



End-of-Line Encapsulated Resistor

P/N 777915-X

Installation Guide

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Warning: This manual should be read carefully by all individuals who have or will have responsibility for using, maintaining or servicing the product.

The detector is not field-repairable due to the meticulous alignment and calibration of the sensors and the respective circuits. Do not attempt to modify or repair the internal circuits or change their settings, as this will impair the system's performance and void the SPECTREX product warranty.

Warranty

SPECTREX agrees to extend to Purchaser/Distributor a warranty on the SPECTREX supplied components of the SharpEye products. SPECTREX warrants to Purchaser/Distributor that the products are free from defects in materials and workmanship for a period of five (5) years, commencing with the date of delivery to Purchaser/Distributor. SPECTREX expressly excludes damage incurred in transit from the factory or other damage due to abuse, misuse, improper installation, or lack of maintenance or "Act of God," which are above and beyond its control. SPECTREX will, upon receipt of any defective product, transportation prepaid, repair or replace it at its sole discretion, if found to have been defective when shipped. Said repair or replacement is SPECTREX'S sole liability under this warranty and SPECTREX'S liability shall be limited to repair or replacement of the component found defective and shall not include any liability for consequential or other damages. The customer is responsible for all freight charges and taxes due on shipments both ways. This warranty is exclusive of all other warranties express or implied.

Release History

| Rev | Date | Revision History | Prepared by | Approved by |
|------------|---------------|-------------------------|--------------------|--------------------|
| 0 | May 2014 | First Release | Ian Buchanan | Eric Zinn |
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Table of Contents

| | |
|---|----------|
| Legal Notice..... | iii |
| Warranty | iii |
| 1 General Description..... | 7 |
| 2 End-of-Line Encapsulated Resistor Options..... | 7 |
| 3 Product Certification | 7 |
| 4 Certification Instructions | 8 |
| 5 Resistor Installation..... | 8 |
| Technical Support..... | 12 |

Table of Figures

| | |
|--|---|
| Figure 1: End-of-Line Resistor Installed in 40/40 Series | 9 |
| Figure 2: End-of-Line Resistor Label Installed in the Back Cover | 9 |

1 General Description

This End-of-Line Encapsulated Resistor P/N 777915-X is used with the flame detector series, when detectors are connected as a 4-wire connection to the alarm panel through the Fault and Alarm delays.

This resistor is used as end-of-line, when the detectors are in a loop with several detectors. At normal operation, the controller will see the end-of-line. At Fault, the fire alarm will see disconnection. At Alarm, the Alarm panel will see short circuit.

The value of the resistor is defined by the controller type.

The resistor has several options.

2 End-of-Line Encapsulated Resistor Options

The End-of-Line Encapsulated Resistor has 10 different resistor values, which give a wide variety of options for different fire alarm panels:

| Options | Resistor Value | Max. Current |
|-----------|----------------|--------------|
| 777915-1 | 1.56K Ω | 21mA |
| 777915-2 | 2.35K Ω | 14mA |
| 777915-3 | 4.7K Ω | 7mA |
| 777915-4 | 7.5K Ω | 4.3mA |
| 777915-5 | 10K Ω | 3.2mA |
| 777915-6 | 20K Ω | 1.6mA |
| 777915-7 | 47K Ω | 0.7mA |
| 777915-8 | 56K Ω | 0.57mA |
| 777915-9 | 68K Ω | 0.47mA |
| 777915-10 | 75K Ω | 0.43mA |

3 Product Certification

- The End-of-Line Encapsulated Resistor, P/N 777915-X, is certified per ATEX and IECEx:
 - Ex II 2 G D
 - Ex mb IIC Gb
 - Ex mb IIIC Db
- Operation voltage: 18–32VDC
- The maximum current permitted is defined in *End-of-Line Encapsulated Resistor Options* on page 7.

4 Certification Instructions

- The marking of this equipment is:
Ex II 2 G D
Ex mb IIC Gb
Ex mb IIIC Db
- This equipment may be used with flammable gasses and vapors with apparatus groups IIA and IIC:
 - T5 in the ambient temperature range: -67°F/-55°C to +167°F/+75°C.
- The prospective short circuit current (PSCC) of the power supply which supplies equipment incorporating the components should be no more than 1500A. The PSCC of the supply should be limited by a fuse with a breaking capacity of at least 1500A, and a voltage rating at least corresponding to the working voltage of the circuit in which it is installed.
- Where limitation in the previous section is satisfied by limitation of the voltage across the resistor to 32V (Option A), the service temperature range of the encapsulated resistor is -67°F/-55°C to +260°F/+127°C. Under testing of the Ex component based on this voltage rating, the service temperature rise is 40.7K and the surface temperature rise is 39.5K.
- Where limitation in the previous section is satisfied by limitation of current drawn by the resistor, by the use of a fuse (Option B), the service temperature range of the equipment is 67°F/-55°C to 266°F/+130°C. Under testing of the Ex component based on the current rating, the temperature rises recorded on the component, within the compound and on the compound surface, were 101K and 85.9K respectively.
- The local ambient and surface temperature of the resistor should be taken into account in determining the service temperature within the compound in any equipment applications.

5 Resistor Installation

- The resistor should be installed at the factory only.
- For the 40/40 Flame Detector Series, the resistor should be ordered by definition 40/40X-XXXXE resistor value.
- When ordering 40/40X-XXXXE, the marking of the detector will change to:
Ex II 2 G D
Ex db eb mb op is IIC T4 Gb
Ex tb op is IIIC T98°C Db
(-55°C ≤ Ta ≤ +75°C)
- The resistor will be connected between Terminals 5 and 6 (see Figure 1), and a label will be glued to the detector's back cover (see Figure 2).

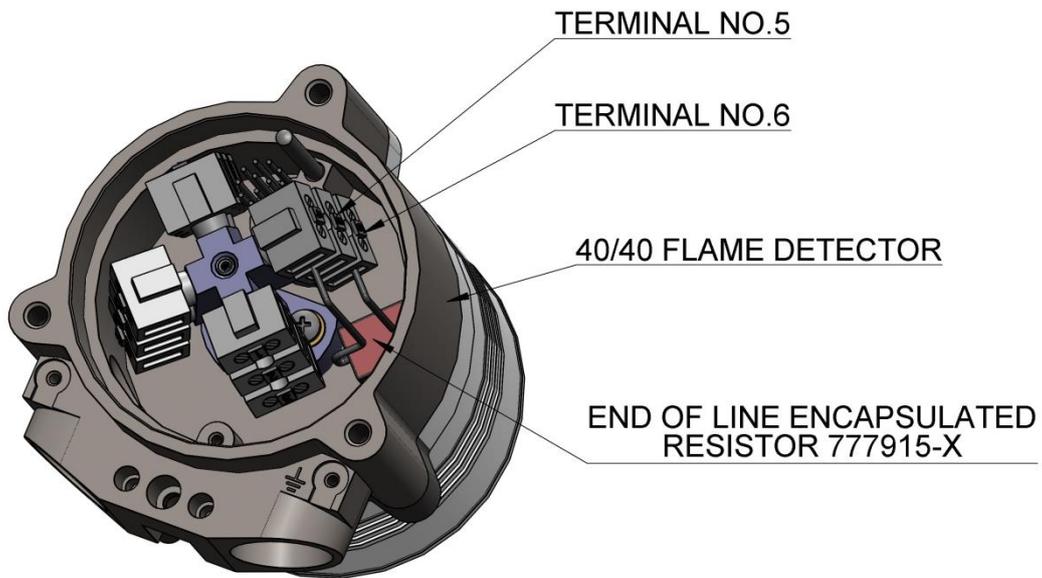


Figure 1: End-of-Line Resistor Installed in 40/40 Series

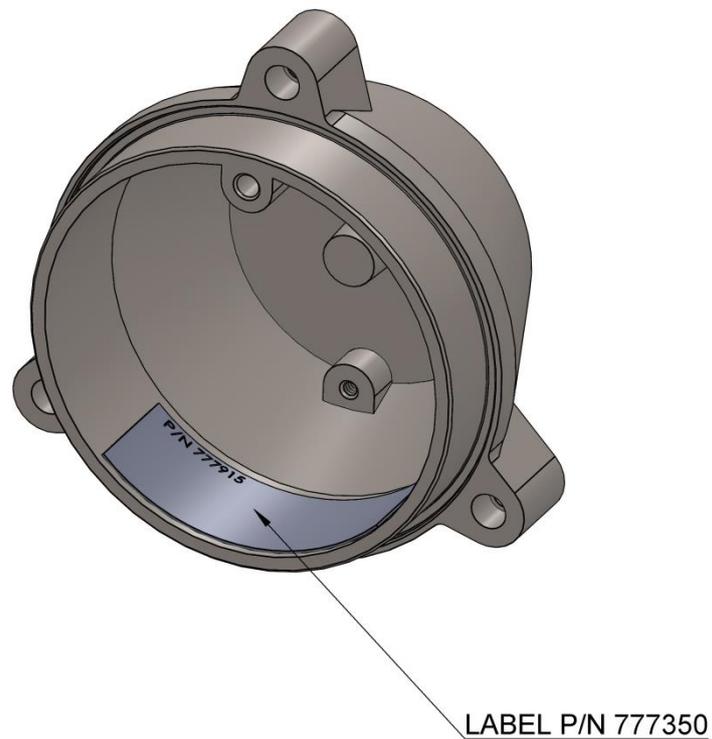


Figure 2: End-of-Line Resistor Label Installed in the Back Cover

Technical Support

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