



## Features

- Rugged 3-electrode BUG-less GDT
- Balanced TRIGARD®
- Self-resetting low resistance sneak current protection with Bourns® PPTC resistors
- Patented Switch-Grade Fail-Short device
- Quick response and high energy handling
-  UL Listed per UL497
- Sealed option for harsh environments
- Meets test requirements of GR 974, GR 1361, SBC SR 5165 and RUS PE-80
- Telcordia Analysis report DA-1547
- Test point access option
- Ideal for high-speed networks in high-exposure environments
- Solid brass, gold-plated pins

## 2440 Series 5-Pin Surge Protector

Bourns® 5-Pin Model 2440 series is a new generation of Bourns® telecommunications protectors for superior performance and long life. The 2440 Series protector provides highly reliable overvoltage and self-resetting sneak current protection for copper pair voice-band and high speed data circuits. Bourns' high-efficiency balanced Gas Discharge Tube (GDT) is UL approved for use without a Back-Up Gap (BUG). Its Switch-Grade Fail-Short mechanism ensures superior thermal protection with fast acting, highly reliable response to thermal overload conditions. This combined technology provides lower capacitance, higher reliability and long life. Bourns® PPTC Resistors are used for sneak current protection, providing reliable and self-resetting performance with less than four ohms of resistance.

Bourns® 2440 protectors can be used universally for broadband voice and data circuits including ADSL, ADSL2+, VDSL, VDSL2 and high-speed ethernet. The 2440 Series is an innovative, reliable and effective choice for 5-pin protection of copper pair circuits.

### Characteristics

Tested per UL 497, CSA C22.2, Telcordia GR 974, 1361 and SBC SR 5165.

|                                                                              |                               |
|------------------------------------------------------------------------------|-------------------------------|
| DC Breakdown .....                                                           | 280-420 V                     |
| AC Breakdown @ 60 Hz .....                                                   | 280-420 V                     |
| Impulse Breakdown                                                            |                               |
| 100 V/μs.....                                                                | 625 V                         |
| 1000 V/μs.....                                                               | 875 V                         |
| Insulation Resistance @ 100 Vdc .....                                        | > 1 GΩ                        |
| Insertion Loss @ 100 MHz .....                                               | Exceeds CAT5 <sup>1</sup>     |
| Return Loss @ 100 MHz .....                                                  | Exceeds CAT5 <sup>1</sup>     |
| Capacitance Tip to Ring @ 1 MHz .....                                        | < 1.25 pF typical             |
| Capacitance Tip or Ring to Ground @ 1 MHz .....                              | < 2.50 pF typical             |
| Impulse Reset <sup>2</sup>                                                   |                               |
| 52 V, 260 mA .....                                                           | < 10 ms                       |
| 135 V, 200 mA.....                                                           | < 10 ms                       |
| 150 V, 200 mA.....                                                           | < 150 ms                      |
| Impulse Life Characteristics (Tip and Ring to Ground Simultaneously)         |                               |
| 10 A, 10/1000 μs.....                                                        | > 3000 operations             |
| 100 A, 10/1000 μs .....                                                      | > 300 operations              |
| 300 A, 10/1000 μs .....                                                      | > 100 operations              |
| 500 A, 10/1000 μs .....                                                      | > 400 operations <sup>3</sup> |
| 2,000 A, 10/250 μs .....                                                     | > 25 operations               |
| 5,000 A, 20/100 μs.....                                                      | > 2 operations                |
| 20,000 A, 8/20 μs .....                                                      | > 1 operation                 |
| AC Life Characteristics (Tip and Ring to Ground Simultaneously)              |                               |
| 0.5 A rms continuous.....                                                    | > 30 seconds                  |
| 1 A rms, 1 second, 600 ft. cable.....                                        | > 60 operations               |
| 1 A rms, 1 second, 1 mile cable .....                                        | > 60 operations               |
| 10 A rms, 1 second .....                                                     | > 5 operations                |
| 65 A rms, 11 cycles .....                                                    | > 1 operation <sup>3</sup>    |
| 120 A rms, 0.1 second .....                                                  | 1 operation                   |
| High Current Capability and Thermal Operation (T/R to Ground) .....          | > 30 Arms, simultaneously     |
| Storage and Operating Temperature .....                                      | -55 to +85 °C                 |
| Sneak Current Characteristics                                                |                               |
| Resistance (No Heat Coil Inductance).....                                    | < 4 ohms                      |
| Transition Current @ -40 °C (800 mA), +20 °C (540 mA), +65 °C (300 mA) ..... | < 210 seconds                 |
| Rated Current @ -40 °C (100 mA), +20 °C (100 mA), +65 °C (100 mA) .....      | > 3 hours                     |
| Impulse Life 10 x 1000 μs @ -40 °C, +20 °C, +65 °C .....                     | 25 A ELTGS                    |

Telcordia analyzed for controlled (non-sealed) and uncontrolled high exposure (sealed) environments per GR 974 and SBC SR 5165. Please refer to Telcordia Analysis Report DA-1547 Volumes 1 and 2.

### Notes:

<sup>1</sup> Tested according to Category 5 requirements.

<sup>2</sup> Network applied.

<sup>3</sup> Per Rus PE 80.

Line to Line voltage is approximately 1.8 to 2 times the stated Line to Ground breakdown voltage.



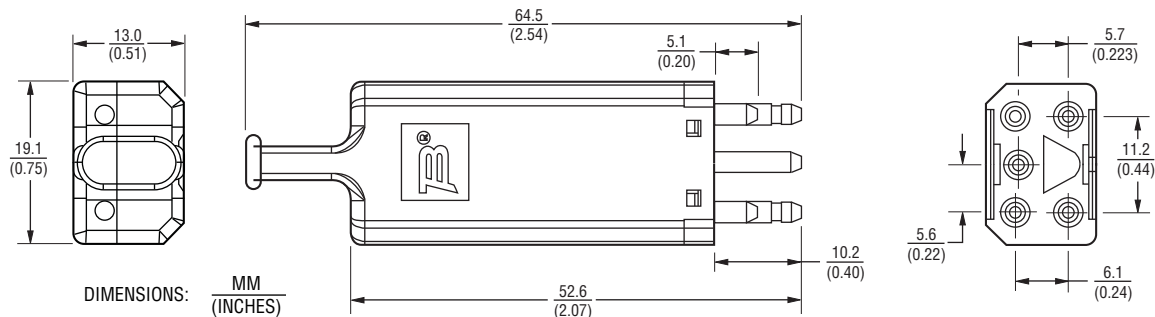
**WARNING**  
**Cancer and Reproductive Harm**  
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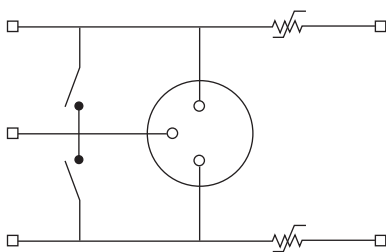
## 2440 Series 5-Pin Surge Protector

**BOURNS®**

### Product Dimensions



### Schematic



### How To Order

**2440 - 4 x - x - xx**

**Model Number Designator** \_\_\_\_\_

**Overcurrent Protection** \_\_\_\_\_

**Housing Color** \_\_\_\_\_

- 1 = Black
- 3 = Red
- 6 = Blue
- 7 = Violet
- 9 = Orange
- 10 = Yellow

**Pin Plating** \_\_\_\_\_

- G = Gold Plated
- N = Tin Plated (Ground pin is tin plated on all models)

**Housing Options** \_\_\_\_\_

- S = Sealed
- T = Test Points
- ST = Sealed and Test Points

#### Examples:

2440-41-G-T = Black housing, 4 ohm self-resetting, gold-plated pins, test points  
 2440-43-N = Red housing, 4 ohm self-resetting, tin-plated pins, no test points

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