## CAPITOL ELECTRONICS INC Turning Technology into Solutions

## CMCE Installation Guide



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## GENERAL INSTALLATION GUIDE CMCE

**DEVICE:** The CMCE line of lightning suppressors are technically classified as a 'Variable Electric Field Balancer" and are considered to be non-conventional lightning protection devices. Currently, neither the NEC nor NFPA have addressed these types of devices in their standards. While our installation standards loosely follow NFPA 780 and UL96a installation standards, the criteria for installation varies due to the difference in charges being carried down the conductor to earth.

**COVERAGE**: A single CMCE will provide a circular shaped coverage area with a radius of 120M from the center of the device. Devices can be placed so that the areas of coverage overlap to extend out the overall coverage area.

**PLACEMENT**: The CMCE should be placed so that no obstructions exist either Directly beside or above the device.

**INSTALLATION**: A typical installation requires a support mast consisting of a 1.5" Galvanized Steel pipe ranging from 6'-21', depending on the location. The CMCE must be the highest point on any given structure, ideally 6' above the highest point. If there are FAA or other height restrictions, please reach out to EMP Solutions to approve a lesser height.

The mast can be supported by attaching it to structure, such as a wall or existing pole. In some cases when center

roof installations are required, a tripod or roof bracket can be used.

**GROUNDING**: The CMCE should be grounded using a 1/0 braided copper wire (bare or jacketed). Higher grade wire should be used in lightning heavy areas or structures exceeding 75'. The ground wire should take the most direct and downward path to ground as possible. Once to ground, the ground wire should extend to grounding system that is either existing (bus bar, panel, ground loop, etc) or one that is created. If creating a grounding system you can create an inline or Delta system. The number of overall rods required will depend on the geographical location, soil quality, moisture level and other factors. The overall resistance of the completed ground system should be less than 5 Ohms.

## VIDEO INSTRUCTIONS: <u>https://youtu.be/e00OX4HaOEQ</u>

