

**SOUTH CAROLINA ELECTRIC COOPERATIVES'
METER BASED SURGE SUPPRESSOR
SPECIFICATIONS**

1.0 SCOPE

This specification addresses the minimum acceptable requirements for 240-volt, single-phase meter base arresters. The device should be rated at minimum 200 amp continuous for Category C service entrance locations and be UL listed. Minimum standards have been identified and are required by South Carolina cooperatives for their surge protection programs.

2.0 APPLICABLE STANDARDS:

Mechanical and electrical engineering design and installation procedures shall be in accordance with the following applicable guidelines:

1. UL (Underwriters Laboratories)
2. ANSI (American National Standards Institute)
3. NEMA (National Electrical Manufacturers Association)
4. IEEE (Institute of Electrical and Electronic Engineers)
5. ETL (Electrical Testing Laboratories)
6. NEC (National Electrical Code)
7. OSHA (Occupational and Safety Health Act)
8. NFPA (National Fire Protection Agency)
9. FIPS (Federal Information Processing Standard)

2.1 SYSTEM PERFORMANCE STANDARDS AND TEST SET-UP:

Using the following test standard, test procedure and test waveform, manufacturer shall provide meter based arrester response data:

1. ANSI/IEEE C62.41 (Latest Approved Revision) Recommended Practice on Surge Voltages in Low Voltage AC Power Circuits
2. ANSI/IEEE C62.45 (Latest Approved Revision) Guide on Surge Testing for Equipment Connected to Low Voltage AC Power Circuits
3. ANSI/IEEE C62.11 (Latest Approved Revision) Standard for Metal-Oxide Surge Arresters for AC Power Circuits.
4. Shall have UL OWHX rating.
5. Shall be UL rated as a secondary arrester.

3.0 SERVICE CONDITIONS

| | |
|---------------------------|-------------------------------|
| Physical Location | Outdoor Application |
| Environmental Temperature | -40 degrees C to 85 degrees C |
| Operating Altitude | 0 to 12,000 feet |
| Nominal System Frequency | 48 Hz to 62 Hz |

Meter base surge arresters shall be capable of successful operation under the following service conditions:

| | |
|------------------------|---|
| Open Neutral Operation | Must be able to clear 240V on open neutral and/or 10KA at 240V without extraordinary action via fusing. |
|------------------------|---|

4.0 ELECTRICAL RATINGS & CHARACTERISTICS

| | |
|----------------------------|--|
| Nominal Voltage | 120/240 or 120/208 volt single-phase |
| MCOV | 240 volts |
| Surge Current Rating | 40 KA per phase (minimum) @ 4 x 10 us Waveform |
| Manufacturer shall specify | Clamp voltage @40KA surge current |

5.0 MECHANICAL CONSTRUCTION

- 5.1 The arrester housing shall be made of high performance, UV stabilized polymer materials with a color gray.
- 5.2 The arrester jaws shall be tin plated copper rated at a minimum 200 amps continuous. An option 5th jaw shall be available for 120/208 applications requiring the 5th jaw. This jaw shall be located at the Nine (9) o'clock position on the meter base.
- 5.3 An ultra-bright LED shall be included which remains illuminated when the arrester is properly operating. The LED shall be powered at 5V or less for personnel safety. A minimum 200,000 hours life is required. LED indicators shall be of sufficient brightness to allow for verification of proper operation in under normal daylight conditions.
- 5.4 Current limiting fuses or meltable links shall be required to operate safely if MOV's are damaged or fail. The current limiting device shall operate within ten (10) cycles at 40 KA.
- 5.5 Each mode of operation shall be protected by a single 30mm or larger MOV. Use of MOV arrays or stacks shall not be acceptable.

6.0 PRODUCT WARRANTY

The meter base arrester shall have a minimum of ten (10) year manufacturers' warranty.

