PROTEK DEVICES

Only One Name Means ProTek'Tion™

CPE 80
&
MB 80

MOTHERBOARD & ENCLOSURE

APPLICATIONS

✔ Multiple Data Line Panel Protection
✔ Emergency Shutdown Systems
✔ Process Control Panels

FEATURES

✔ MB 80: Glass Filled Laminate Circuit Board with Stand-Offs
✔ CPE 80: Rugged Cast Aluminum Two-Tone Baked Enamel Base & Removable Cover
✔ Wiring Interface Accepts a Maximum of Eight(8) Circuit Boards
✔ Two 10-32 Brass Ground Studs for Low Impedance
✔ Motherboard is Clearly Marked for Easy Installation

MECHANICAL CHARACTERISTICS

✔ Screw Type Stripline Connectors for AWG 20-24 Wire
✔ Four (4) Mounting Holes for #8 Screws
✔ Approximate Weight of the MB 80: 340 grams
✔ Approximate Weight of the CPE 80: 1.6 kilograms
✔ Dimensions of the MB 80: 9"H (22.9 cm) x 5.5"W (14 cm), with 3" (7.6 cm) Minimum Interface Depth if Mounting in an Enclosure
✔ Dimensions of the CPE 80: 9.5"H (24.1 cm) x 6.25"W (15.8 cm), with 3.5" (8.9 cm) Minimum Interface Depth if Mounting in an Enclosure
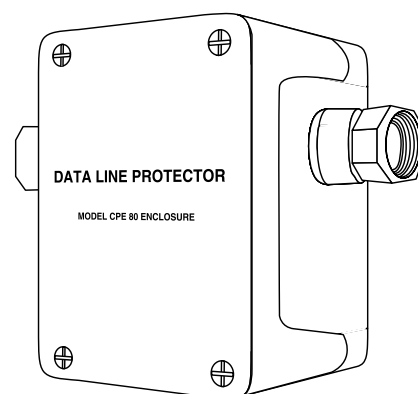
DESCRIPTION

The CPE 80 and MB 80 provides protection of 32 data lines using up to eight (8) SPDs (surge protection device). These products accomodate a variety of SPDs such as 232B, 422B and 420LB; which are not included with the motherboard or enclosure. Available from ProTek Devices, each data line SPD has four, two stage protection circuits. The SPDs provide primary and secondary protection against lightning, inductive switching and ESD transient threats. The first stage diverts the transient current through the ground terminal return part and the second stage clamps the voltage to a safe level without interruption of service.

These interface board assemblies are located between the unprotected transient threat environment (incoming data lines) and the protected sensitive electronic equipment or system. The motherboard is marked identifying the protected side. The unprotected side should be located away from the protected data line cables.
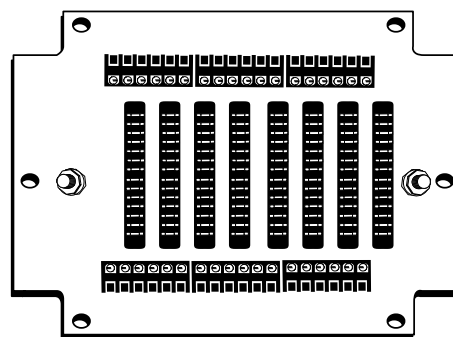
The MB 80 is a motherboard containing eight (8) edge card connectors and two (2) strip terminal blocks. The edge card connectors are soldered onto the motherboard, which is connected to the terminal blocks by copper traces. The terminal blocks have screw type connections for easy installation between the unprotected and the protected equipment. Data line surge protection devices are inserted into the edge card connectors for protection of sensitive equipment and/or systems.

The CPE 80 includes a motherboard (MB 80) inside a rugged, cast aluminum housing with a removable cover. The housing contains two (2) holes on either side of the case for data line cables. Mounting hardware is provided for the data line cables.

CPE 80 ENCLOSURE

DATA LINE PROTECTOR

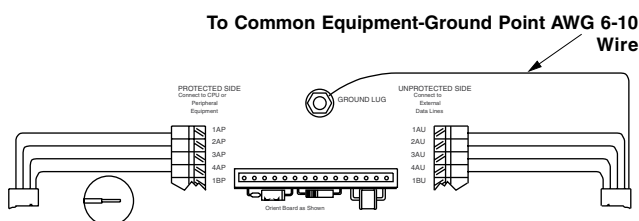MODEL CPE 80 ENCLOSURE

MB 80 MOTHERBOARD

INSTALLATION INSTRUCTIONS

Maximum transient protection requires a good ground system. This consists of a common bonded or ground system, which interconnects AC power and data line grounds. A single ground connection is sufficient. However, it is more important that the ground be a low impedance path to the earth. A good earth connection is necessary for lightning transient threat conditions. Connections are usually best using a ground strap where the cross-sectional area of the ground connection is maximized. The ground connection is made through the green AC power ground wire or to a known earth ground system. If a ground wire is used, it is recommended that it is a #14 stranded wire. A low impedence ground is important to minimize a ground voltage potential rise that may cause ground bounce within the system or equipment.

MB 80 INSTALLATION INSTRUCTIONS

1. Select a suitable mounting location within 10 meters of the protected equipment. An enclosure is recommended to protect against dust and moisture.
2. Mount the board using the stand-offs and #8 screws provided.
3. Connect wires to appropriate terminals as show in Figures 1 and 2. The ground wire MUST be kept on the unprotected side of the board.
4. Insert protected boards. Be certain to insert boards in the correct position as shown on the MB 80.

CPE 80 INSTALLATION INSTRUCTIONS

1. Select a suitable mounting location within 10 meters of the protected equipment.
2. Remove the cover and install retainer assembly in holes. Do not tighten gland nut bushing. See cable retainer assembly detail in Figure 1.
3. Install base on a flat surface using #8 screws provided.
4. Insert wires through cable retainer assemblies and connect to appropriate terminals as shown in Figures 1 and 2. The ground wire MUST enter the enclosure ONLY through the unprotected side.
5. After completion of wiring, hand tighten gland nut bushing.
6. Insert protector boards. Be certain to insert boards in the correct position as shown on the printed circuit board.
7. Replace cover and tighten cover mounting screws.

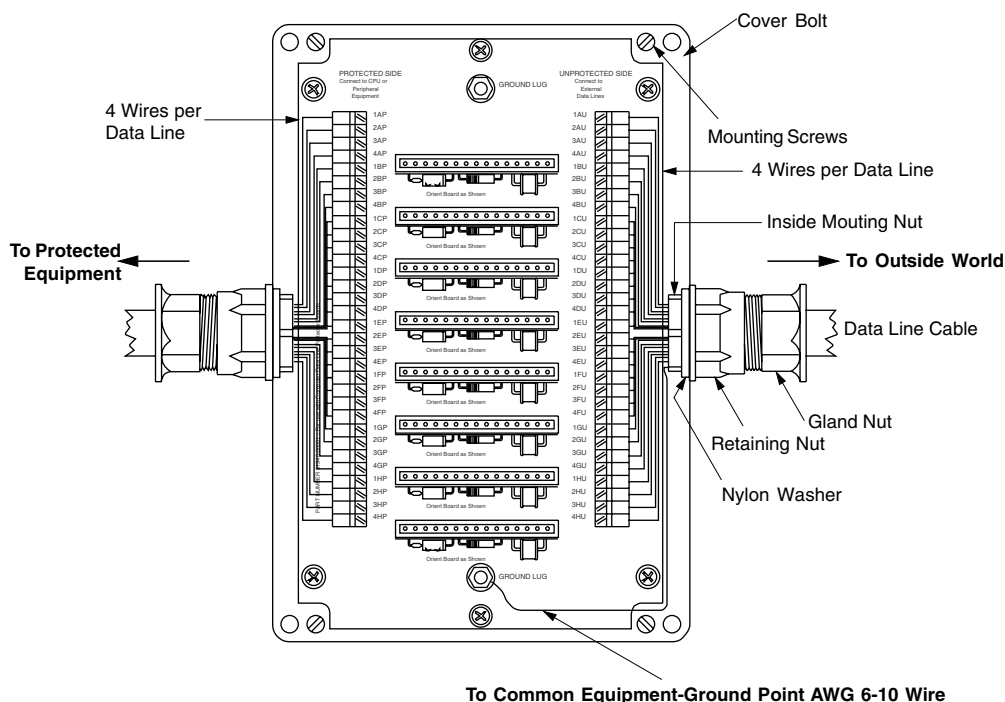## TYPICAL WIRING FORMAT FOR ONE 4 WIRE RS EIA STANDARD DATA LINE PRODUCTS
Figure 1
Example of ProTek 15 pin protection board, such as 232B, 485B and TEL185B

CPE & MB 80 WIRING CONFIGURATION

Figure 2