RE316 SERIES
Photoelectric Smoke And/Or ROR &
Fixed Temperature Heat Detector
Installation Wiring Diagram

TYPICAL WIRING DIAGRAM
Figure 1(a) shows the typical wiring diagram of the 2-wire multiple-station smoke/heat detector system.

Figure 1(b) shows the typical wiring diagram of the 4-wire multiple-station smoke/heat detector system.

DO NOT PLACE LINKS BETWEEN THE WIRING POSITIONS OF TERMINALS 2 AND 5 TO PROVIDE POWER SUPERVISION.

WARNING
TO PREVENT DETECTOR CONTAMINATION AND SUBSEQUENT WARRANTY CANCELLATION, THE SMOKE DETECTOR MUST REMAIN COVERED UNTIL THE AREA IS CLEAN AND DUST FREE.

INSTALLING THE BASE
1. To insure proper installation of the detector head to the base, all the wires should be properly addressed at installation:
   (A) Position all the wires flat against terminals.
   (B) Fasten the wires away from connector terminals.
2. If you use a jumper wire to connect the poles of terminal 2 and 5 when testing the detector loop continuity, be sure to remove the jumper wire prior to the installation of the detector head.
3. The end-of-line device shown in fig. 1(a) and 1(b) should be compatible with the control unit.
4. Open area smoke detectors are intended for mounting on a ceiling or a wall in accordance with the fire standard in your country.
5. The base of the smoke detector can be mounted directly onto an electrical junction box such as an octagonal (75mm, 90mm or 100mm), a round (75mm), or a square (100mm) box without using any type of mechanical adapter.

INSTALLING THE HEAD
1. Align the components as shown in Figure 2.
2. Mate the detector head onto the base and twist clockwise to secure it.
3. Do not install the detector head until the area is thoroughly cleaned of construction debris, dusts, etc.

ADJUSTING THE RELAY FOR NO/NC
The default condition of relay output is "normally open" (NO).
1. To adjust the default condition of relay to "normally closed" (NC), take the screw out located on the side between the front cover and base.
2. Refer to figure 3. There is a jumper head next to the relay on the PCB. Remove the jumper head and re-insert it in the NC position.
3. replace the front cover. Carefully

Relay contact rating:
1A@30VDC, 0.5A@125VAC.

TESTING
1. All the alarm signal services, releasing device and extinguisher system should be disengaged during the test period and must be re-engaged immediately at the conclusion of testing.
2. After energizing the detector head for approximately 60 seconds, check to see the indicator red LED flashing once every 4~5 seconds. If red LED fails to flash, it indicates the non-functioning of the detector or faulty wiring. Re-check the wiring or replace the detector if necessary.

REED SWITCH TESTING
Take the magnet against the position of top cover marked in Fig.2. the detector will alarm after flashing once every 1.1seconds continuously for several times. If the detector fails to alarm, please re-check the magnet close to the mark on the toper or replace the detector if necessary.
SMOKE SENSOR TESTING
Allow smoke from a cotton wick or a test smoke aerosol to enter the detector-sensing chamber for several seconds. When sufficient smoke has entered the chamber, the detector will signal an alarm, this being visible by a continuous illumination of the LED. Reset each detector and/or control unit before attempting to test any additional detectors in the same zone. If the alarm fails in this step, it indicates a defective unit, which requires service.

HEAT SENSOR TESTING
The detector to be tested should be subject to a flow of warm air at a temperature of between 65 °C and 80 °C. (This requirement can be met by some domestic hair dryers). Proceed as follows:
1. Switch on the warm airflow and check that temperature is correct and stable.
2. From a distance of several inches, direct the airflow at the guard protecting the thermistor. The detector should alarm within 60 seconds.
3. If alarm fails, immediately remove the heat source and check that the red LED of the detector is illuminated. Reset the detector from the control panel.
4. If detector fails to go into alarm mode within 60 seconds it is too insensitive and needs to be returned to the distributor for servicing.
5. After testing, check that the system is set for normal operation and notify the appropriate authorities that the testing operation is complete and the system is active again.

SPECIFICATION
Fixed Temperature Sensor: 138°F (59°C)
Rate-of-Rise Temperature Sensor: 20 °F (11.1°C / min)
Humidity Range: 0% to 95% Relative Humidity, non condensing
Operating Temperature Range: -10°C to 37.8°C

The maximum number of detectors allowed to be connected to each initiating device circuit of the control unit is 32.

Compatible Panel: Ravel Electronics Pvt Ltd., RE-2504 / 08.
Height: 1.8 inches (46 mm) with base
Diameter: 3.93 inches (100 mm) with base

Detail as shown in Form.1

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

MAINTENANCE
The recommended minimum requirement for detector maintenance consists of an annual cleaning of dust from the detector head by using a vacuum cleaner cleaning program should be agreed to the individual environment in conformance with NFPA-72A standard.

CAUTION: DO NOT ATTEMPT TO DISASSEMBLY OF THE FACTORY SEALED SMOKE DETECTOR. THIS ASSEMBLY IS SEALED FOR YOUR PROTECTION AND IS NOT INTENDED TO BE OPENED FOR SERVICING BY USERS. OPENING THE DETECTOR HEAD WILL VOID THE WARRANTY.

REFERENCE TO THE TECHNICAL BULLETIN ISSUE NO. NBTB20081017, REV.F

Table:

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<th>2/4 Wire</th>
<th>Thermal Voltage</th>
<th>Standby Current</th>
<th>Alarm Current</th>
<th>Surge Current</th>
<th>Start-up Time</th>
<th>Reset Time</th>
<th>Reset Voltage</th>
<th>Sample Cycle</th>
<th>Smoke Sensor Temperature</th>
<th>Heat Sensor Temperature</th>
<th>Surge Current</th>
<th>Relay Switch</th>
<th>Relay ON</th>
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RE316 USER’s MANUAL, REV.F
Form.1

Note:
* 1 If a model with the “-2” suffix, the Base model no. is RE-312
* 2 If a model with the “-2L” or “-4” suffix, the Base model no. is RE-314

LIMITED WARRANTY STATEMENT
RAVEL ELECTRONICS, Inc. represents that this product is free from defects in material and workmanship. And it will repair or replace any product or part thereof which proves to be defective in workmanship or material for a period of twelve (12) months from the date of purchase but not to exceed eighteen (18) months after shipment by the manufacturer. For a full description of RAVEL ELECTRONICS’S LIMITED WARRANTY, which, among other things, limits the duration of warranties of merchantability and fitness for a particular purpose and excludes liability for consequential damages. Please read the entire LIMITED WARRANTY on the RAVEL quotation. Acceptance of order and/or original invoice which will become part of your sales agreement. Please contact RAVEL ELECTRONICS directly for a return merchandise authorization (RMA) number before returning goods to the factory in Chennai, India R.O.C. Shipment must be prepaid and RAVEL will repair or replace your returned detector.

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