

New Product Bulletin

Low Voltage Distribution Class MOV Surge Arrester for 1Ø and 3Ø Transformer Protection

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ERMCO Components Incorporated (ECI) introduces the Low Voltage Distribution Class Surge Arrester (*LVDA*) for use in protection applications where high energy handling capability is required. It is available in three wire single phase, and four wire three phase configurations. Nominal voltages of both 250 and 480 are available.

The *LVDA* has been designed and tested in accordance with ANSI/IEEE C62.11 Light Duty Distribution Class requirements. It's primary application is for protection of the secondary side of pole or pad type distribution transformers. Mounting provisions and available lead configurations allow for easy installation on both types of transformers. The energy handling capability of the *LVDA* of 40kA High Current Short-duration 4/10µs current wave is four times that of the Secondary Class Surge Arresters assuring extremely long service life.

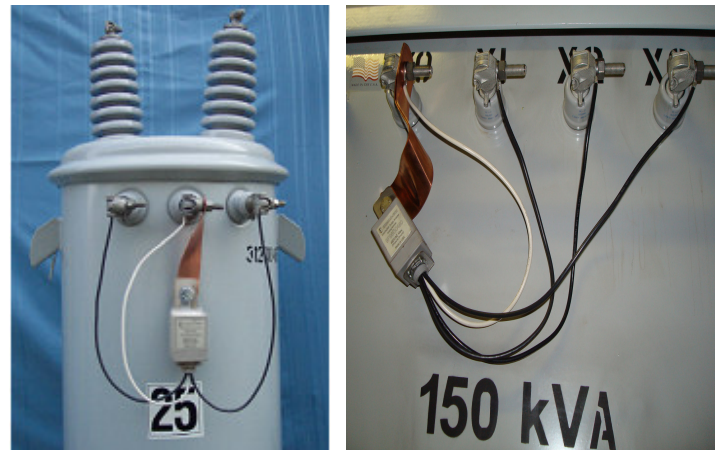


Figure 1
LVDA installed on a 25kVA 1Ø and 150kVA 3Ø pole type transformers

Arrester Rating (V rms)		250	480
MCOV (V rms)		250	480
Front of Wave Protective Level Crest) 5kA (kV)		1.2	2.1
Maximum Discharge Voltage (kV crest) 8/20µs Current Wave	1.5 kA	0.70	1.3
	5 kA	0.82	1.6
	10 kA	0.95	1.9
	20 kA	1.2	2.2
	40 kA	1.4	2.7

Table 1
Protective Characteristics

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

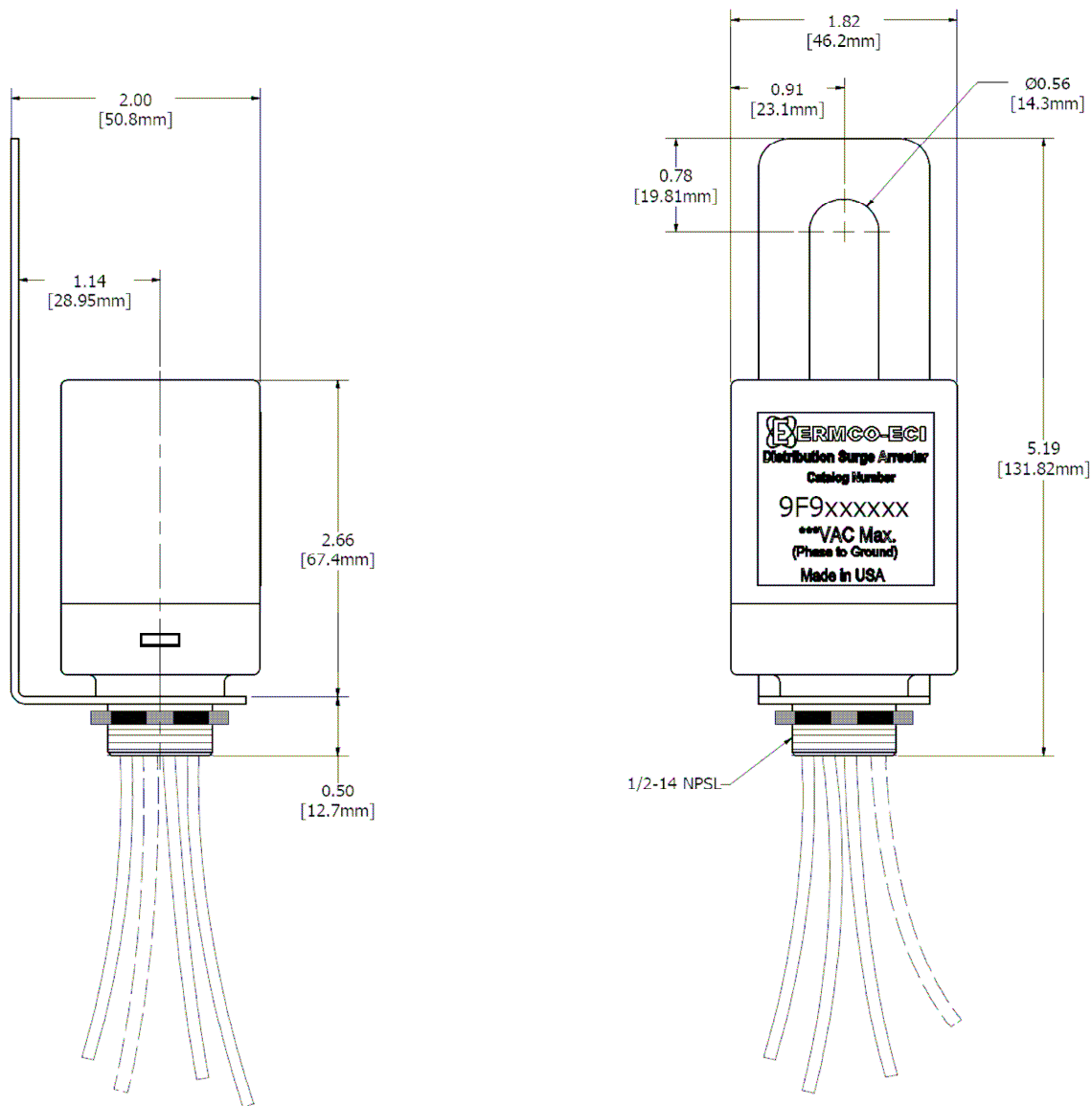


Figure 2
Outline drawing of Catalog no. 9F96D series LVDA Surge Arrester

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.

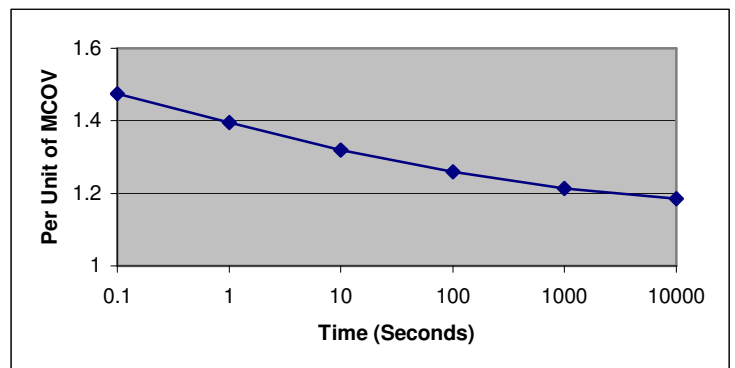


Figure 3
Temporary Overvoltage Capability

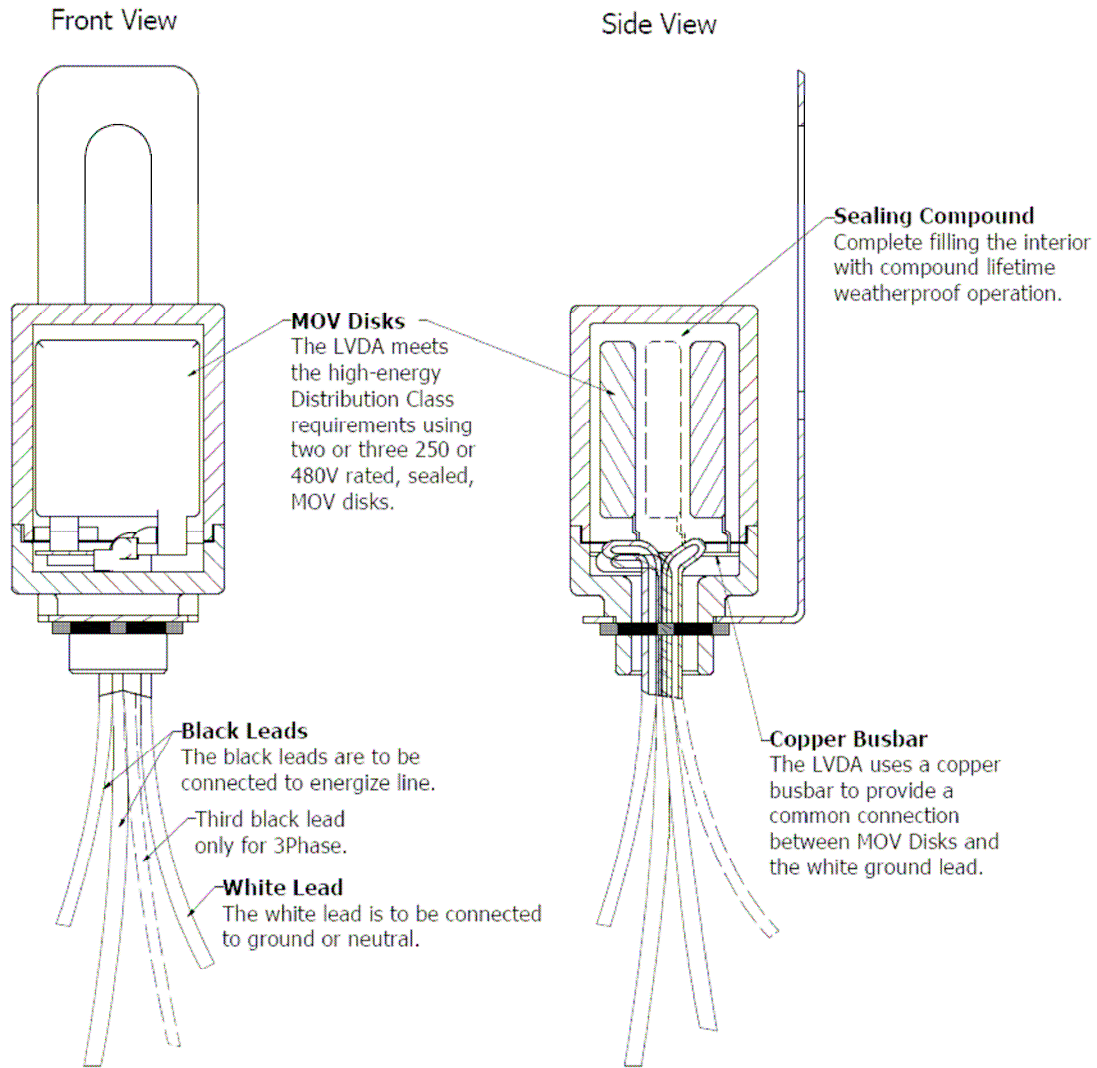


Figure 4
Cutaway illustration of the LVDA

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:

- Complete physical inspection
- Varistor voltage at 1mA test current.

Please contact your ECI Representative for price and availability of the LVDA Surge Arresters.