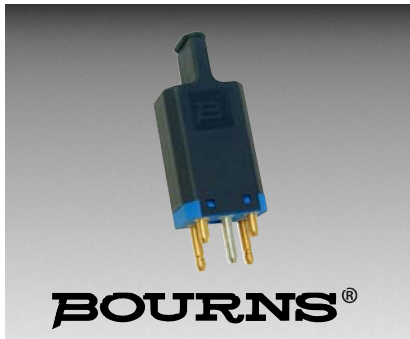




## Features

- Superior protection at a low price
- Balanced TRIGARD® protection
- Patented Switch-Grade Fail-Short device
- Quick response and high energy handling
- Low capacitance (<2.5 pF) - ideal for high-speed networks in high exposure environments
- Meets test requirements of Telcordia GR 974, GR1361, SBC SR 5165 and RUS PE-80
- Telcordia Analysis report DA-1547
-  per UL 497 (File: 53117)
- Solid brass, gold-plated pins
- Test point access option
- Sealed option for harsh environments

## 2420 Series - 5-Pin Gas Discharge Tube (GDT) Protector

The Bourns® 3-type Model 2420 overvoltage protection modules utilize Bourns' proprietary high-efficiency gas discharge tube with our patented Switch-Grade Fail-Short mechanism to provide robust and reliable surge and thermal overload protection at a very competitive price. The 2420 Series is based on Bourns' three-terminal common chamber GDT. This design provides greatly improved and balanced turn-on characteristics for overvoltage protection. The GDT is UL listed for use without a back-up device. Air back-up devices can become contaminated; the circuitry of the 2420 eliminates the air back-up gap and thus the possibility of its contamination. Our unique Switch-Grade Fail-Short device provides more reliable thermal overload protection compared to commonly used solder pellet or insulation burn-through designs.

Bourns® Model 2420 Series 5-pin protectors can be used universally for broadband voice and data circuits including ADSL, ADSL2+, VDSL, VDSL2 and high-speed Ethernet. The 2420 Series is an economical, reliable and low capacitance choice for overvoltage protection of copper pair circuits.

### Characteristics

Test Methods 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/ $\mu$ s .....                                                         | 625 V                        |
| 1000 V/ $\mu$ s .....                                                        | 875 V                        |
| Insulation Resistance @ 100 Vdc .....                                        | >1 G $\Omega$                |
| Insertion Loss @ 100 MHz .....                                               | Exceeds Category 5           |
| Return Loss @ 100 MHz .....                                                  | Exceeds Category 5           |
| 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>1</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 $\mu$ s .....                                                  | >3000 operations             |
| 100 A, 10/1000 $\mu$ s .....                                                 | >300 operations              |
| 300 A, 10/1000 $\mu$ s .....                                                 | >100 operations              |
| 500 A, 10/1000 $\mu$ s .....                                                 | >400 operations <sup>2</sup> |
| 2,000 A, 10/250 $\mu$ s .....                                                | >25 operations               |
| 5,000 A, 20/100 $\mu$ s .....                                                | >2 operations                |
| 20,000 A, 8/20 $\mu$ s .....                                                 | >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>2</sup>    |
| 120 A rms, 0.1 second .....                                                  | 1 operation                  |
| High Current Capability and Thermal Operation (Tip and Ring to Ground) ..... | >30 A rms, 15 min.           |
| Storage and Operating Temperature .....                                      | -55 to +85 °C                |

Telcordia analyzed for controlled (non-sealed) and uncontrolled, high-exposure (sealed) environments per GR 974 and SBC SR 5165. Telcordia Technical Analysis Report DA-1547.

### Notes:

<sup>1</sup> Network applied

<sup>2</sup> Per RUS PE-80

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

Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

# 2420 Series - 5-Pin Gas Discharge Tube (GDT) Protector

**BOURNS®**

## How To Order

**Model Number Designator** \_\_\_\_\_ **2420 - X XX - X - XX**

**Module Length** \_\_\_\_\_  
 3 = Standard: 52.37 mm (2.06 in.) 7 = Special Short: 41.19 mm (1.62 in.)

**Housing Color/Circuit Type** \_\_\_\_\_  
 1 = Black/Standard 6 = Blue/Standard 10 = Yellow/Standard  
 3 = Red/Special 9 = Orange/Standard Service (non-Bridgelifter)

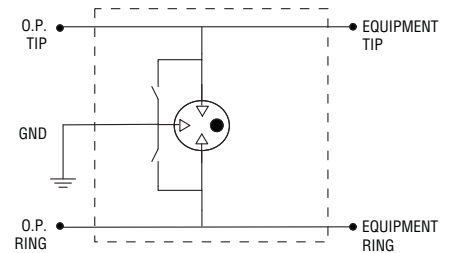
**Pin Plating** \_\_\_\_\_  
 G = Gold Plated N = Tin Plated

**Special Options** \_\_\_\_\_  
 S = Sealed Case ST = Sealed Case and Test Points\*  
 T = Test Points\*

\*T and ST options are not available on 2420-7x short module.

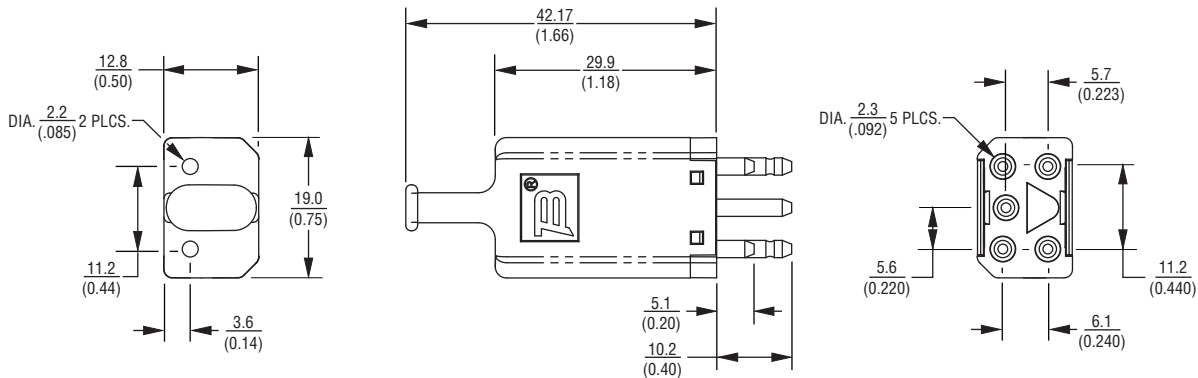
Examples: 3B1E = 2420-31-G (black, no test points) 3C1E = 2420-31-G-T (black, with test points)  
 3B3E = 2420-33-G (red, no test points) 3C3E = 2420-33-G-T (red, with test points)

## Schematic



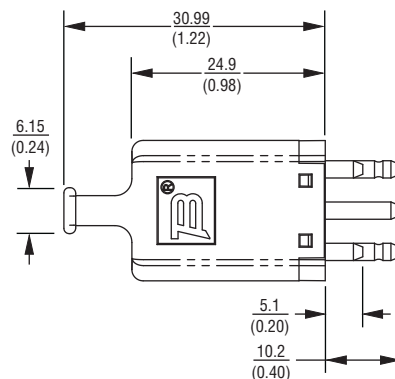
## Product Dimensions

### 2420-3 MODULE



### 2420-7 MODULE

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$



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REV. N 11/12

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Customers should verify actual device performance in their specific applications.

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