

SENTINEL POWER INC.

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www.sentinelpowerinc.com
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Important things to remember:

- 1. Read all instructions before installation.
- 2. Never install products during a lightning storm.
- 3. Intended for indoor use only.
- 4. MCG telecommunication protection devices are for use as secondary surge protection at the equipment level behind a primary protection environment (see UL497A). Usage of MCG telecommunication protection devices as primary protection renders our warranty null and void.
- 5. To best protect your equipment, always keep the cord length between the protector and equipment to a minimum, not to exceed 10 inches.
- 6. The ground wire on the product (if included) must be attached directly to the metal chassis of the equipment to be protected. The length of the ground wire is not to exceed 11 inches.
- 7. Verify that the metal chassis at your equipment is connected to ground via a properly grounded AC electrical outlet.
- 8. Most installations require one protector at each end of the data line.
- 9. All MCG protectors have been designed to reset after each surge. In the rare event that the protector encounters a surge greater than its maximum rating, the protector will fail-safe before allowing damage to occur to your communication port.

Installation for DLP-5.20/-5.30/-5.40 Series and DLP-CCTV/-TA models: (See Figure 1 and Figure 3)

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Where possible, directly attach the MCG protector to the equipment port, or use a short cable jumper (not supplied) between the protector and the equipment. Note: Jumper cable may be plugged into either side of the protector.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
 - d. If the protected product is not connected to ground via a 3 prong plug or does not have an accessible metal chassis, the following instructions should be followed:
 - i. Locate the AC receptacle that the protected device is plugged into.
 - ii. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - iii. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 6. Attach the incoming data line to the protector.
- 7. Apply power to the now protected equipment.

Installation for DLP-5.92/-PoE/-4.0/-4.1/-3.92/-C5 models (See Figure 1 and Figure 3)

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Plug in the cable between your equipment and the

- protector. Note: If protector is marked "line" and "equip", make sure the equipment is plugged into the "equip" side of the protector.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 6. If the protected product is not connected to ground via a 3 prong plug or does not have an accessible metal chassis, the following instructions should be followed:
 - a. Locate the AC receptacle that the protected device is plugged into.
 - b. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - c. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 7. Attach the incoming data line to the protector.
- 8. Apply power to the now protected equipment.

Installation for DLP-4.0-60V-6W (DSL Protection) (See Figure 3)

- 1. Remove power to the DSL Modem.
- 2. Disconnect the telephone line going to the modem from the wall outlet.
- 3. Plug in telephone line into the "line" side of the protector.
 - a. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - b. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 4. Install the telephone line from the modem to the protector.
- 5. Apply power to the now protected equipment.

- protector. Note: If protector is marked "line" and "equip", make sure the equipment is plugged into the "equip" side of the protector.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 6. If the protected product is not connected to ground via a 3 prong plug or does not have an accessible metal chassis, the following instructions should be followed:
 - a. Locate the AC receptacle that the protected device is plugged into.
 - b. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - c. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 7. Attach the incoming data line to the protector.
- 8. Apply power to the now protected equipment.

Installation for DLP-4.0-60V-6W (DSL Protection) (See Figure 3)

- 1. Remove power to the DSL Modem.
- 2. Disconnect the telephone line going to the modem from the wall outlet.
- 3. Plug in telephone line into the "line" side of the protector.
 - a. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - b. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 4. Install the telephone line from the modem to the protector.
- 5. Apply power to the now protected equipment.

Installation for DLP-5.92-7.5V-P model

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Plug the short end of the DLP-5.92-7.5V-P into the device to be protected.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 6. Plug the long end of the DLP-5.92-7.5V-P into the data jack.
- 7. Apply power to the protected equipment.

Installation for DLP-3.9/-3.15/-3.25 Series and DLP-DB25-ENET:

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming date line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Attach the green ground wire (if included) to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 5. Directly attach the protector to the equipment port, making sure that the hardware included with the product is attached and installed correctly.
- 6. Attach the incoming data line to the protector.
- 7. Apply power to the now protected equipment.

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- 6. The ground wire on the product (if included) must be attached directly to the metal chassis of the equipment to be protected. The length of the ground wire is not to exceed 11 inches.
- 7. Verify that the metal chassis at your equipment is connected to ground via a properly grounded AC electrical outlet.
- 8. Most installations require one protector at each end of the data line.
- 9. All MCG protectors have been designed to reset after each surge. In the rare event that the protector encounters a surge greater than its maximum rating, the protector will fail-safe before allowing damage to occur to your communication port.

Installation for DLP-5.20/-5.30/-5.40 Series and DLP-CCTV/-TA models: (See Figure 1 and Figure 3)

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Where possible, directly attach the MCG protector to the equipment port, or use a short cable jumper (not supplied) between the protector and the equipment. Note: Jumper cable may be plugged into either side of the protector.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
 - d. If the protected product is not connected to ground via a 3 prong plug or does not have an accessible metal chassis, the following instructions should be followed:
 - i. Locate the AC receptacle that the protected device is plugged into.
 - ii. Remove the screw which holds the AC wall plate to an AC receptacle that is to code (properly grounded).
 - iii. Reinstall the screw with the protector's ground lug (on green wire) between the screw and the AC wall plate and tighten in place.
- 6. Attach the incoming data line to the protector.
- 7. Apply power to the now protected equipment.

Installation for DLP-5.92/-PoE/-4.0/-4.1/-3.92/-C5 models (See Figure 1 and Figure 3)

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Plug in the cable between your equipment and the

Installation for DLP-5.92-7.5V-P model

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming data line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Plug the short end of the DLP-5.92-7.5V-P into the device to be protected.
- 5. Attach the green ground wire to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 6. Plug the long end of the DLP-5.92-7.5V-P into the data jack.
- 7. Apply power to the protected equipment.

Installation for DLP-3.9/-3.15/-3.25 Series and DLP-DB25-ENET:

- 1. Remove power to the unprotected equipment.
- 2. Disconnect the incoming date line from the equipment.
- 3. Verify that the equipment chassis is attached through the power cord to an earth ground.
- 4. Attach the green ground wire (if included) to the metal chassis:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with ground wire under it.
- 5. Directly attach the protector to the equipment port, making sure that the hardware included with the product is attached and installed correctly.
- 6. Attach the incoming data line to the protector.
- 7. Apply power to the now protected equipment.

Installation for DLP “-DIN” models
(See Figure 2)

1. Remove power to the unprotected equipment.
2. Verify that the equipment DIN rail is attached to system's earth ground.
3. Mount protector on DIN rail nearest to port to be protected.
4. Disconnect the incoming data line from the equipment.
5. Attach the incoming data line to the protector. Note: If protector is marked “line” and “equip”, make sure the incoming data line is plugged into the “line” side of the protector.
6. Plug the outgoing cable (not supplied) between your equipment and the protector.
7. Apply power to the now protected equipment.

Installation for 612/624/648 (Protected Patch Panels, IDC110-RJ45) Series

1. Remove power to the unprotected equipment.
2. Mount the patch panel to your 19" relay rack using the supplied hardware.
3. Disconnect the incoming data lines from the equipment.
4. Attach the ground wire to your rack. The installer should confirm a proper rack to earth ground connection. Consult with an electrician if needed. Keep the resistance from the supplied fork terminal ground to the rack frame minimal. It is imperative that both the protector and the equipment to be protected are properly grounded for effective operation.
5. Using a 110 punch down tool, install the cable “22-26 AWG wire” matching the color code on the 110 IDC (Insulation Displacement Contact).
6. Maintain pair twist, up to the point of termination, for maximum performance (untwist less than 0.5”).

7. Connect the patch panel to the equipment.
8. The protectors are intended for indoor use on communication loop circuits which have been isolated from the Public Switched Telephone Network. The communication loop circuit should not be exposed to accidental contact with electric light or power conductors.

Installation for 616/632 (Rack mount Protection, RJxx-RJxx, Coax) Series

Installation of Product to Relay Rack

1. Remove power to the unprotected equipment.
2. Install the 19" rack-mounted unit to the rack.
3. Disconnect the incoming data lines from the equipment.
4. The installer should confirm a proper rack to earth ground connection. Consult with an electrician if needed.
5. Connect the protector to the equipment
6. Attach the incoming dale lines to the protector.
7. Apply power to the now protected equipment.

Installation of Product to Wall (-WM models)

1. Remove power to the unprotected equipment.
2. Install the Wall-mounted Stand-off unit to the wall.
3. Disconnect the incoming data line from the equipment.
4. Verify that the equipment chassis is attached through the power cord to an earth ground.
5. Connect the protector to the equipment.
6. Attach the ground wire to the metal chassis of the equipment being protected:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with the ground wire under it.

7. Attach the incoming data line to the protector.
8. Apply power to the now protected equipment.

Note: Flush-mount rack units have markings on the unit to designate the input and the output for the data cables. Stand-off rack units with clamp voltages of 7.5V (Cat 6), 18V, and 27V (respectively) can be installed in either direction of the incoming cable. For units marked with “Line” and “Equip.”, ensure that the “Equip.” side is connected to the equipment being protected.

TROUBLESHOOTING:

For New Installations:

1. Is your equipment plugged in and turned “on” at both ends.
2. Have you installed the right protector for the application?
3. Are all cables firmly attached?
4. Does the system work if the protector is bypassed? If the system operates when the protector is bypassed and/or you have ruled out all at the above, please contact MCG's Technical Support at (800) 851-1508.

For Existing Installations

1. Check to see if your equipment is turned on.
2. Inspect all connections.
3. Remove and bypass all protection devices on that line and verify proper operation.

If the system comes back on line without the protectors installed, chances are one or all of the protectors have been damaged by an excessive surge. Replace as soon as possible with a new protector. It is not advised to run the system with protection devices removed.

For equipment with chassis connected to ground

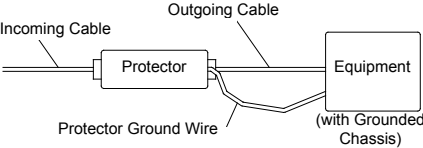


Figure 1

For DIN Products

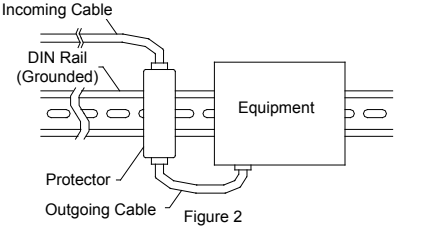


Figure 2

For equipment with chassis NOT connected to ground.
(i.e. most DSL/Cable Modems)

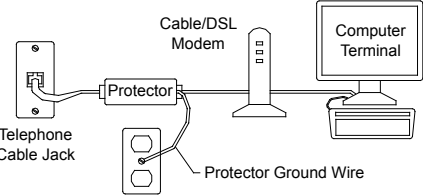


Figure 3

Installation for DLP “-DIN” models
(See Figure 2)

1. Remove power to the unprotected equipment.
2. Verify that the equipment DIN rail is attached to system's earth ground.
3. Mount protector on DIN rail nearest to port to be protected.
4. Disconnect the incoming data line from the equipment.
5. Attach the incoming data line to the protector. Note: If protector is marked “line” and “equip”, make sure the incoming data line is plugged into the “line” side of the protector.
6. Plug the outgoing cable (not supplied) between your equipment and the protector.
7. Apply power to the now protected equipment.

Installation for 612/624/648 (Protected Patch Panels, IDC110-RJ45) Series

1. Remove power to the unprotected equipment.
2. Mount the patch panel to your 19" relay rack using the supplied hardware.
3. Disconnect the incoming data lines from the equipment.
4. Attach the ground wire to your rack. The installer should confirm a proper rack to earth ground connection. Consult with an electrician if needed. Keep the resistance from the supplied fork terminal ground to the rack frame minimal. It is imperative that both the protector and the equipment to be protected are properly grounded for effective operation.
5. Using a 110 punch down tool, install the cable “22-26 AWG wire” matching the color code on the 110 IDC (Insulation Displacement Contact).
6. Maintain pair twist, up to the point of termination, for maximum performance (untwist less than 0.5”).

7. Connect the patch panel to the equipment.
8. The protectors are intended for indoor use on communication loop circuits which have been isolated from the Public Switched Telephone Network. The communication loop circuit should not be exposed to accidental contact with electric light or power conductors.

Installation for 616/632 (Rack mount Protection, RJxx-RJxx, Coax) Series

Installation of Product to Relay Rack

1. Remove power to the unprotected equipment.
2. Install the 19" rack-mounted unit to the rack.
3. Disconnect the incoming data lines from the equipment.
4. The installer should confirm a proper rack to earth ground connection. Consult with an electrician if needed.
5. Connect the protector to the equipment
6. Attach the incoming dale lines to the protector.
7. Apply power to the now protected equipment.

Installation of Product to Wall (-WM models)

1. Remove power to the unprotected equipment.
2. Install the Wall-mounted Stand-off unit to the wall.
3. Disconnect the incoming data line from the equipment.
4. Verify that the equipment chassis is attached through the power cord to an earth ground.
5. Connect the protector to the equipment.
6. Attach the ground wire to the metal chassis of the equipment being protected:
 - a. Remove a screw on the metal chassis that is within reach of the ground wire.
 - b. Remove any paint around the screw hole.
 - c. Install screw with the ground wire under it.

7. Attach the incoming data line to the protector.
8. Apply power to the now protected equipment.

Note: Flush-mount rack units have markings on the unit to designate the input and the output for the data cables. Stand-off rack units with clamp voltages of 7.5V (Cat 6), 18V, and 27V (respectively) can be installed in either direction of the incoming cable. For units marked with “Line” and “Equip.”, ensure that the “Equip.” side is connected to the equipment being protected.

TROUBLESHOOTING:

For New Installations:

1. Is your equipment plugged in and turned “on” at both ends.
2. Have you installed the right protector for the application?
3. Are all cables firmly attached?
4. Does the system work if the protector is bypassed? If the system operates when the protector is bypassed and/or you have ruled out all at the above, please contact MCG's Technical Support at (800) 851-1508.

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For equipment with chassis connected to ground

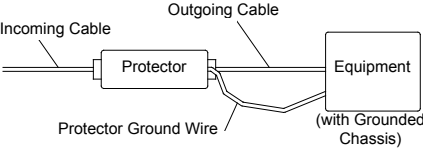


Figure 1

For DIN Products

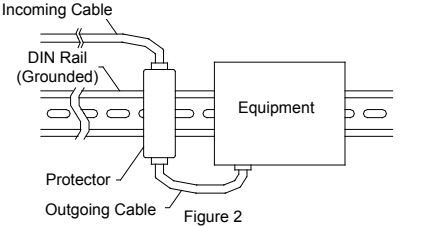


Figure 2

For equipment with chassis NOT connected to ground.
(i.e. most DSL/Cable Modems)

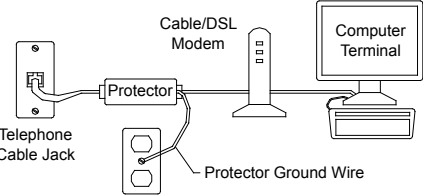


Figure 3