errors. Smoke detectors necessarily have sensitive circuits for sensing minute levels of smoke, and precautions should be taken to minimize the effects from outside electrical interference. In the Model 301, input DC power is not polarity dependent.

The accompanying wiring schematics (Figure 2) illustrate the proper wiring connections for the different mounting base combinations. Also detailed is the wiring schematic for the Power Pack Accessory. (Power Pack is not applicable in Canada.)

Model 301 Detectors can be flush mounted or surface mounted on any three inch or four inch electrical box (the 3" box is not applicable in Canada). When the power pack is installed, refer to the Model 301 Technical Bulletin for instructions on wiring and electrical box size.

**BEFORE INSTALLING  
DETECTORS AND BASES**

The installer must determine whether the fire detection system has been designed as a two-wire or four-wire installation, as specified in the Engineering Working Drawings. Also, since the Model 301 includes four different mounting base assemblies and three different detectors, refer to the Engineering Working Drawings to insure that the proper component is installed. For installation of Model 301 accessories, refer to the Model 301 Technical Bulletin.

The detector label identifies that particular style of detector. The detector base is numbered with the complete part number.

**TWO-WIRE DETECTOR INSTALLATIONS**
**Installation of Mounting  
Base Assemblies**

1. Install accessory items if needed. (See Model 301 Technical Bulletin.)
2. Remove and save dust cover from the face of mounting base assembly. **DO NOT REMOVE** pin jumper provided for testing circuit continuity.
3. Route wires from electrical box through hole in mounting base and secure mounting base to electrical box.
4. Connect wires to numbered mounting base leads in accordance with Engineering Working Drawings. Replace dust cover. Refer to Figure 2 for wiring diagrams of combinations of the -001 and -002 Mounting Base Assemblies.
5. Repeat above installation procedures for each detector in zone.
6. Install the end-of-the-line resistor (normally provided with Fire Control Unit) in accordance with Engineering Working Drawings.
7. Tag zone wiring at control unit and repeat installation procedure for each zone in system.

Do not connect zone wiring to unit or apply power to system until after circuit continuity test has been made.

**Circuit Continuity Test**

Test the zone circuit resistance by connecting an ohmmeter to the zone wiring at the Fire Control Unit. The zone wiring must be disconnected from the Fire Control Unit for proper measurement. Resistance must not be less than value of the end-of-the-line resistor nor more than sum of end-of-the-line resistor plus 35 ohms. If resistance does not fall within this range, check mounting base wiring for open or dirty connections. After the continuity test is satisfactory, **REMOVE AND DISCARD PIN JUMPERS AND REPLACE DUST COVERS.**

**Installation of Detectors**

Refer to Engineering Working Drawings to determine proper detector (G, H, or J) for each detector installation. (Note that "H" detector is not compatible with the -001 base or a two-wire installation.)

1. Remove dust cover from mounting base and discard.
2. Align LED (light emitting diode) on detector with LED alignment arrow on mounting base. Insert detector into mounting base and twist clockwise to lock into place.

**System Test**

1. Connect zone wiring to control unit.

2. Turn on zone power and read voltage across the zone power leads. Voltage must be between 20.4 and 26.5 volts.

3. Check operation of the LED on detectors (refer to Model 301 Technical Bulletin) and if necessary, adjust the detector sensitivity. It should not be necessary to adjust detector sensitivity except in special environmental cases which may affect detector sensitivity.

4. The installer may test alarm operation of the detector by gently blowing across a lighted match or cigarette into detector. To reset detector devices, power must be shut off and detector must be blown clear of smoke. It can also be reset locally, by simply removing detector from base temporarily and reinserting.

5. After all zones have been installed and tested, connect control unit to any outside signaling systems.

**FOUR-WIRE DETECTOR INSTALLATIONS**
**Installation of Detector  
Mounting Base Assemblies**

1. Install accessory items if needed. (See Model 301 Technical Bulletin.)
2. Remove and save dust cover from face of mounting base assembly. **DO NOT REMOVE** pin jumper provided for testing circuit continuity.
3. Route wires from electrical box through hole in mounting base and secure mounting base to electrical box.
4. Connect wires to numbered mounting base leads in accordance with Engineering Working Drawings. If your system is a normally closed alarm contact system, then install normally closed alarm resistor at this time. Refer to Figure 2 for wiring diagrams of combinations of the -002, -003, and -004 Mounting Base Assemblies.
5. Replace dust cover.
6. Repeat above installation procedures for each detector zone.
7. Install end-of-the-line resistor (normally provided with the Fire Control Unit) in accordance with Engineering Working Drawings.
8. Tag zone wiring at control unit and repeat installation procedure for each zone in system.

Do not disconnect zone wiring to unit or apply power to system until after circuit continuity test has been made.

**Circuit Continuity Test**

1. Test the Power Circuit resistance by connecting an ohmmeter to the zone wiring at the Fire Control Unit. The zone wiring must be disconnected from the Fire Control Unit for proper measurement. Resistance should read between 100 and 5,000 ohms. Any other reading indicates a short or open across power leads in one or more of detector base installations. If so, check circuit and remove cause.
2. Leaving the alarm initiating device circuit disconnected, connect the Power Circuit to the Fire Control Unit and turn on zone power. Resistance in alarm initiating device circuit should be no less than value of end-of-the-line resistor nor more than sum of end-of-the-line resistor plus 35 ohms. If resistance does not fall within these limits, check mounting base wiring for open or dirty connections.

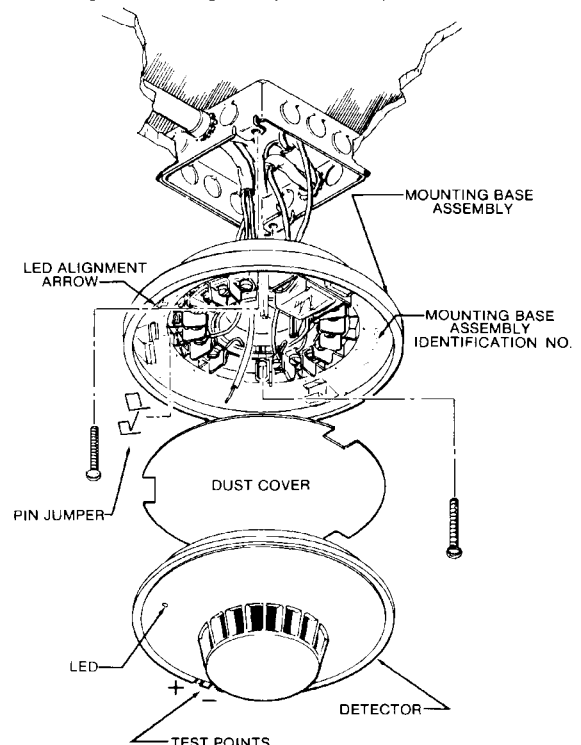


Figure 1. General arrangement drawing of the Model 301 components.



## TABLE OF SPECIFICATIONS

**Power Requirements:**  
24 VDC (+ 10%, -15%); 100 mV max. ripple

**Standby Current:**  
Detector: 301G & 301J: 100 Micro-Amps Max @ 24 VDC  
301H: 7 mA Max. @ 24 VDC

**Base:** -001, -002: No standby current  
-003, -004: 10 mA Max. @ 24 VDC

**Alarm Current: (not including RAIL current)**  
Detector: 301G & 301J: 50 mA Max. @ 24 VDC  
301H: 55 mA Max. @ 24 VDC

**Base:** -001: No alarm current  
-002: 30 mA Max. @ 24 VDC  
-003, -004: 40 mA Max. @ 24 VDC

**Formula For Computing Total Zone Current Loads:**  
 $I_{TOTAL} = I_{BASE} + I_{DETECTORS} + I_{RAILS}$

**Remote Alarm Indicator Lamp (RAIL):**  
40 mA Max. @ 24 VDC supplied

**Accessory Relay Contact Rating:**  
3 A Max. @ 24 VDC or 120 VAC, Resistive  
1.5 A Max @ 24 VDC or 120 VAC, Inductive  
(5 times inrush at 0.5 pf)

**Trouble Contact Rating:**  
0.125 A @ 120 VAC, resistive

**LED Pulse Rate:**  
301G: LED does not pulse  
301H: 60-90 ppm  
301J: 90-120 ppm: insensitive  
No flash indicates operation in the designed operating range  
30-60 ppm: too sensitive

### Wiring:

1. Remote Alarm Indicator Lamp (RAIL) and power input wires are power-limited (refer to NEC 760-30 or CEC Sec. 32).
2. All other accessory relay wires and alarm relay wires can be power-limited (refer to NEC 760-30 or CEC Sec. 32) or non-power-limited (refer to NEC 760-16 and 760-17 or CEC Sec. 32).

**Power Pack:** (not applicable in Canada)  
Input: 120 or 220/240, 50/60 Hz VAC (+ 10%, -15%)  
100 mA max.  
Output: 24 VDC  
150 mA Max.

### Environmental Specifications :

Velocity: 15-150 fpm continuous, up to 2000 fpm gusts  
Temp: 32° - 120° F  
Humidity: 10% - 85% R.H.  
Altitude: 0 ft. - 10,000 ft.

Installations that may require adjustment of sensitivity:

- a. locations too close to fans, open windows, or high velocity air ducts
- b. locations with continuously elevated temperatures
- c. locations of high fume or gas accumulation
- d. high altitudes

### Mechanical Specifications :

Dimensions: 7.5" diameter x 2.65" high  
Color: Off-white  
Material: Heat resistant Noryl® plastic

### Approvals:

Underwriters Laboratories, Inc. Listed  
Underwriters Laboratories of Canada Listed



0301-0062 Rev. C  
(LC 5242)

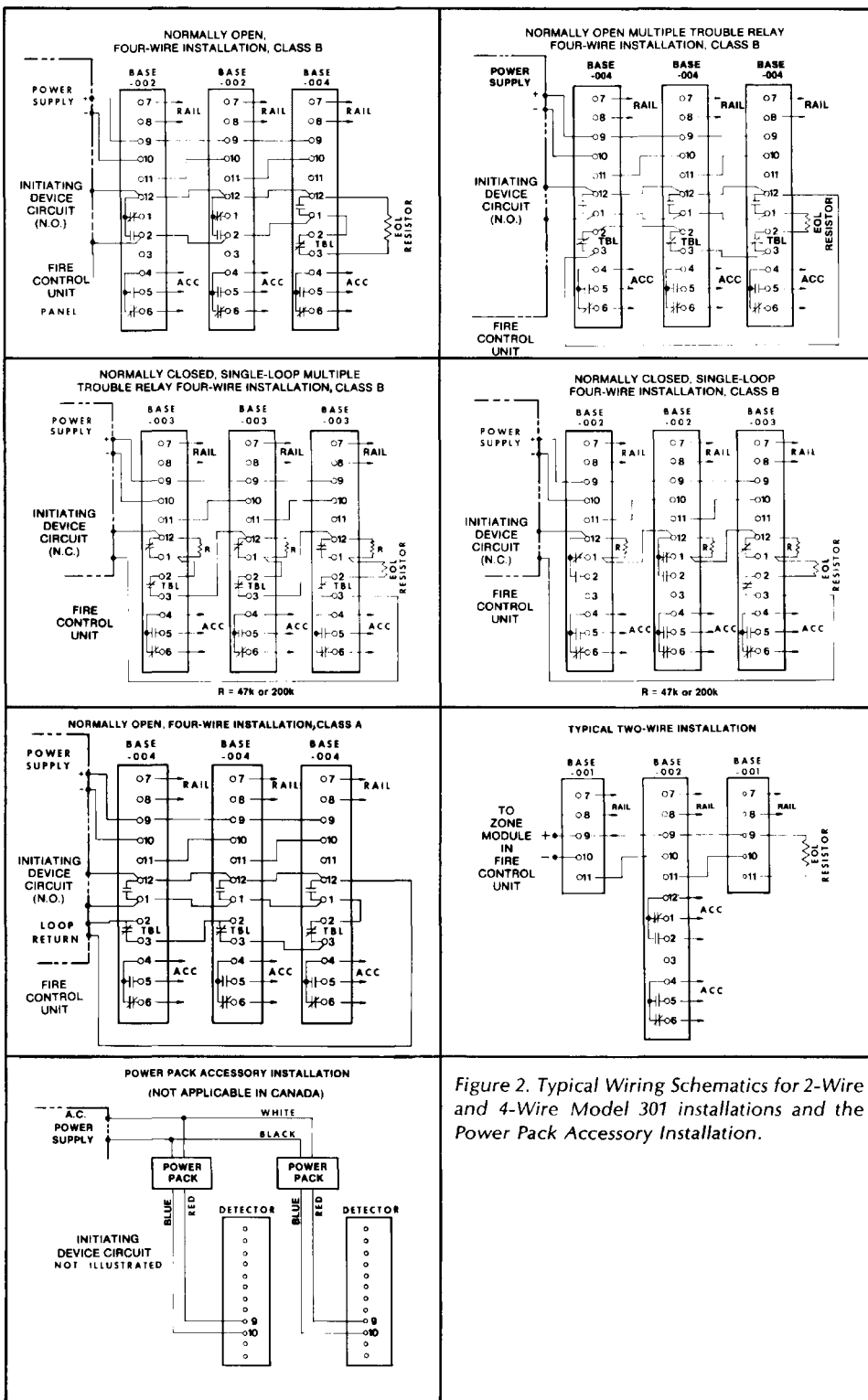


Figure 2. Typical Wiring Schematics for 2-Wire and 4-Wire Model 301 installations and the Power Pack Accessory Installation.

With power off, connect alarm initiating device circuit wiring to the control unit. Remove and discard pin jumpers and replace dust cover.

### Installation of Detectors and System Test

See Two-Wire Installations above for information on the Installation of Detectors and System Test.

## FACTORS AFFECTING DETECTOR SENSITIVITY

The Model 301 is designed to operate satisfactorily in any habitable area and is tested to operate satisfactorily within its environmental specifications. Extreme changes in atmospheric conditions can influence detector sensitivity, but normal atmospheric variations are compensated for within the detector and do not affect sensitivity.

## TESTING AND ADJUSTING DETECTOR SENSITIVITY

The sensitivity of all Model 301 detectors may be adjusted by the customer within the designated operating sensitivity range by adjusting a quantity called "Voltage Set" with the Sensitivity Adjustment Control located on the back of the detector. The Ceiling Removal and Test Tool and/or a Voltmeter is used to check the Voltage Set Adjustment.

For further information about Voltage Set and Sensitivity Adjustment for each of the specific detector heads, consult the Model 301 Technical Bulletin.



STATITROL DIVISION  
EMERSON ELECTRIC CO.  
140 SOUTH UNION BOULEVARD  
LAKEWOOD, COLORADO 80228  
(303) 986-1581  
TWX: 910 320 2894