M.C. MILLER Co.

INSTRUMENTS AND EQUIPMENT FOR THE CORROSION ENGINEER

More than 65 Years of Support to the Cathodic Protection Industry

THE SURGISTOR SERIES SURGE PROTECTION SYSTEM

(Model SURG20)

SURGE PROTECTION FOR RECTIFIERS AND ATTACHED EQUIPMENT (INTERRUPTERS, RMUs, ETC.) ON BOTH AC & DC SIDES

The Surge Arrestor *(Cat #SURG20)*
(275VAC / 275 VDC Clamp Voltgage)

FEATURES AND BENEFITS:

- **Complete electrical symmetry simplifies installation**
- **Equal performance for surges of either polarity**
- **Greater than 60,000 Amp surge capacity**
- **Instantaneous response to surges**
- **Double sealed construction for harsh environments**
- **Long life with M.C. Miller dependability**
- **Two Surge Arrestor offer affordable protection for both the input & output of a rectifier system**

METHOD OF OPERATION:

When a surge or transient exceeds the operational voltage of the Surge Arrestor, the surge is bypassed to ground. This protection continues until the surge voltage reduces below the threshold of the Surge Arrestor. The protection system resumes normal operation after the surge passes without interrupting either the input or output power. The symmetrical design of the Surge Arrestor clamps surges equally between any two leads. This maintains all potentials to a safe level.

INSTALLATION:

Installation has been eased by the symmetrical construction of the Surge Arrestor. The technician doing the installation only needs to connect the three wires of the surgistor to the appropriate terminals. For the most effective use the wire lengths of the surgistor should be trimmed as short as is reasonable for the installation. In other words, there should be no excess wire. ***Do not coil excess wire, remove it.*** Coiled wire acts as an inductor and lowers the effective clamping action of the Surge Arrestor.

Before installation, determine a suitable location for placement of the Surge Arrestor within the system to be protected. This position should not be subject to temperatures in excess of 65ºC. A standard one-inch threaded fitting with nut is provided as a means of mounting, if desirable. The best position is the one that requires the least lead length.

PHYSICAL SPECIFICATIONS:

Height: 3.5” Diameter: 3.75” Weight: 8.0 oz
Wire: 3 feet each x 3, 10 AWG stranded wire, 600V insulation

ELECTRICAL SPECIFICATIONS:

Clamp Voltage:	275VAC 275VDC
Surge Current:	64,000 Amps (8/20 µs wave)
Energy Absorption:	1208 Joule (Watt Seconds)
Tolerance:	±10%
Temperature:	-40ºC to + 75ºC

ANODE/CATHODE, GROUND CONNECTION:

Observe rectifier current before turning off, then turn off. With the rectifier turned off and the Surge Arrestor placed in what has been determined as a suitable position, take one of the three leads and bring it over to the ground connection. Allow about two to three inches of slack in the wire and cut the remainder off. Trim the insulation back about one-half inch, select a crimp connector and crimp. Bolt the wire to the ground clamp. Repeat this procedure for the anode then the cathode connection. Turn power on and observe that the rectifier current is the same. If the current is not the same turn off power immediately and check all connections. Turn on power again. If the current is too high, remove the Anode/Cathode connection and try again. If the current returns to normal, the Surge Arrestor may be defective. Return it for a replacement. If the current remains high after removal of Anode and Cathode connection, check for other causes. Reinstall the Anode/Cathode connections after determining the problem. Check system current once again.

AC MAINS, GROUND CONNECTION:

Turn off the AC power to the rectifier. Following the connection procedure outlined in the Anode/Cathode Ground Connection, connect ground, hot and neutral. Verify connections are tight and no shorts are present. Turn on AC power. Wait about one minute then feel the surgistor. If the surgistor feels warm, remove it and return it to M.C. Miller, as it may be defective.

Hermetically Sealed Construction can withstand indefinite immersion in water. All units supplied with mounting hardware and crimp connectors.

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