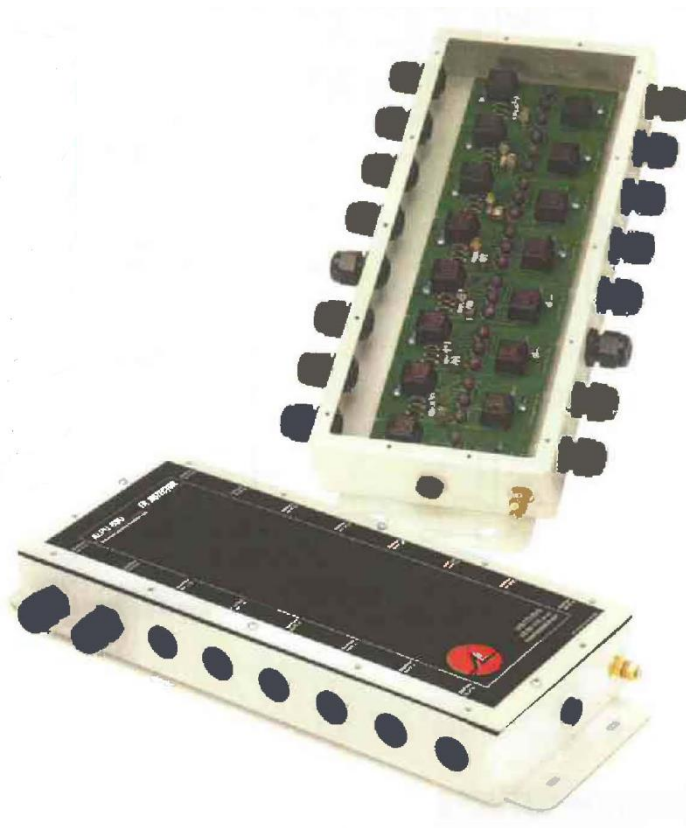


ALPU-MCEP & ALPU-MGPS SPECIFICATION



SURGE SUPPRESSOR MODEL: ALPU CCMM Series

1. **GENERAL DESCRIPTION:** The ALPU-MCEP & ALPU-MGPS surge suppressors are high-speed, high-current solid state devices designed to protect (8) CAT-5 Ethernet/Signal lines and (8) 24 VDC lines. **The ALPU-MCEP & ALPU-MGPS use only silicon avalanche suppression diodes (SASD).** They connect to the service in a pass through configuration. The ALPU-MGPS input and output connections terminate at two “screw type” terminal blocks. The ALPU-MCEP input and output connections utilize standard RJ-45 connectors. All wire harnesses pass into the suppressor housing via waterproof strain relief’s. The aluminum enclosure is also waterproof, and utilizes a neoprene gasket plus a “membrane vent” to release any build-up of pressure and moisture due to cable wicking and enclosure heating.

2. PERFORMANCE REQUIREMENTS:

2.1. Electrical Service:

2.1.1. GPS Sync Signal

- | | | |
|----------|---|---------------------------|
| 2.1.1.1. | Transfer rate..... | CAT-5, 10/100 Mb/s |
| 2.1.1.2. | Configuration..... | 2 pair |
| 2.1.1.3. | Input Connection..... | Term Block (24-16 AWG) |
| 2.1.1.4. | Number of connector positions..... | Up to 32 |
| 2.1.1.5. | Protection Modes..... | Line to Line, Line to GND |
| 2.1.1.6. | Maximum Continuous Operating Voltage..... | 13 VDC |

2.1.2. 24 VDC

- | | | |
|----------|---|------------------------|
| 2.1.2.1. | Service Voltage..... | 24 VDC |
| 2.1.2.2. | Configuration..... | 4 wire |
| 2.1.2.3. | Input Connection..... | Term Block (24-16 AWG) |
| 2.1.2.4. | Number of connector positions..... | Up to 32 |
| 2.1.2.5. | Protection Modes..... | Line to Line |
| 2.1.2.6. | Maximum Continuous Operating Voltage..... | 40 VDC |

2.1.3. Power Over Ethernet

- | | | |
|----------|---|--|
| 2.1.3.1. | Transfer Rate..... | CAT 5, 10/100Mb/s |
| 2.1.3.2. | Maximum Continuous Operating Voltage..... | 30VDC |
| 2.1.3.3. | Connector Style..... | RJ-45 |
| 2.1.3.4. | Protected RJ-45 Pins..... | Lines 1-2; 3-6; 4,5-7,8; All pins to GND |

2.2. Electrical Performance:

2.2.1. GPS Sync Signal

2.2.1.1. Testing:

- | | | |
|--------------|--|----------------------|
| 2.2.1.1.1. | Vbr..... | 15V |
| 2.2.1.1.2. | Tested to IEEE/ANSI C62.41 10/1000µs Long Wave | |
| 2.2.1.1.2.1. | Ipk..... | 200A |
| 2.2.1.1.2.2. | Vpl (Max)..... | 25V @ 200A 10/1000µs |
| 2.2.1.1.3. | Tested to IEEE/ANSI C62.41 8/20µs Combination Wave | |
| 2.2.1.1.3.1. | Ipk..... | 2500A |
| 2.2.1.1.3.2. | Vpl (Max)..... | 30V @ 5000A 8/20µs |
| 2.2.1.2. | Response Time..... | <5 nanoseconds |

2.2.2. 24 VDC

2.2.2.1. Testing:

- 2.2.2.1.1. Vbr.....45V
- 2.2.2.1.2. Tested to IEEE/ANSI C62.41 10/1000 μ s Long Wave
 - 2.2.2.1.2.1. Ipk.....200A
 - 2.2.2.1.2.2. Vpl (Max).....55V @ 200A 10/1000 μ s
- 2.2.2.1.3. Tested to IEEE/ANSI C62.41 8/20 μ s Combination Wave
 - 2.2.2.1.3.1. Ipk.....2500A
 - 2.2.2.1.3.2. Vpl (Max).....70V @ 2500A 8/20 μ s

2.2.2.2. Response Time.....<5 nanoseconds

2.2.3. Power Over Ethernet

2.2.3.1. Suppressor Response Time (Max.).....5ns

2.2.3.2. Turn-on Voltage

- 2.2.3.2.1. Ethernet (Pins 1-2, 3-6).....15V @ 5ma
- 2.2.3.2.2. DC Power (Pins 4,5-7,8).....30V @ 5ma

2.2.3.3. Maximum Voltage Protection Level IEEE 10/1000 μ s Long Wave

- 2.2.3.3.1. Ethernet (Pins 1-2, 3-6).....25Vp @ 100A 10/1000 μ s
- 2.2.3.3.2. DC Power (Pins 4,5-7,8).....50Vp @ 100A 10/1000 μ s

2.2.3.4. Tested to IEEE/ANSI C62.41 8/20 μ s Combination Wave

- 2.2.3.4.1. Ipk.....1000A
- 2.2.3.4.2. Vpl (Max, Data).....86V @ 1000A 8/20 μ s
- 2.2.3.4.3. Vpl (Max, Power).....105V @ 1000A 8/20 μ s

2.2.3.5. Response Time.....<5 nanoseconds

3. ENVIRONMENTAL:

- 3.1. Operating Temperature:.....-40°C to +80°C
- 3.2. Storage Temperature:.....-40°C to +80°C
- 3.3. Relative Humidity:.....99% (non-condensing)

4. MECHANICAL/INSTALLATION

- 4.1. Wiring data: The ALPU-MCEP & ALPU-MGPS are designed to accept (16) multi-conductor cables with an outside diameter up to .370". The ALPU-MCEP & ALPU-MGPS enclosure also provides an external 1/4-20 bolt to connect the chassis and shield/drain wires to a system GND.
- 4.2. Enclosure dimensions: The suppressor is housed in an aluminum enclosure that is 14" long (excluding mounting ears). 6" wide (excluding strain reliefs) and 2.25" tall (with cover installed).
- 4.3. Mounting data: The enclosure can be mounted to any surface using 1/4-20 hardware or to a 2 3/8" pole using the U-Bolt assemblies included in the packaging supplies. Mounting dimensions shown below (not to scale).

