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New Product Bulletin

Low Voltage Distribution Class MOV Surge Arrester

ERMCO Components Incorporated (ECI) introduces the Low Voltage Distribution Class Surge Arrester (*LVDA*) for protection at the Distribution transformer 120/240VAC secondary bushings. Various IEEE and industry sponsored studies have concluded that impulse voltages from lightning and other sources can enter the transformer secondary and cause extensive damage. Such surges are typically beyond the energy handling capability of a Secondary Class Surge Arrester.

The *LVDA* has been designed and tested in accordance with ANSI/IEEE C62.11 Light Duty Distribution Class requirements. It is designed to be directly connected to the secondary bushings of the pole type or pad type distribution transformer. The energy handling capability of the *LVDA* of 40kA High Current Short-duration 4/10 μ s current wave is four times that of the Secondary Class Surge Arresters assuring extremely long service life.



Figure 1
LVDA arrester installed on a 25kVA pole type transformer

Arrester Rating (V rms)	480
MCOV (V rms)	480
Front of Wave Protective Level (kV Crest) 5kA	2.1
Maximum Discharge Voltage (kV crest) 8/20 μ s Current Wave	1.5 kA 1.3
	5 kA 1.6
	10 kA 1.9
	20 kA 2.2
40 kA	2.7

Table 1
 Protective Characteristics

High-current, Short- duration	2 discharges of 40 kA crest, 4/10 8/20 μ s current wave
Low-current, Long-duration	20 surges of 75 A-2000 microsecond duration
Duty Cycle	22 operations of 5 kA crest, 8/20 μ s current wave

Table 3
 Performance Test Characteristics

1.2/50 impulse (kV crest)	30
1 min Dry (kV rms)	10
10 sec Wet (kV rms)	6

Table 2
 Insulation Withstand Voltages

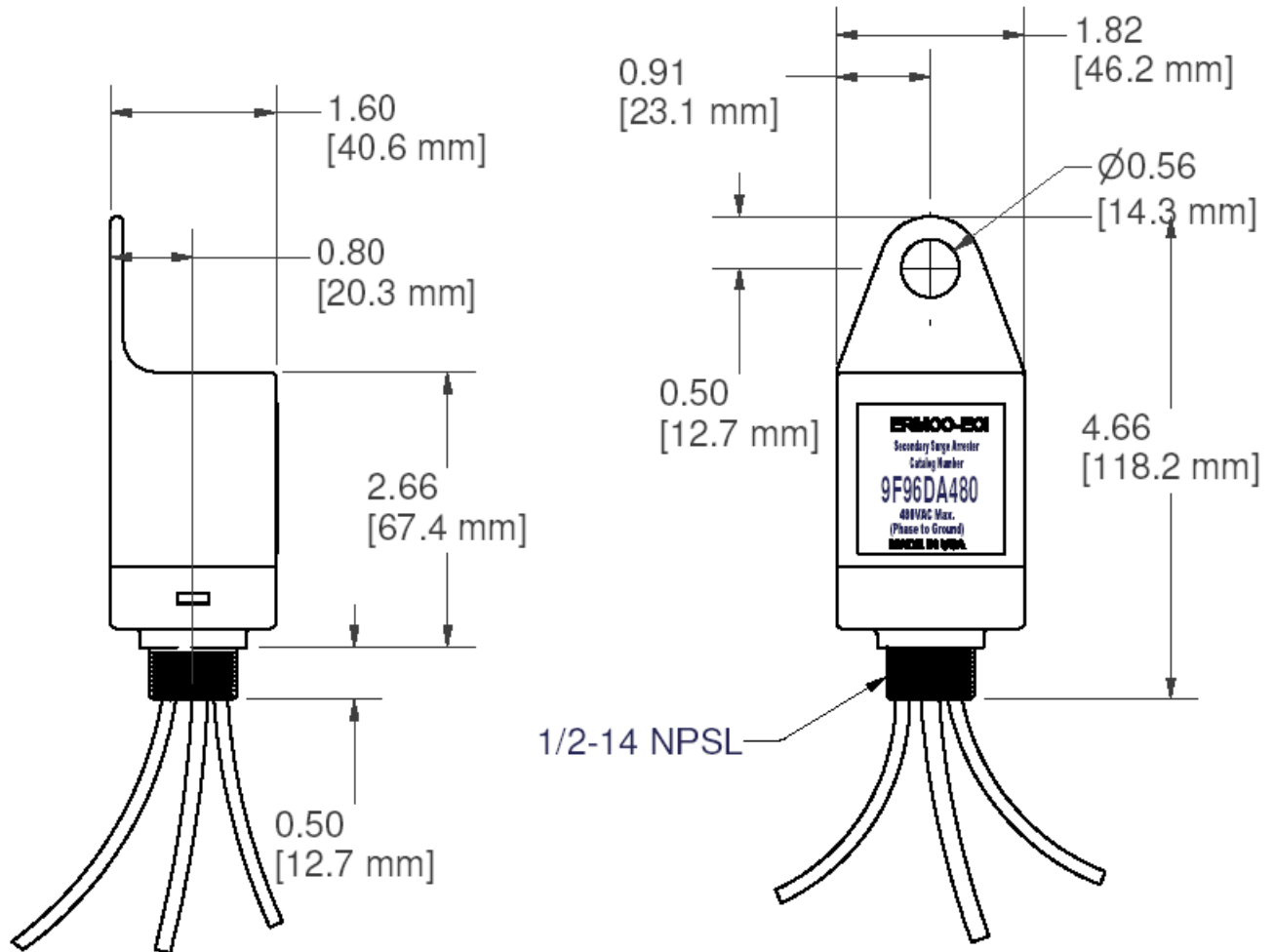


Figure 2
Outline drawing of Catalog no. 9F96DA480 LVDA Surge Arrester

The *LVDA* is designed with an integral mounting bracket for attachment directly to a bolt beneath the X2 Bushing on a pad or pole type transformer. The UV stabilized PET Polyester housing of the *LVDA* is suitable for external mounting.

Line leads on the *LVDA* are #10 AWG stranded copper, 18 inches in length. It is suggested that leads be shortened as much as possible to reduce voltage “let through” to the protected equipment.

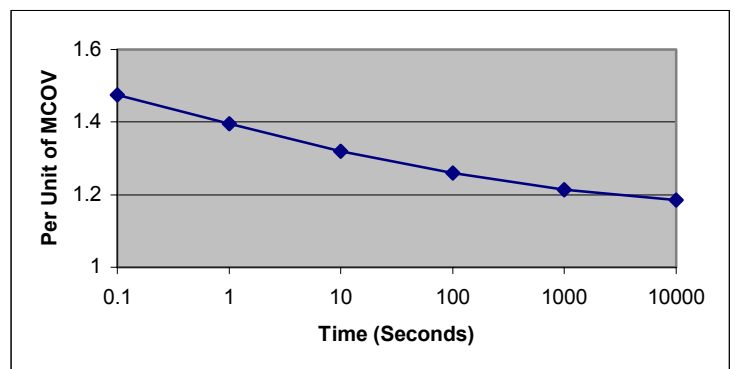


Figure 3
Temporary Overvoltage Capability

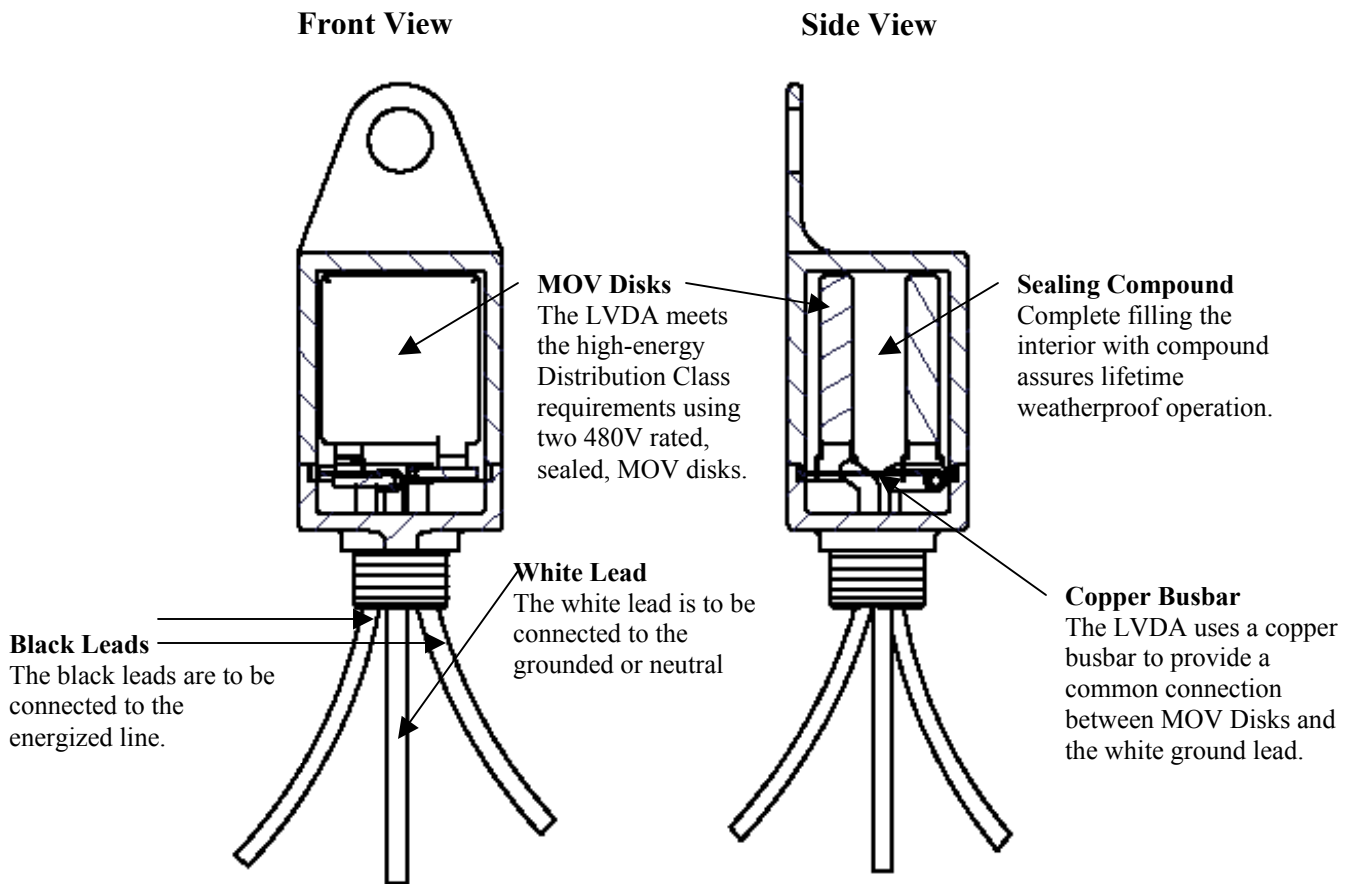


Figure 4
Cutaway illustration of the LVDA

The *LVDA* assembly consists of high quality individually manufactured and tested MOV Disks. Once pressed and sintered they are visually inspected, an electrode soldered on, then tested. Disks passing the tests are then epoxy coated, cured, and tested for 1ma positive and negative.

The MOV Disk assemblies are then soldered to a copper busbar along with the line and ground leads. This is then assembled into the housing, which is then fully potted to assure extremely long life in the most extreme environments. Final product inspection and electrical tests are performed on the completed arrester prior to packaging for shipment.

The completely assembled *LVDA* arrester is 100% tested at our Greeneville, Tennessee production facility for:

- Complete physical inspection
- Leakage Current at Rated Voltage

The MOV Disk assemblies have soldered connectors beneath individual epoxy coating and are tested as follows;

- 100% Visual Inspection
- 100% voltage at 1 mA current

Please contact your ECI Representative for price and availability of the LVDA Surge Arrester part number 9F96DA480