

Lightning Arrestor: Three stage surge protector, for data and power signals

CWS Data Bulletin

Catalog Number: 8355



Features

- Superior three-stage, transient surge protection
- Tolerates up to 10 kA surge currents
- Noise filtering against HF and RF interference
- Robust structure, IP66 housing
- Both differential and common mode protection on each channel
- 2 power and 2 data channels

Protect your weather station investment with the Lightning Arrestor. This compact transient overvoltage suppressor is designed for weather stations in areas with an elevated risk of lightning strike.

Superior Protection

A nearby lightning strike may induce a high voltage surge which the internal suppressor of your weather instrument may not be able to withstand, causing significant damage to the weather station. The Lightning Arrestor offers three-stage protection against surge currents up to 10 kA entering through the power and signal cables.

Powerful Technology

The Lightning Arrestor has four channels, two of which are dedicated to power lines and two for data lines. Each channel uses a three-stage protection scheme as follows: first there are discharge tubes, then voltage dependent resistors (VDR), and finally transient zener diodes. Between each stage, there are either series inductors or resistors.

Both differential and common mode protection is provided for each channel: across the wire pairs, against the operating voltage ground, and against the earth.

The Lightning Arrestor also includes noise filtering against HF and RF interference.

Housed in a IP66-rated enclosure, it mounts below the weather sensor transmitter with an adjustable mounting clamp.

Order Information

Catalog Number 8355 includes:

- Orion Surge Protector with weatherproof connectors
- Adjustable mast mounting clamp

(Please refer to Specifications and Mounting Diagram on back.)



Columbia Weather Systems, Inc.
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Specifications

Maximum characteristics

Input voltage (across channel line pair and from line to GND, terminals #3)

power channels: max. ± 43 V
data channels: max. ± 13 V

Input common mode voltage any line to earth:
max ± 72 V

Throughput current

power lines: max. 1.5 A
data lines: max. 0.16 A

Throughput resistance (per line)

power lines: 0.3 ohms
data lines: 15 ohms

Turn-on voltage

power channels: max. ± 60 V
data channels: max. ± 16 V

Surge current

to earth: max. 10 kA
differential: max. 5 kA

EMC surge tolerance

EN 61000-4-5, (4 kV, 2kA)
IEEE C62.45 (6 kV, 3 kA)

General

Operating and storage temperature $-52 \dots +70$ °C ($-60 \dots +158$ °F)

Installation and maintenance work temperature

$-40 \dots +70$ °C ($-40 \dots +158$ °F)

Environmental protection class IP66 (NEMA 4X)

Housing

Dimensions: (w x h x d) 130 x 94 x 58 mm (5.12" x 3.70" x 2.28")

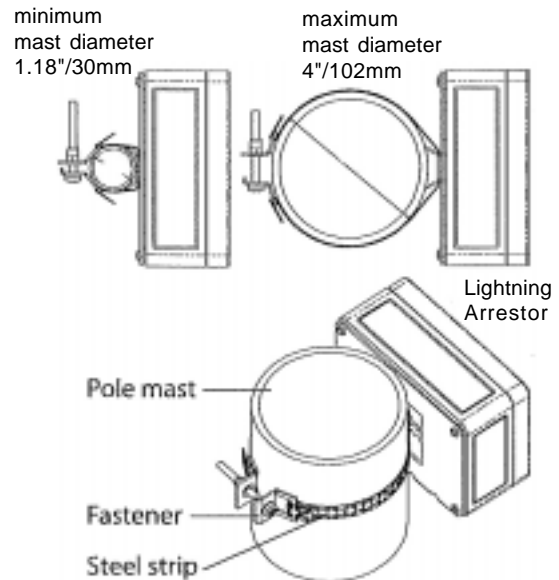
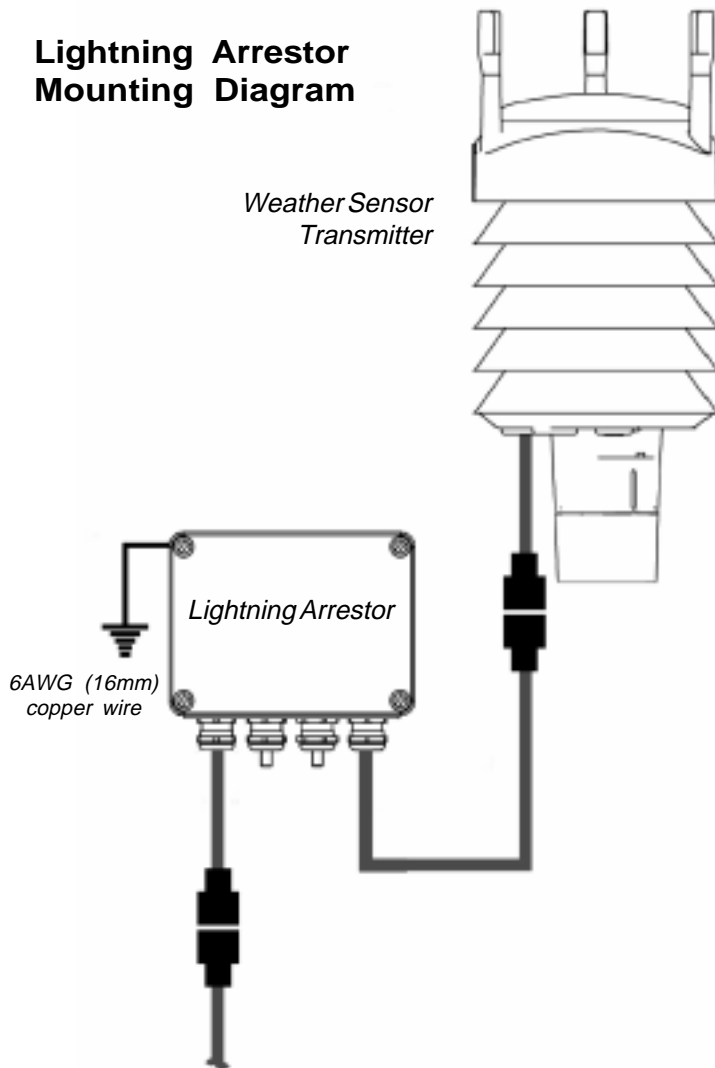
with cable glands and mounting assembly:

130 x 120 x 69 mm (5.12" x 3.70" x 2.28")

Material: polycarbonate, stainless steel

The Lightning Arrestor is compatible with all Orion, Magellan, Pulsar and Vela Weather Stations from Columbia Weather Systems.

Lightning Arrestor Mounting Diagram



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