



# MV-TVSS™ Medium Voltage Transient Surge Suppressor

## General

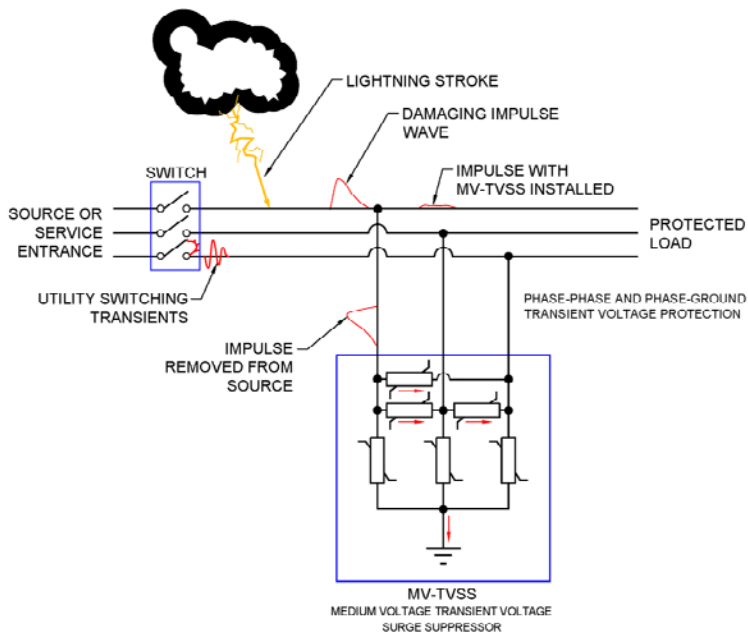
NEPSI's MV-TVSS™ (Medium Voltage Transient Surge Suppressor) offers the first line of defense from lightning and switching transients for commercial and industrial power systems that have service or utilization voltages from 2.4kV to 15kV.

## Product Benefits

- Reduced insulation failures from transient voltage surges that originate on medium voltage networks.
- Provides an incoming line of defense for low voltage TVSS systems which may not be capable of handling the surge energy transmitted from medium voltage systems.
- Simple low cost installation
- Low maintenance.



**Figure: 1**  
 NEPSI's medium voltage transient surge suppressors protect commercial and industrial power systems from transients originating from lightning and switching events.



**Figure: 2**  
 The MV-TVSS™ provides transient voltage protection from surges originating on the high voltage system by shunting them to ground or across phases before they enter the low voltage system.

## Product Scope

- Operating Voltage: 2.4kV through 15kV
- Impulse Withstand Voltage (BIL): 60kV—200 kV
- MOV's: Phase-to-Phase and Phase-to-Ground rated for your application; heavy duty distribution class are standard, station class provided as an option.
- Current limiting fuses: Optional
- Metal-enclosed design: NEMA 1, 3R, 4X, 12 | IEC IP10, IP14, IP56, IP52, NEC Class 1 & 2, Div. II designs
- Surge Capacitor: Optional, 0.12µF—0.5 µF



## MV-TVSS™ Ordering Guide

Use table 1 to determine base part number of MVTVSS based on your power system ground and your system voltage. Table 2 provides approximate dimensions, while table 3 provides additional options that are not standard.

**Table 1**  
MV-TVSS Standard Part Numbers

System Voltage		Recommended Part Number (kV RMS)		
Nominal	Maximum	Four-Wire Wye: Multi-grounded Neutral	Three-Wire Wye: Solidly Grounded Neutral	Delta, Resistive Grounded and Ungrounded Wye
2.4	2.54	-	-	MVTVSS1
4.16Y/2.4	4.4Y/2.54	MVTVSS2	MVTVSS3	MVTVSS4
4.16	4.4	-	-	MVTVSS5
4.8	5.08	-	-	MVTVSS6
6.9	7.26	-	-	MVTVSS7
8.32Y/4.8	8.8Y/5.08	MVTVSS8	MVTVSS9	-
12.0Y/6.93	12.7Y/7.33	MVTVSS10	MVTVSS11	-
12.47Y/7.2	13.2Y/7.62	MVTVSS12	MVTVSS13	-
13.2Y/7.62	13.97Y/8.07	MVTVSS14	MVTVSS15	-
13.8Y/7.97	14.52Y/8.38	MVTVSS16	MVTVSS17	-
13.8	14.52	-	-	MVTVSS18

**Table 2**  
MV-TVSS™ Dimensions & Weights

Part Number	H Height (Inches)	W Width (Inches)	D Depth (Inches)	Weight (LBS)
MVTVSS-1 TO MVTVSS-9	43.0	43.0	24.0	310
MVTVSS-10 TO MVTVSS-18	51.0	47.0	28.0	390

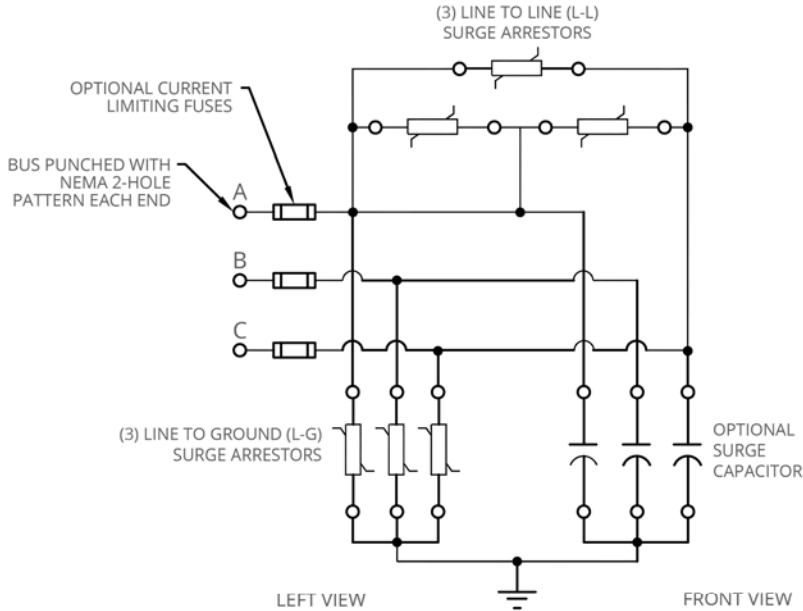
*Note: See Pages 3 & 4 for drawing detail. Consult Factory at order placement to confirm drawing dimensions.*

**Table 3**  
MV-TVSS™ Part Number Suffix Codes

MV-TVSS™ OPTIONS	Model Number Suffix
Painted Stainless Steel Enclosure	4X
Surge Capacitor	SCF
Current Limiting Fuses	CLF
Station Class MOV	SCMOV
NEC Class 1 & 2 Div. II design	NEC

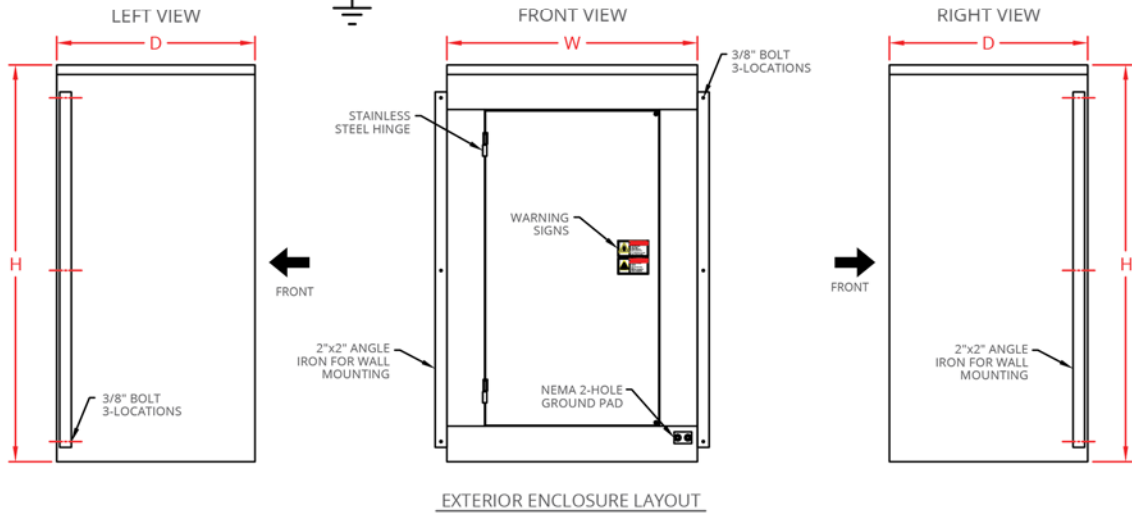
**Example Part Number Creation:**  
For example, a MV-TVSS™ for a 13.8kV multi-ground neutral system with current limiting fuses and station class lightning arresters would have the following part number: MVTVSS16-CLF-SCMOV

Contact NEPSI for options and voltages not shown.

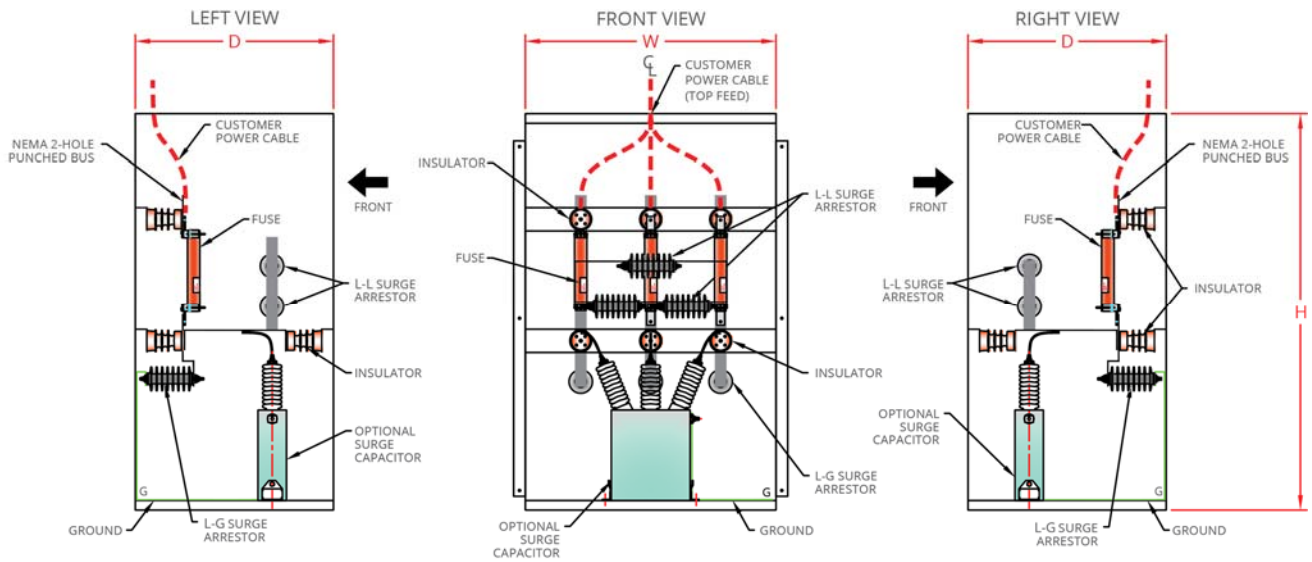


**Figure 3**  
Three-line diagram, component layout, and enclosure drawing for MV-TVSS™ with surge capacitor, and optional current limiting fuses.

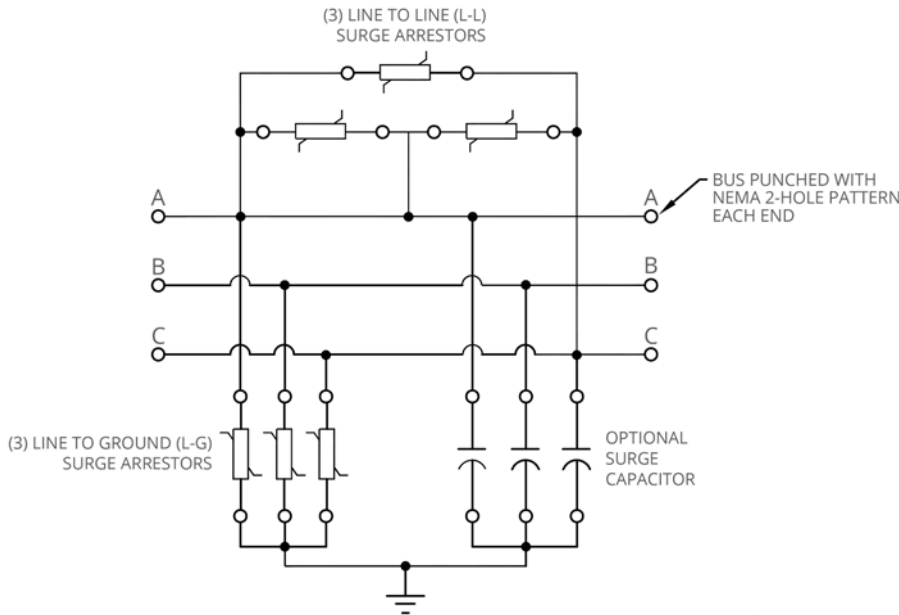
**Notes:**  
Dimensions may change. Contact NEPSI for most current dimensions.



EXTERIOR ENCLOSURE LAYOUT

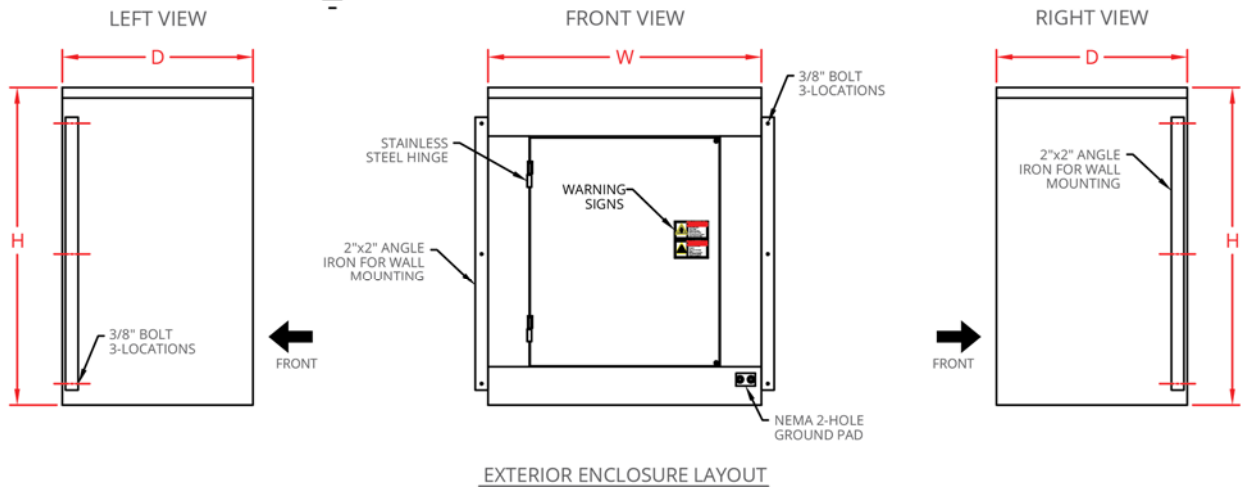


INTERIOR ENCLOSURE LAYOUT

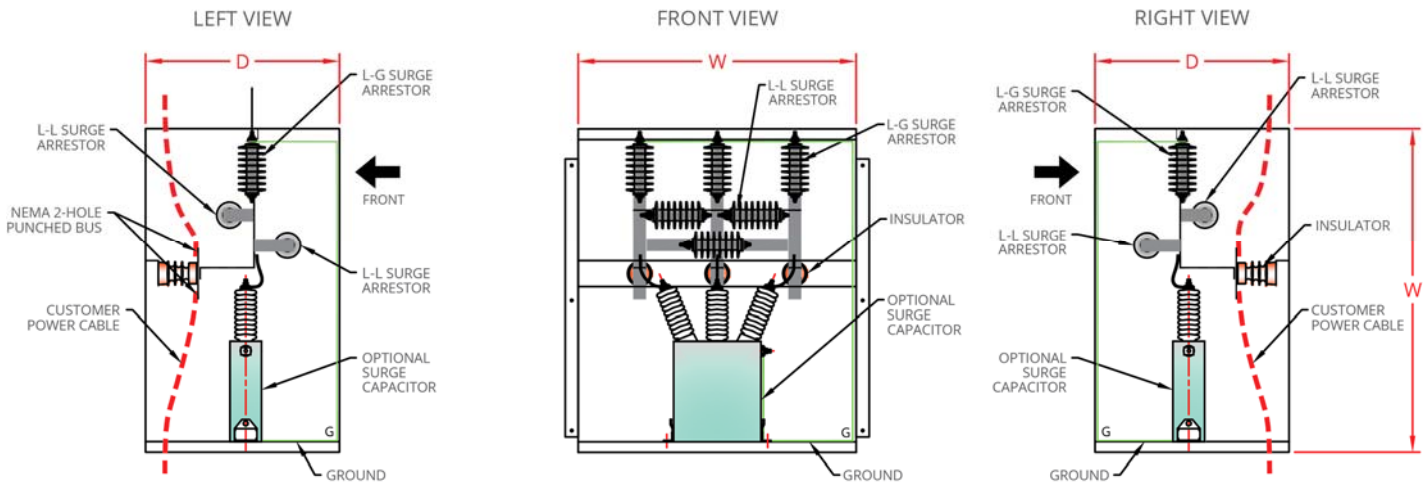


**Figure 4**  
Three-line diagram, component layout, and enclosure drawing for MV-TVSS with surge capacitor.

**Notes:**  
Dimensions may change. Contact NEPSI for most current dimensions.



EXTERIOR ENCLOSURE LAYOUT



INTERIOR ENCLOSURE LAYOUT