

# Mini-Rocker® 10-Pair Protected Module

The Mini-Rocker 10-Pair Protected Module is the only available environmentally sealed protected module on the market designed to perform to the Telcordia TR-NWT-000975/GR-1361 specifications and UL requirements. It provides multiple benefits for copper network terminations requiring surge and lightning protection. Benefits include reduced costs, higher density profile, no corrosion, and fewer connections in building entrance and cross connect applications by eliminating the need for a separate, stand-alone 5-pin protection block.

The Mini-Rocker protected modules incorporate Channell's proven Mini-Rocker sealed IDC connectors and world class gas discharge tubes (GDTs) or other required protection devices in a robust sealed assembly. This protected module system eliminates multiple connection points found in existing 5-pin protector designs, providing lower signal loss for broadband services. Higher reliability is achieved by eliminating the possibility of corrosion. The modular design also provides improved cost management and space utilization.



The Mini-Rocker 10-Pair environmentally sealed protected module

### Module Dimensions

- Length: 7.0" (177.8mm)
- Width: 1.0" (25.4mm)
- Depth: 2.25" (57.15mm)



Five 10-pair Protected Modules mounted in a 50-pair frame

# Application

---

## Applications Include:

- DLC cabinet protection fields
- Reduced size Building Entrance Terminals (BET)
- DSLAM protection
- Protected Distribution Terminals

Standard mounting systems are available from Channell with integrated mounting rails and full grounding/bonding provisions. 10-pair through 100-pair mounting systems have been designed. This system is ideal for OEM integration into a wide range of equipment platforms. Channell will design and provide custom configurations of this innovative new system.

## TECHNICAL SPECIFICATIONS FOR GAS DISCHARGE TUBES (GDT's)

---

### Features

- Tight voltage tolerance
- Reduces purchasing and inventory costs
- Balanced TRIGARD® gas discharge tubes
- UL recognized
- High surge current rating
- Low capacitance and insertion loss
- Stable breakdown throughout life
- No corrosion failures
- Multi-station protection available
- Approved for use without the need of a backup (bug)

### GDT Applications

- Telecommunications
- Industrial electronics
- Commercial electronics
- Consumer electronics
- Automotive, aircraft, military electronics

Note: Contact Channell for more information and a demonstration.

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

# Specifications

Tested per ITU-T (CCITT) K.12, IEC 61643-311, Telcordia GR-1361, Telcordia GR974 and SR5165.

Specification	Model No.	
	MRMP10M33A10	MRMP10B33A10
DC Breakdown @100-2000 V/s	300 to 400 V	
AC Breakdown @ 60Hz	300 to 400 V	
Impulse Breakdown 100 V/ $\mu$ s 1000 V/ $\mu$ s	600V 650V	625V 850V
Insulation Resistance @100Vac	>1 G $\Omega$	
Capacitance Line to Line @ 1MHz	10 pF typical	1 pF typical
Capacitance Line to Ground @ 1MHz	20 pF typical	1 pF typical
Impulse Reset 52 V, 260 mA 135 v, 200 mA	<10 ms <10 ms	
Impulse Life Characteristics 100 A, 10/1000 $\mu$ s 300 A, 10/1000 $\mu$ s 500 A, 10/1000 $\mu$ s 2,000 A, 10/250 $\mu$ s 5,000 A, 20/100 $\mu$ s 20,000 A, 8/20 $\mu$ s 40,000 A, 8/20 $\mu$ s	>3000 operations <sup>2</sup> >1000 operations <sup>2</sup> >1000 operations <sup>3</sup> >100 operations <sup>2</sup> >10 operations <sup>2</sup> >10 operations >1 operations <sup>2, 4</sup>	
AC Life Characteristics 0.5 A rms continuous 1 A rms, 1 second, 800 ft. cable 1 A rms, 1 second, 1 mile cable 10 A rms, 1 second 65 A rms, 11 cycles 120 A rms, 0.1 second	>30 seconds >60 operations >60 operations >20 operations >1 operation <sup>2</sup> 1 operation	
Life Test Criteria Insulation Resistance Throughout the Life Test Life Test Failures 0.0% Failures During Environmental Cycling w/surges	>100 M $\Omega$ 0.0% 0.0%	
Fallshort (vented or non-vented gas tube)	>30 A rms, simultaneously for >15 min.	
Operating Temperature	-55° to +85° C	
Impulse Transverse Delay	1000 V/ $\mu$ s	< 75 ns
Insulation Resistance	100 V	> 10 <sup>10</sup> $\Omega$
Glow Voltage	10 mA	~ 70 V
Arc Voltage	>1A	~ 10 V
Glow-Arc Transition Current	< 0.5 A	
DC Holdover Voltage <sup>1</sup>	>135 V	< 150 ms
Alternating Discharge Current	130 Arms, 11 cycles <sup>2</sup> 20 Arms, 1 s	1 operation minimum > 10 operations

Notes:

- UL recognized component, UL File E153537
- Model number marking on tube: 26-xxx V (Supplied by Bourns, Inc.)
- The rated discharge current for TRIGARD® Gas Discharge Tubes is the total current equally divided between each line to ground
- Sparkover limits after life  $\pm$ 25%, IR >108 $\Omega$

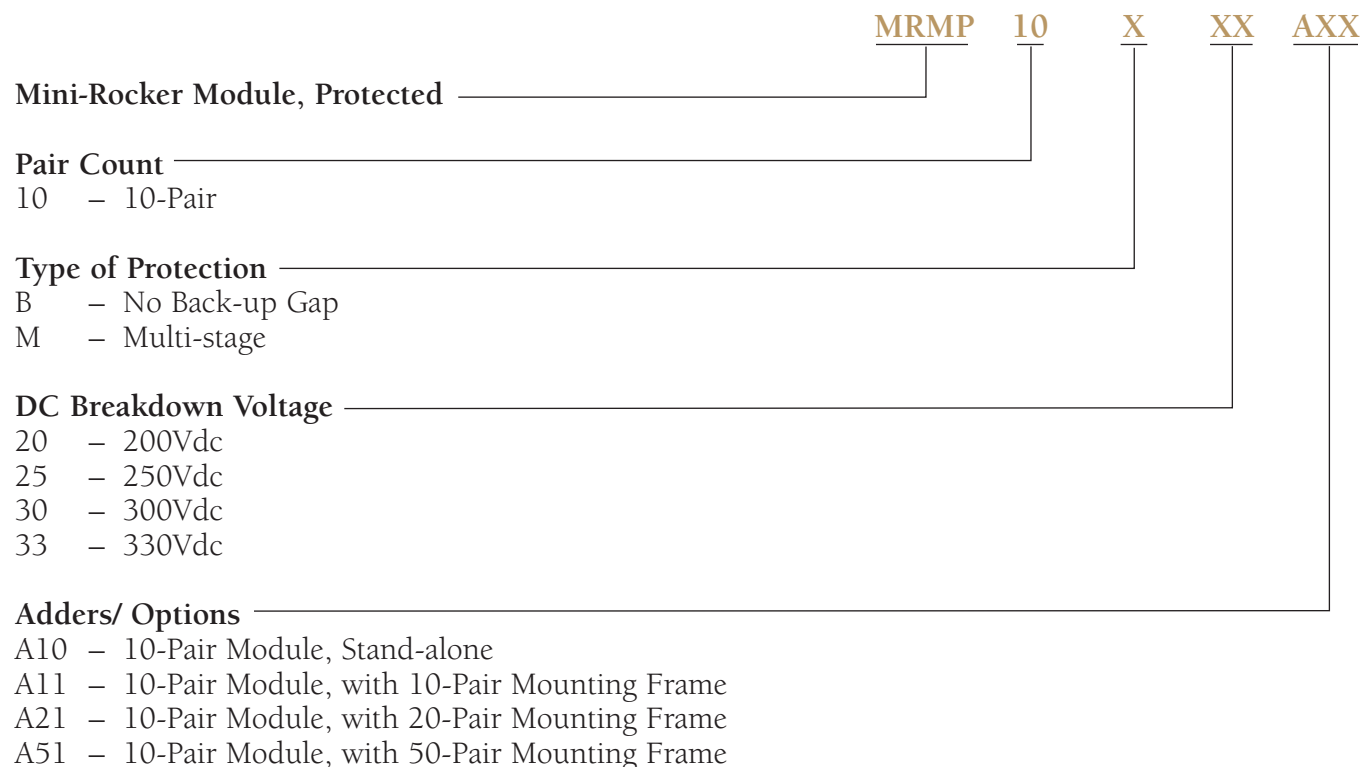
<sup>1</sup> Network applied.

<sup>2</sup> DC Sparkover may exceed  $\pm$ 25% after discharge, but will continue to protect without venting.

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

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

# Ordering Information



**Example:** MRMP10M33A10

Protected Mini-Rocker Module, 10-Pair, multi-stage protection, 330 Vdc Breakdown Voltage, Stand-alone 10-Pair Module



**USA:** Channell Commercial Corporation, Temecula, CA • Tel. 800.423.1863 • Fax. 909.296.2322

**CANADA:** Channell Canada, Inc. • Tel. 905.565.1700 • Fax. 905.565.8080

**EUROPE, MIDDLE EAST, AFRICA:** Channell Ltd., London, UK • Tel. 44.1689.871522 • Fax 44.1689.833428

**AUSTRALIA, ASIA, PACIFIC RIM:** Channell Pty. Ltd., Sydney, Australia • Tel. 61.2.9738.8277 • Fax. 61.2.9738.9763

**WORLDWIDE HEADQUARTERS:** Channell Commercial Corporation • 909.719.2600 • 26040 Ynez Road • P.O. Box 9022 • Temecula, CA 925899022, USA

[www.channellcomm.com](http://www.channellcomm.com)