

## 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



This series is currently available but not recommended for new designs.

## 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.




**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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## Features (Continued)

- Meets test requirements of Telcordia GR 974, GR1361, SBC SR 5165 and RUS PE-80
- Telcordia Analysis report DA-1547
-  Listed 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

**BOURNS®**

### How To Order

2420 - X XX - G - XX

#### Model Number Designator

#### 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 7 = Violet/Standard  
3 = Red/Special 9 = Orange/Standard Service (non-Bridgelifter)  
6 = Blue/Standard 10 = Yellow/Standard

#### Pin Plating

G = Gold Plated

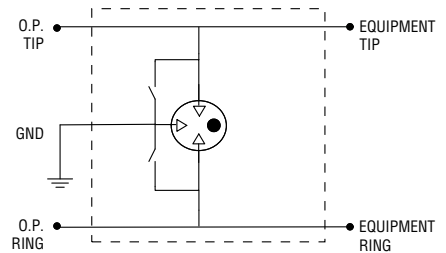
#### Special Options

S = Sealed Case ST = Sealed Case and Test Points\*  
T = Test Points\*

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

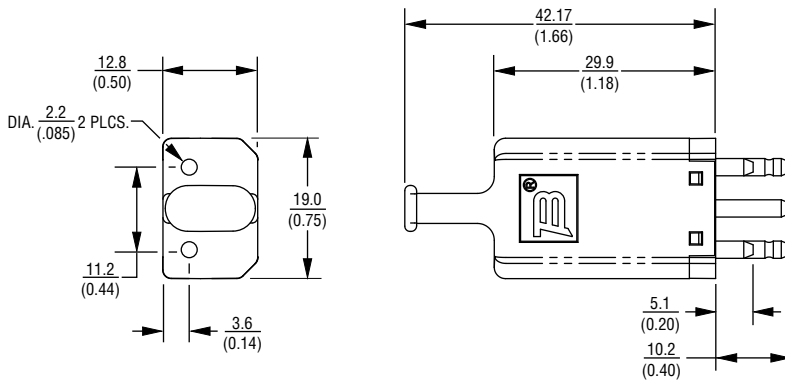
Examples: 3B1E = 2420-31-G (black, no test points) 3C1E = 2420-31-G-T (black, with test points)  
3B3E = 2420-33-G (red, no test points) 3C3E = 2420-33-G-T (red, with test points)

### Schematic



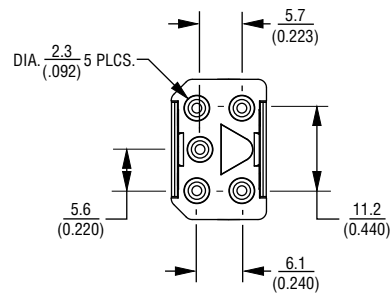
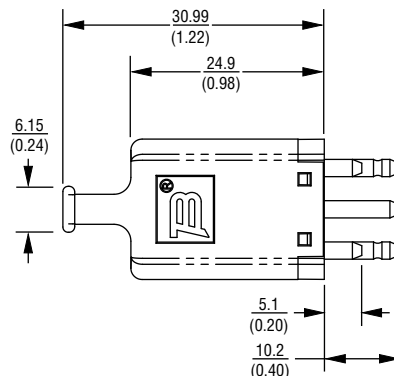
### Product Dimensions

#### 2420-3 MODULE



#### 2420-7 MODULE

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



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