

PRODUCT DATASHEET Lightning Protection SHERIFF



Sheriff is connected to Aeronautical Ground Lighting (AGL) circuits, helidecks, and helipads. Its purpose is to safeguard the secondary circuits from harmful overvoltages and currents. These issues can arise from direct lightning strikes or induced voltages from both the primary and secondary sides of the circuit. The used encapsulation material has excellent resistance against typical chemicals used in airfields, weathering, and temperature difference.

Standard secondary max. voltage (RMS) 190 Vac (note: FAA AC 150-5345-47 max. open circuit voltage 135 V RMS for 200 W transformers), V peak 275 V. The max current rating 20 A ac and the frequency 50/60 Hz. Protection circuit compliance requirements determined in ITU-T (CCITT) K. 12, IEEE C62.31.

- Minimizes the amount of broken equipment when lightning hits
- A retrofit component that can be added to a secondary circuit afterwards
- Increases runway and taxiway uptimes as less replacement of lighting fixtures is needed
- Enables the work force to be used in other operation than maintenance
- Increases cost-efficiency by increasing the lifetime of the lighting fixtures
- A unique component that brings additional protection for the secondary circuit
- A cost-effective way to minimize the risk of lightning damage to the series circuit





Outline Dimensions



Notice: sheriff is equipped with earthing connector. It has to be always grounded by connecting it using continuity for example wire/conductor into ground potential.

Insufficient ground contact will prevent the unit from operating correctly.

Electrical characteristics

Operational voltage	Max. 190 Vac RMS
Operational peak voltage	Max. 275 Vac
Operational frequency	50/60 Hz
Power consumption at 6.6 A ac	2 W
Voltage drop at 20 A dc	220 mV
Plug	L-823 Style 1
Receptacle	L-823 Style 7
Earthing contact	M5 Brass screw terminal according to EN61823
DC discharge voltage at 100 V/s	Min. 275 Vdc Max. ~415 Vdc
Insulation resistance (IR) 100 V	> 10 ⁹ Ω
Capacitance	1 MHz < 5 pF
Impulse discharge current (Line to ground)	20,000 A, 8/20 μs > 10 operations 4,000 A, 10/350 μs > 10 operations 8,000 A, 8/20 μs > 10 operations 12,000 A, 10/350 μs > 10 operations
Operating and storage temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Drop test (from 2 m 10 times)	Pass

* The earthing wire is recommended to be stranded copper wires with a minimum 16 mm² conductor size



Dimensions and connections

Height [H]	40 mm (1.6 inches)
Length [L]	160 mm (6.3 inches)
Width [W]	80 mm (3.2 inches)
Colour	Yellow
Male connector	FAA L-823 Style 1
Female connector	FAA L-823 Style 7
Earthing connector	M3 Brass Screw terminal according to EN61283

Sheriff will do the job

The Sheriff can be installed in various points in the secondary circuit to provide additional protection against lightning. The Sheriff should be grounded to the counterpoise.



Inspector – portable tester at your service

The operational status of the Sheriff can be verified by a portable tester. The tester is easy to use, battery operated and handheld. The interval of testing the operational status should be according to the local conditions.

Note: Information given in this document provides general description. We reserve the rights to make technical changes or modify contents of this document without prior notification.