



90,000 AMP BRANCH PANEL PROTECTION

The 90M panel is a high-performance surge suppression device designed to protect branch panels as well as critical loads used in industrial, commercial, and medical environments.

Compliant with UL 1449 2nd Edition requirements dated February 9, 2007.



APPLICATIONS

Initially designed and manufactured for installation on main branch panels, the 90M has also been used on commercial and light industrial main service panels. The 90M suppressor provides state-of-the-art protection for multi-phase applications. The 90M's 90,000 Amp surge current capacity protects equipment from surge currents and transient voltages. The 90M represents an excellent complement to an EFI Electronics cascaded suppression system.

SUPERIOR PERFORMANCE

The 90M Modular Panel units are made up of replaceable modules for easy service and maintenance.

The 90M utilizes a Sine Wave Tracker™ suppression circuit for wye configurations which not only provide transient protection but also up to -30 dB noise filtration.

The EFI Electronics Titan 90M provides reliable operation by incorporating EFI's latest improvements. Each surge suppression mode is individually fused and the product is contained in a NEMA 3R/12 metallic housing for maximum performance. The Titan 90M has been tested and is UL and cUL listed.

EASY INSTALLATION

The 90M easily mounts adjacent to any panel board. Its compact design allows the 90M to be mounted near the circuit breaker in order to reduce connecting leads and improve performance.

FEATURES	ADVANTAGES	BENEFITS
LED SUPPRESSION STATUS INDICATOR PER PHASE	Provides visual indication of the suppressor's status	Allows immediate response if suppressor is damaged
90,000 PEAK AMP CAPACITY	Protects against high-energy lightning strikes	Protects electronic equipment from internal and external surges
SINE WAVE TRACKER™ CIRCUITRY	Provides a tight clamping window above and below the AC sine wave	Ensures superior protection from transient voltages
MODULAR DESIGN	Enables user to replace individual modules	Allows for easy service and maintenance
AUDIBLE ALARM AND NO/NC DRY CONTACTS STATUS INDICATOR	Provides additional indication of the suppression status	Allows the building engineer to remotely monitor Surge Protection Device status

TITAN[®] 90M Product Specifications



PERFORMANCE

Maximum Surge Current	90 kA/Phase
Short Circuit Current Rating	200 kA
	Maximum
Sine Wave Tracking Circuit	Yes
EMI/RFI Noise Rejection	-30 dB
	(Wye Models only)
Response Time	<1 ns
Frequency	50/60 Hz

MECHANICAL DESCRIPTION

Dimensions	12" x 12" x 6"
Enclosure	Nema 3R/12
Operating Temperature	-40° to +149° F (-40° to +65° C)
Storage Temperature	-40° to +149° F (-40° to +65° C)
Altitude	Sea level to 12,000 feet (3,658 meters)
Weight	19.2 lbs (8.6 kg)
Connecting Wire Size	Max #2 (33.6 sq mm)

DIAGNOSTICS

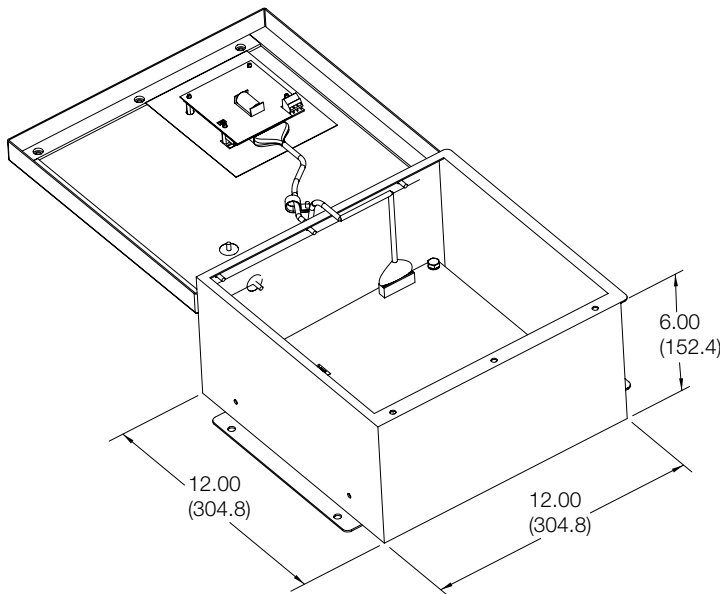
Red & Green Status LED's per Phase (Internal redundant Status LED's per Phase will be Blue for Delta configurations & Green for Wye and Split Phase configurations), Audible Alarm with Enable/Disable Switch, NO/NC Dry Contacts

WARRANTY

10 years on Product

SAFETY APPROVALS

UL_{US} 1449 2nd Edition, 2007 requirements, cUL, UL 1283 (wye products only), CSA C22.2 No.8- M1986, IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002



TITAN 90M SYSTEM DESCRIPTION					UL 1449 2-nd EDITION			
90kA/Phase	Service Voltage	Configuration	Model Number	MCOV	L-N	L-G	N-G	L-L
	120/240 wye (Single Phase)	1Ph. Wye 3-wire +G	90M120/240Y	150	400	400	400	800
	120/208 wye	3Ph. Wye 4-wire +G	90M120/208Y	150	400	400	400	800
	220/380 wye	3Ph. Wye 4-wire +G	90M220/380Y	320	800	800	800	1500
	230/400 wye	3Ph. Wye 4-wire +G	90M230/400Y	320	800	800	800	1500
	240/120 delta split phase	3Ph. Delta 4-wire +G	90M240/120SP	275/150	800/400	800/400	400	1500/800
	240 delta corner ground	3Ph. Delta 3-wire Corner Gnd	90M240D	300	N/A	N/A	N/A	900
	277/480 wye	3Ph. Wye 4-wire +G	90M277/480Y	320	800	800	800	1500
	480 delta corner ground	3Ph. Delta 3-wire Corner Gnd	90M480D	640	N/A	N/A	N/A	1500
	347/600 wye	3Ph. Wye 4-wire +G	90M347/600Y	420	1200	1200	1200	2000
600 delta corner ground	3Ph. Delta 3-wire Corner Gnd	90M600D	840	N/A	N/A	N/A	2000	

NOTE: 90M units not available with Surge Counter
90M units not available with Safety Disconnect

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