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Network Protectors

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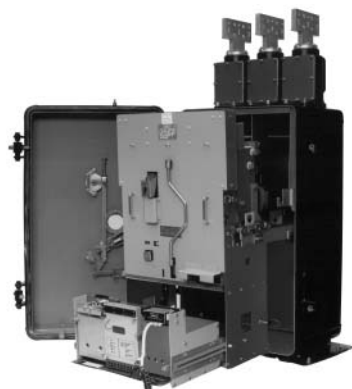
CM52 Network Protector

Network Protectors

Originally a Westinghouse Product



CM-22



CMD



CM52

Product Description

Cutler-Hammer® Network Protectors from Eaton's electrical business are special self-contained air breaker units having a full complement of current, potential and control transformers, as well as relay functions. The network protector enables the paralleling of two or more primary feeders on the same low voltage bus. They are available for transformer mounting in submersible or non-submersible housings, or suitable for mounting within a low voltage switchgear assembly. The protective relay automatically closes the protector if power flow is forwarded into the collector bus. It also trips the protector upon flow of reverse fault or magnetizing currents.

Product History

The network protector product line began manufacturing in 1922 under the name of Westinghouse Electric & Manufacturing Company. Over the years a number of different production models were produced. The most widely installed model is the type CM-22, which was first marketed in 1934 and is still manufactured today.

New production CM-22, CMD, CMR-8 and CM52 units are available from the Greenwood, SC facility. Renewal parts are also available for these units.

The old type electromechanical relays which have a large installed base, are field replaceable with the current solid-state Type MPCV relays.

Eaton has also developed parts and relays to support old style GE Type MG-8 and MG-9 network protectors. GE discontinued the manufacture of these products in 1996.

Product History Time Line

Product	1920	1930	1940	1950	1960	1970	1980	1990	2000	Present
Network Protector										
CM										
CM-1										
CM-2										
CM-22										
CMR-8										
CMD										
CM52										
Relays										
CNJ, CN-33										
MPCR										
MPCV										

Figure 20-1. Product History Time Line

Replacement Capabilities

New

Several current Cutler-Hammer production designs of network protectors are available:

- CM52
- CMD
- CMR-8
- CM-22

Retro-Build

Retro-building is a complete reworking of all the major components of a network protector including preliminary inspection, rebuilding, and re-testing equipment. Included in the process: removing all asbestos materials (where applicable), applying a new wiring harness, rebuilding the complete mechanism with motor and shunt trip, replacing the relay panel and completely reconditioning any enclosure. Modern components change the "as built" vintage to current production designs.

Cutler-Hammer and Westinghouse

- CM-22
- CMD
- CMR-8

General Electric®

- MG-8
- MG-9

Retrofit

General Electric MG-8 and MG-9 network protectors are retrofittable with a new CM52 roll-in replacement breaker. This retrofitting option uses existing enclosures and bus, replacing the remaining with the most recent technology of the CM52. Contact the Network Protector Group for additional information and availability at **1-800-525-6821** or **1-877-737-8328**.

Technology Upgrades — Relays

Electromechanical and older solid-state relays can be replaced with new micro-processor MPCV designs. **The MPCV network relay can be field installed into ANY network protector regardless of the age or the manufacturer.** Field installation is accomplished without breaker modification or any rewiring of the breaker control harness.

Communications Capability

The MPCV relay has the capability of communicating information over a shielded twisted pair communications wire for remote applications. Information is obtained through a utility's protocol or Cutler-Hammer PowerNet™ software program. Using the software, you can select the characteristic curves to monitor and control the network protector.

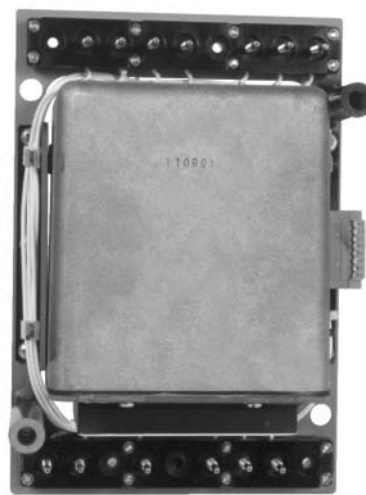
For localized wireless communication and power quality monitoring capabilities, the MPCV relay can be used with the Eaton Network Scanner for wireless operation for communication, relay settings and control. This system, which works on any network protector type, utilizes a PDA to allow you to review protector status without having to breach a vault.

MPCV Relay

For Cutler-Hammer and Westinghouse Network Protectors



Front View

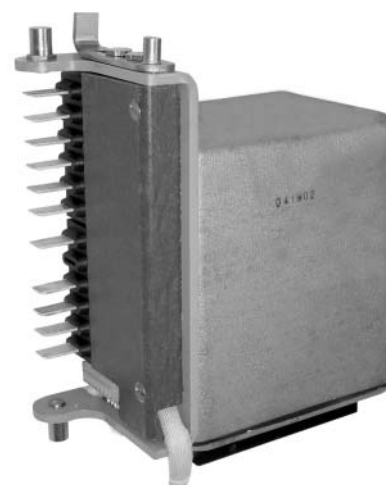


Rear View

For GE Network Protectors



Front View



Rear View

Parts

Eaton offers an extensive inventory of newly manufactured renewal parts for the following network protectors:

Cutler-Hammer and Westinghouse

- CM-22
- CMD
- CMR-8
- CM52

General Electric

- MG-8
- MG-9

Test Sets



HWT-500 Test Kit

The HWT-500 test kit is offered to provide complete testing capabilities for network protectors with 208 through 480 volt Delta or Wye connected systems. This is supplied in a rugged, wheeled case with retractable handle.

Training

The product line offers the following network protector training seminars:

- **Safety and Maintenance Seminar** — This two-day seminar covers fundamentals of network systems, network relay history and theory and maintenance overview of the CM-22, CMD, CM52 and MPCV relay.
- **Troubleshooting Network Protector Seminar** — This three-day seminar encompasses all material included in the Safety and Maintenance Seminar and also covers the GE network protectors. A combination of classroom and hands-on troubleshooting are provided.

Further Information

Publication Number	Description
CM-22	
DB 35-550G RPD 35-550H RP02401002E IB 35-5001E	Descriptive Bulletin Renewal Parts Data Book Renewal Parts Guide Instruction Book
CMD	
DB 35-552B RPD 35-552 RP02401001E IB 35-552-G	Descriptive Bulletin Renewal Parts Data Book Renewal Parts Guide Instruction Book
CMR-8	
RPD 35-575(E) IB 35-575-A	Renewal Parts Data Book Instruction Book
CM52	
B.52.01.S.E IB 52-01-TE	Sale Brochure Instruction Book
MPCR Relay	
IB 35-581A	Instruction Book
MPCV Relay	
IB 35-581B ST-156 SA-376 SA.52.01.S.E	Instruction Book Sales Engineer's Notes Sales Aid MPCV Relay T&D Reprint — Pepco System
HWT-500 Test Kit	
IB 35-557	Instruction Book
LWT-450 Test Kit	
IB 35-556-C SA-11898	Instruction Book Sales Aid

Pricing Information

Call Eaton's Network Protector Group in Greenwood, SC.
Toll Free: **1-800-525-6821** or **1-877-737-8328**.

Cutler-Hammer is a federally registered trademark of Eaton Corporation. General Electric is a federally registered trademark of General Electric Company.