



## 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' new MSP® protector series is the synergistic integration of three advanced protection technologies; sixth generation gas tube, precision matched MOVs, and switch-grade failshort. 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
	200 A rms, 11 cycles	1 operation <sup>3,5</sup>
Life Test Criteria	Insulation Resistance Throughout the Life Test	100 MΩ
	Life Test Failures	0.0 %
	Failures During Environmental Cycling w/Surges	0.0 %
Failsafe (vented or non-vented gas tube)		> 30 A rms, simultaneously

### 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.

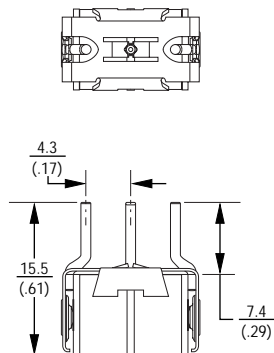
<sup>4</sup> Total current equally divided between each line to ground.

<sup>5</sup> Protector may short to ground.

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

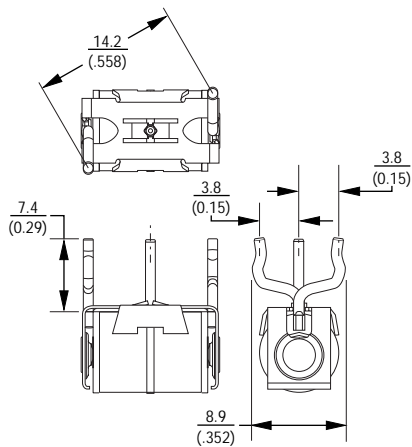
## How To Order / Product Dimensions

2026-xx-C2M1xx



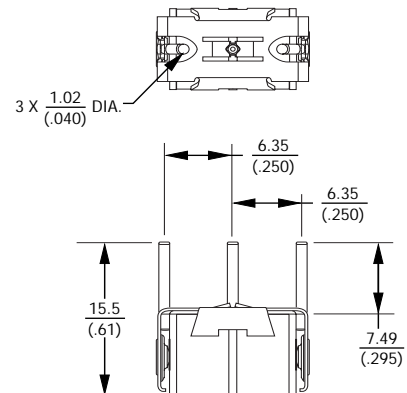
2026-23-C2M136  
2026-25-C2M136  
2026-33-C2M143

2026-xx-C16M1xx



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

2026-xx-C4M1xx



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

DIMENSIONS =  $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

Contact factory for custom configurations.

REV. 07/03

"MSP" is a registered trademark of Bourns, Inc.  
Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications.