

# Medium Voltage Power Line Carrier Capacitor Coupler

Custom Electronics' Medium Voltage Powerline Carrier (MV-PLC) couplers are a cost-effective solution for powerline communications. These medium voltage PLC couplers have been optimized for low insertion loss and impedance matching, delivering maximum performance with any PLC modem.



## Smart Grid Application Support

The MV-PLC coupler was uniquely designed to support distribution communications applications.

**Line Protection and Control**  
MV-PLC technology is ideal for extending line protection schemes, like Direct Transfer Trip over MV distribution lines.

**SCADA Communications**  
MV-PLC communications can collect SCADA data from devices and substations and send it back to a control center saving the utility the cost of manual readings on site and improving reliability.

**Data Backhaul**  
MV-PLC can attach to collectors and data concentrators to backhaul AMI/AMR data, sensing and synchrophasor data, or any other data from devices on the grid and in the substation.

**Security**  
MV-PLC is a low-cost way to meet NERC-CIP requirements for security using video surveillance to protect your assets against copper theft and vandalism.

## Features and Benefits

### Passive Coupling to Medium Voltage Line

The MV-PLC couplers are passive devices, requiring no external power source and providing maximum reliability and installation flexibility.

### Overhead Capacitive Coupling Technology

The MV-PLC couplers use a capacitive coupling technology that is optimized for maximum efficiency and low loss, guaranteeing best performance for any PLC modem.

### No Frequency Blockers

Unlike the conventional Power Line Carrier, the next generation MV-PLC technology does not require line traps to be installed. This simplifies the installation process, minimizes cost and improves reliability of the grid system.

### Installation Simplicity

The overhead capacitive couplers are mounted directly on the line and can be installed while the line is energized. The installation process is the same as installing lighting arresters, and no special training is required.

### Safety and Security

The MV-PLC couplers are rigorously tested to meet all standard requirements for safety. The couplers are made in the USA.

### Longevity and Support

The MV-PLC couplers are designed to meet and exceed a 20-year life cycle without requiring any maintenance. They are Corona and Partial Discharge resistant.

### Proven Results

The MV-PLC couplers have been installed in numerous locations in the US and have been performing exceptionally well.

**Example Technical Specification:**

- Custom Electronics will custom design to meet your requirements.

**Electrical:**

- Operating Voltage 24kV
- Capacitance 5000pf
- Attenuation 3dB
- Frequency Range 50KHz to 500KHz
- Power Line Frequency 48Hz to 62Hz
- Input impedance 50 Ohms
- Line impedance 400 Ohms
- Connector F-Type Female

**Packaging: dimensions weight**

- 24kV 21.6" x 8" 29.0lbs  
(54.86cm x 20.32cm)

**Mounting Options:**

- Substation steel structure
- Pole mounted on a bracket or cross-arm

**Environmental:**

- Operating Temperature -40° to 85°C
- Storage Temperature -40° to 85°C
- Humidity 10% to 80% non-condensing

**Compliance:**

- IEEE P1675-2003 tested by Doble Engineering

**Ordering Information:**

- PEM105-24

