




BOURNS®

Features

- Multi-stage protection
- Balanced TRIGARD® device
- Switch-Grade Fail-Short device
- Quick response and high energy handling
- Ideal for high-speed networks in high exposure environments
-  LISTED per UL 497 (File: 53117)
- Meets test requirements of Telcordia GR 974, GR1361, SBC SR 5165 and RUS PE-80
- Telcordia Analysis report DA-1547
- Solid brass, gold-plated pins
- Test point access option
- Sealed option for harsh environments

2410-4x Series - 5-Pin MSP® Multi-Stage Protector

Bourns® 5-Pin MSP® Multi-Stage Protector is the latest generation telecommunications protector for high performance and long life in overvoltage protection of copper pair voice-band and high-speed data circuits. The Bourns® MSP® device combines the advantages of gas tube and solid state protection while integrating three advanced technologies: a proprietary high-efficiency gas discharge tube, precision matched metal oxide varistors and a Switch-Grade Fail-Short mechanism. The Switch-Grade Fail-Short mechanism ensures superior thermal protection with fast acting, highly reliable response to thermal overload conditions. This combined technology provides low capacitance, high reliability and long life.

The 2410-4x Series is a standard overvoltage protector with an extended 4-type housing. The total protector length is 2.55 inches. Bourns® Model 2410-4x can be used universally for POTS and high speed data, e.g. ISDN, ADSL, ADSL2+, VDSL, VDSL2, other xDSL protocols and high speed Ethernet. Bourns® MSP® technology provides unparalleled overvoltage protection with low loss on paired copper communications circuits. The 2410-4x series is an economical, reliable and effective 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	300-400 V
AC Breakdown @ 60 Hz	300-400 V
Impulse Breakdown	
100 V/μs	600 V
1000 V/μs	650 V
Insulation Resistance @ 100 Vdc	>1 GΩ
Insertion Loss @ 100 MHz	<0.4 dB ¹
Return Loss @ 100 MHz	>14 dB ¹
Capacitance Tip to Ring @ 1 MHz	10 pF typical
Capacitance Tip or Ring to Ground @ 1 MHz	20 pF typical
Impulse Reset ⁵	
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 to 100 A, 10/1000 μs	>3000 operations ²
300 A, 10/1000 μs	>1000 operations ²
500 A, 10/1000 μs	>1000 operations ⁴
2,000 A, 10/250 μs	>100 operations ²
5,000 A, 20/100 μs	>10 operations ²
20,000 A, 8/20 μs	>10 operations ⁴
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 seconds
1 A rms, 1 second, 1 mile cable	>60 operations
10 A rms, 1 second	>5 operations
65 A rms, 11 cycles	>1 operation ³
120 A rms, 0.1 second	1 operation
High Current Capability and Thermal Operation (Tip and Ring to Ground, Vented or Non-Vented Gas Tube)	>30 A rms, simultaneously
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:

- ¹ Tested according to Category 5 requirements
- ² Exceeds Telcordia (Bellcore) GR 1361
- ³ Surpasses Telcordia GR 974
- ⁴ RUS (REA) PE-80
- ⁵ Network applied

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

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2410-4x Series - 5-Pin MSP® Multi-Stage Protector

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How To Order

2410 - 4 x - x - xx

Model Number Designator _____

Module Length _____

4 = Special: 64.77 mm (2.55 in.)

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)

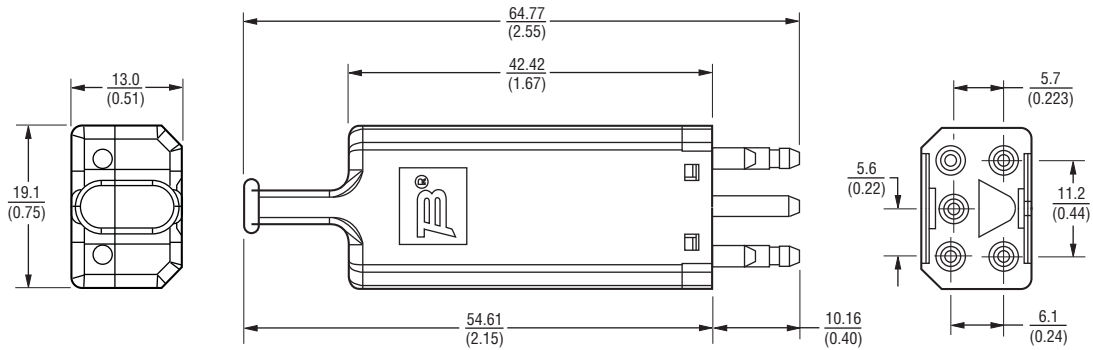
Housing Options _____

S = Sealed

T = Test Points

ST = Sealed and Test Points

Product Dimensions



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

BOURNS®

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