

## Features

- Patent #6,327,129
- Board Mount
- 230 V, 250 V, 330 V surge protector
- UL recognized
- Economical, reliable choice for all paired copper communications circuits
- Solid-state responsiveness combined with robust GDT

## Applications

- Telecommunications
- High speed data networks
- Hybrid fiber-coax networks
- Broadband powered networks

# MSP® Series - Multi-Stage Protector Sub-Assembly

Bourns® MSP® Series is a new generation of telecommunications protector designed to be the best all-around protection choice on both today and tomorrow's copper pair based communications circuits. It combines the strengths of gas tube and solid-state protectors while eliminating their weaknesses. Bourns® MSP® protector series is the synergistic integration of three advanced protection technologies; sixth generation gas tube, precision matched MOVs, and switch-grade fail-short. Working together, these three technologies meet the challenges of the evolving high-speed network.

Bourns® MSP® Series can be used universally on POTS, ISDN, ADSL, SDSL, HDSL, RADSL, VDSL, 10BaseT, and T1 carrier. Bourns® MSP® Series is the most economical, reliable, and best performing choice for all paired copper communications circuits.

## Characteristics

Test Methods per IEEE C62.31, UL 497, CSA C22.2, Telcordia GR 1361 and applicable sections of Telcordia GR 974.

Characteristic	Model No.		
	2026-23-CxxM1xx	2026-25-CxxM1xx	2026-33-CxxM1xx
DC Breakdown @ 100-2000 V/s	184 to 276 V	200 to 300 V	300 to 400 V
AC Breakdown @ 60 Hz	184 to 276 V	200 to 300 V	300 to 400 V
Impulse Breakdown			
100 V/μs	450 V	475 V	600 V
1000 V/μs	500 V	525 V	650 V

Insulation Resistance .....	100 Vdc .....	> 1 GΩ
Insertion Loss .....	10 MHz .....	0.01 dB
Capacitance Line to Line .....	1 MHz .....	10 pF typical
Capacitance Line to Ground .....	1 MHz .....	20 pF typical
Impulse Reset (DC Extinguishing) .....	52 V, 260 mA .....	< 10 ms
	135 V, 200 mA .....	< 10 ms <sup>1</sup>
Impulse Life Characteristics .....	100 A, 10/1000 μs .....	> 3000 operations <sup>2</sup>
	300 A, 10/1000 μs .....	> 1000 operations <sup>2</sup>
	500 A, 10/1000 μs .....	> 1000 operations <sup>3</sup>
	2000 A, 10/250 μs .....	> 100 operations <sup>2</sup>
	5000 A, 20/100 μs .....	> 10 operations <sup>2</sup>
	20000 A, 8/20 μs .....	> 10 operations <sup>2,4</sup>
AC Life Characteristics .....	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 .....	> 20 operations
	65 A rms, 11 cycles .....	> 1 operation <sup>3</sup>
	120 A rms, 0.1 second .....	1 operation
Life Test Criteria .....	Insulation Resistance Throughout the Life Test .....	100 MΩ
	Life Test Failures .....	0.0 %
	Failures During Environmental Cycling w/Surges .....	0.0 %
Fail-Short (vented or non-vented gas tube) .....		> 30 A rms, simultaneously
Operating Temperature .....		-55 to +85 °C

## Notes:

- UL, cUL Listed.

<sup>1</sup> Surpasses Telcordia GR 974 (network applied).

<sup>2</sup> Exceeds Telcordia GR 1361.

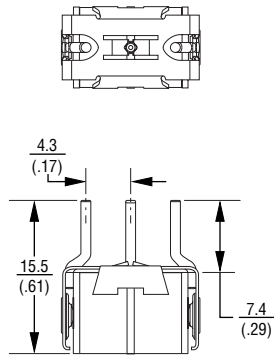
<sup>3</sup> RUS (REA) PE-80.

<sup>4</sup> Total current equally divided between each line to ground.

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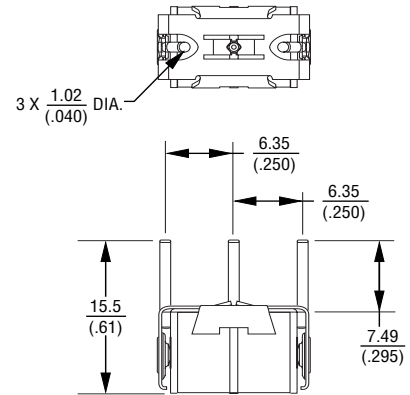
## How To Order / Product Dimensions

**2026-xx-C2M1xx**



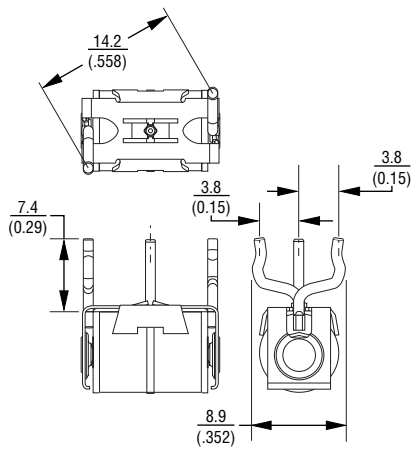
2026-23-C2M136  
2026-25-C2M136  
2026-33-C2M143

**2026-xx-C4M1xx**



2026-23-C4M136  
2026-25-C4M136  
2026-33-C4M143

**2026-xx-C16M1xx**



2026-23-C16M136  
2026-25-C16M136  
2026-33-C16M143

DIMENSIONS = MILLIMETERS  
(INCHES)

Contact factory for custom configurations.