POWER EQUIPMENT

FLA

Field Lightning Arrestor

Compliance with Standards

FAA: Complies with AC 150/5345-10, Section 3.4.12 (Lightning/ Surge Arrestors)

Overview

- For use on airfield series circuits to further reduce the risk of lightning damage on the series circuit
- Can be inserted at various points in the 5 kV airfield primary series circuit to provide additional lightning protection.
- Can be used on any airfield circuit (6.6 A from 4 kW to 30 kW and 20 A from 15 kW to 70 kW)
- Rated for 25,000 A peak (8/20 microsecond discharge)
- Assembly rated NEMA 6P
- Insulation resistance is 10 GΩ (minimum)
- Includes a UL 467 rated ground lug, which accepts an AWG 4 to AWG 14 earth ground wire
- Operating temperature: -55 °C to +55 °C (-67 °F to +131 °F)

Installation

It is recommended that the field lighting arrestor be installed a maximum of about every 2,000 feet around the series circuit, starting at the first base can closest to the vault on each leg of the series circuit. Simply disconnect (unplug) the L-823 connectors at the designated point and plug in the field lighting arrestor. Connect a known good earth ground (25 Ω or less) to the earth ground lug of the field lighting arrestor using at least an AWG 6 wire.

The field lightning arrestor can be installed in a base can (preferred) or direct earth buried. Heat shrink each L-823 connector interface using an airport approved method. The field lighting arrestor body is waterproof (rated NEMA 6P) and is fully resistant to deicing fluids.

Ordering Code

44A6102

Maintenance

There are no internal repairable parts since the field lighting arrestor is completely sealed. If the field lighting arrestor fails, replace it with a new one. Note that the heat sink on a field lighting arrestor is colored red in order to differentiate it from the ADB Safegate BRITE Remote. An ADB Safegate BRITE Remote has a silver colored heat sink.

Troubleshooting

The field lighting arrestor contains Metal Oxide Varistor (MOV) components similar to the type used on the output of Constant Current Regulators. A degraded or failed field lightning arrestor is typically evidenced by a rapid drop in the overall series circuit insulation resistance. Troubleshoot using same techniques used to find failed isolation transformers.

One or more shorted field lighting arrestors may cause a section of lights to be dim or out. If it is suspected that the field lighting arrestor has internally shorted, measure between the male L-823 and the arrestor earth ground lug using an ohmmeter. The meter should read a very high resistance. A failed unit will read a very low resistance or zero ohms.

After isolating a probable failed field lightning arrestor, make a visual inspection of the cord set and arrestor body for charring or a bulged arrestor body (caused when surge currents in excess of the MOV rating passes through the field lightning arrestor). If damage is suspected, replace the field lightning arrestor with a new one.

If it is suspected that the internal MOVs have degraded due to excessive surge current, causing a drop in insulation resistance to earth ground, test as follows:

- Place the field lightning arrestor in a bucket of water
- Attach the red (+) lead of a megger to the male L-823 pin
- Connect the black (-) lead of the megger to the arrestor earth ground lug
- Meg the field lightning arrestor at 1000 VDC for one minute
- Replace the field lightning arrestor if resistance is less than 2 GΩ