

The logo for Intermec, featuring the word "Intermec" in a bold, italicized sans-serif font. The letter "I" is stylized with a diagonal slash through it. The logo is positioned on the left side of the page, partially overlapping a large, light gray circular graphic that contains several smaller, overlapping circles and lines, resembling a stylized atom or a network diagram.

Intermec



**Installation
Instructions**

**Trakker Antares[®]
2455/2475
DC Power Supply**

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Outside U.S.A. and Canada: Contact your local Intermec service supplier.

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About the Trakker Antares 2455/2475 DC Power Supply Kit

The Trakker Antares® 2455/2475 DC power supply kit includes these items:

- Power supply
- Power supply input cable, 2.44 m (8 ft)
- Fused power cable, 46 cm (18 in)
- #10 terminal ring
- 3AB, 12A/125V fuses (2)
- Insulated quick-connect tabs (2)

You can use either a low-input voltage kit or a high-input voltage kit with your 2455 or 2475 vehicle-mount terminal. Both power supplies provide 12 VDC output that is filtered and regulated. The power supplies also provide over-current, over-voltage, over-temperature, and shorted-output protection.

Low-input voltage kit (Part No. 067698) This kit accepts input voltages from 10 to 36 VDC (typically from gas-powered vehicles that have a battery voltage of 12 or 24 volts). Although the minimum operating voltage is 10 VDC, the power supply will operate on 6 volts for about 20 seconds, for example, while the motor is being started. The low-input voltage kit has a 4-pin, keyed connector and contains these specific items:

- Power supply (Part No. 851-040-001)
- Power supply input cable (Part No. 066840)

High-input voltage kit (Part No. 067699) This kit accepts input voltages from 15 to 96 VDC (typically from electric-powered vehicles that have a nominal battery voltage of 24, 36, 48, 72, or 80 volts). The high-input voltage kit has a 2-pin, keyed connector and contains these specific items:

- Power supply (Part No. 851-041-002)
- Power supply input cable (Part No. 067373)



Note: You should verify that you have the correct power supply and power supply input cable for your vehicle before you proceed with the installation.

This document assumes that you have already installed the 2455 or 2475 on your vehicle. For help, see the *Trakker Antares 2455 Vehicle-Mount Terminal Getting Started Guide* (Part No. 067359) or the *Trakker Antares 2475 Vehicle-Mount Terminal Installation Instructions* (Part No. 072512).

Preparing to Install the 2455/2475 DC Power Supply

You need certain tools and materials to install the 2455/2475 DC power supply. Make sure you follow the recommended installation guidelines.

Required Tools and Materials

You need the following tools and materials to install your 2455/2475 DC power supply:

- Wire crimping and stripping tool
- Electric drill and drill bits
- Common hand tools and mounting hardware
- Heatshrink tubing
- Heat gun
- (Optional) Remote switch and wiring for combustion-powered vehicles with small capacity batteries

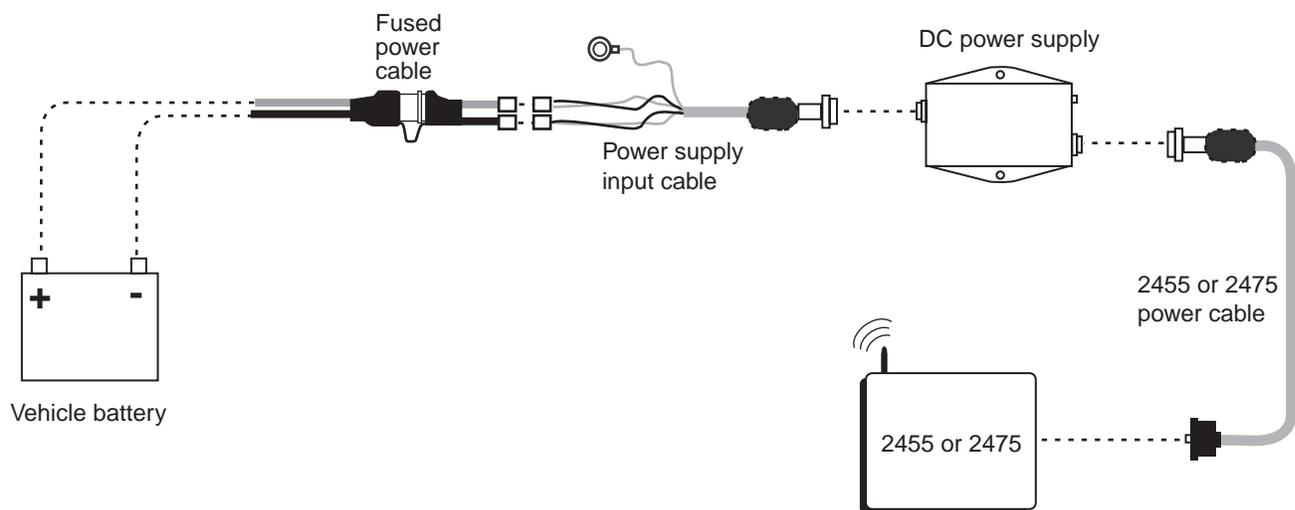
Installation Guidelines

Follow these guidelines for installing the DC power supply and cables:

- Power supply must be securely mounted to a sturdy surface.
- Mounting surface must be able to absorb power supply heat.
- Fuse must be close to the vehicle power source (battery) or to a fused terminal block.
- Keep cables as short as practical.
- Use a snap-in bushing (inside bushing diameter of 14-mm or 9/16-in) if the power cable passes through a firewall or other sheet metal.
- Make sure that cable routing does not interfere with other equipment or vehicle controls.
- Route cables to minimize exposure to damage.
- Secure the cables at least every 46 cm (18 in) throughout the length of the cable run—use adjustable clamps or tie-wraps to secure the cables.
- Power supply case should be electrically connected to the vehicle chassis through the mounting bolts or through a ground wire.

Installing the 2455/2475 DC Power Supply and Cables

The following illustration shows how the DC power supply and cables are installed with your vehicle battery and the 2455 or 2475 terminal.



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To install the DC power supply and cables

1. Disconnect the vehicle battery cables.
2. (Optional) Wire a remote disconnect for the DC power supply on combustion-powered vehicles that have smaller capacity batteries.
3. Connect the fused power cable to the vehicle battery or terminal block.
4. Mount the power supply.
5. Install terminators on the power supply input cable.
6. Connect the power supply input cable to the power supply.
7. Attach the power supply input cable to the fused power cable.
8. Attach the 2455/2475 power cable to the power supply and to the terminal.
9. Reconnect the vehicle battery cables.

Each step is described in the following sections.

Disconnecting the Vehicle Battery Cables

You must disconnect the vehicle battery cables before installing the DC power supply.



Caution

Disconnect the vehicle battery cables before installing the power supply.

Conseil

Il faut déconnecter les câbles de la batterie du véhicule avant d'installer le bloc d'alimentation.

Wiring a Remote Disconnect for the DC Power Supply

This section describes how to wire the DC power supply on combustion-powered vehicles that have smaller capacity batteries. If you have another type of vehicle, continue with the instructions in the next section, “Connecting the Fused Power Cable to the Vehicle Battery.”

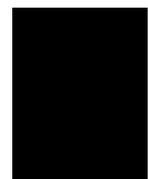
The DC power supply draws power from the vehicle battery even when the vehicle and 2455 or 2475 are off. If you have a combustion-powered vehicle, which has smaller capacity batteries, the vehicle battery may discharge if the vehicle is turned off for more than two days. To prevent this problem, you can perform one of these procedures:

- Wire the DC power supply through the vehicle ignition.
- Add a remote switch to turn off the DC power supply.

Wire through the ignition If you wire through the ignition, the DC power supply turns off whenever the vehicle is turned off.

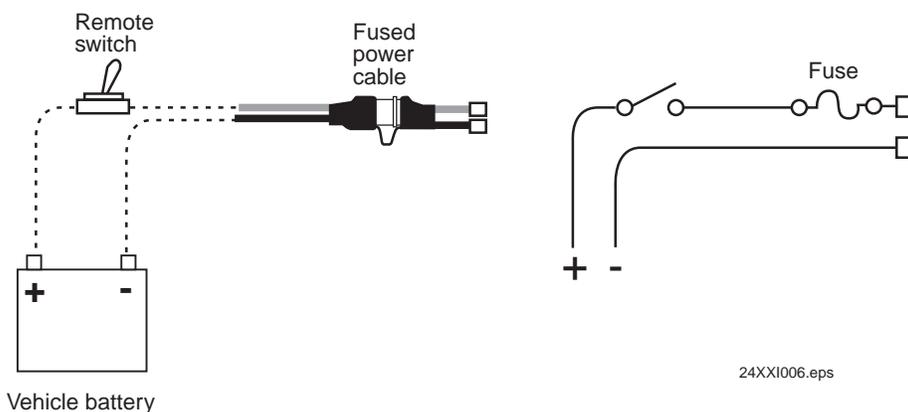
Add a remote switch If you added a remote switch, you must turn off the switch to turn off power to the DC power supply. When you resume operation, you must turn on the remote switch to turn on power to the DC power supply and the 2455 or 2475. Intermec recommends a switch that is rated to handle a minimum of 10A DC power. Any additional wiring must be a minimum of 16 AWG. If the total length of the switched (positive) lead exceeds 3.048 m (10 ft), the additional wiring must be a minimum of 14 AWG. Keep the wiring as short as practical.

When the DC power supply is off, the 2455 or 2475 is off, the heaters (if installed) are off, and the backup battery is not charging. The backup battery will provide backup battery power for a minimum of seven days with a fully charged backup battery installed and no external power. If you plan to leave the 2455 or 2475 off for a longer period of time, save any data stored in RAM to another drive on the terminal.



To wire a remote disconnect

1. Cut the positive (red) wire on the unterminated end of the fused power cable.
2. Wire the positive lead of the fused power cable through the ignition or to a remote switch. Add additional wire as needed. If you are using a remote switch, mount the remote switch in a convenient location on the vehicle.



Connecting the Fused Power Cable to the Vehicle Battery

The fused power cable is approximately 46 cm (18 in) long and has quick-connects on one end for attaching to the power supply input cable. The other end of the cable is unterminated for connecting to the vehicle battery. Connect the fused power cable to the battery so that the fuse is as close as possible to the vehicle battery or fused terminal block. Make sure you connect the positive cable wires to the positive battery post and the negative cable wires to the negative battery post.

The twist-lock in-line fuseholder holds one 3AB, 12A/125V fuse that provides short-circuit protection. Install one fuse in the fuseholder; keep the second fuse as a spare.

Mounting the Power Supply

The power supply input cable is approximately 2.44 m (8 ft) long and can be shortened as needed. The 2455/2475 power cable is approximately 1.8 m (6 ft) long and must not be altered. Keep the cable lengths in mind when choosing the mounting location for the power supply.



Caution

Do not attempt to lengthen the power supply input cable under any circumstances.

Conseil

Il ne faut, en aucun cas, tenter d'allonger le câble d'entrée du bloc d'alimentation.

Trakker Antares 2455/2475 DC Power Supply Installation Instructions

Because the power supply produces heat while operating, Intermec recommends that you mount the power supply to a minimum of 838.5 to 1032 sq cm (130 to 160 sq in) of metallic surface to sink the heat generated by the power supply. This metallic mounting surface must be connected to the vehicle chassis electrically. In rare cases, you may have to fabricate a flexible wire or braid to bond the mounting surface to the vehicle chassis ground. The mounting location should not be near any heat sources that are generated by the vehicle.

For help mounting the power supply, see the illustration that shows the dimensions and mounting hole locations in “DC Power Supply Specifications” on the back page.

There are two methods for mounting the power supply:

Method 1 Use this method if you can easily access the back of the mounting location to install a locknut and washer.

Method 2 Use this method if the back of the mounting location is inaccessible.



Note: The mounting plate must be thick enough to accept and retain sufficient thread to provide a secure and reliable mechanical installation.

To mount the power supply using Method 1

1. Mark and center punch the two mounting hole locations by using the power supply as a template.
2. Use an 8 mm (5/16-in) drill bit to make the two mounting holes.
3. Use two 6.35 mm or M6 (1/4-in) bolts with flat washers and locking nuts to install the power supply.

To mount the power supply using Method 2

1. Mark and center punch the two mounting hole locations by using the power supply as a template.
2. Use a 5.1 mm (#7 or .201-in) drill bit to make the mounting holes.
3. Use an M6 (1/4 - 20) tap to thread the mounting holes.
4. Place a lock washer on each bolt.
5. Insert the bolt/lock washer assemblies through the power supply holes and into the threaded mounting holes.

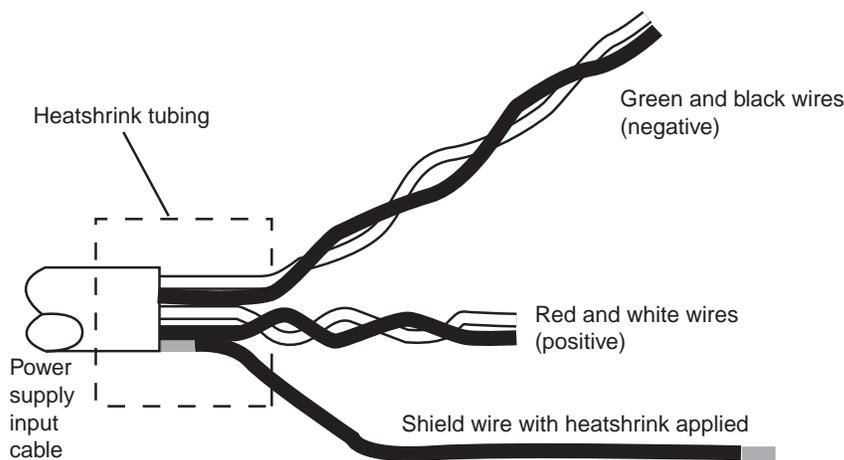


Installing Terminators on the Power Supply Input Cable

You need to trim the power supply input cable and then install terminators so that you can connect the cable to the fused power cable.

To cut and strip the cable

1. Cut the power supply input cable to the appropriate length.
2. Strip the cable jacket back 10 to 16 cm (4 to 6 in).
3. Slide heatshrink tubing over the cable jacket.
4. Strip 6.35 mm (¼ in) of insulation from individual wires.
5. Twist the green and black (negative) wires together.
6. Twist the red and white (positive) wires together.
7. Twist the shield wire and slide 3-mm (1/8-in) heatshrink tubing onto the wire.



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You need to install the insulated quick-connect tabs and the terminal ring on the power supply input cable.

To install the terminators

1. Crimp a quick-connect tab onto the green and black (negative) twisted pair of wires.
2. Crimp a quick-connect tab onto the red and white (positive) twisted pair of wires.
3. Crimp the terminal ring to the shield wire.
4. Use the heat gun to shrink the sleeve tubing.
5. Secure the terminal ring to the vehicle chassis ground.

Connecting the Power Supply Input Cable to the Power Supply

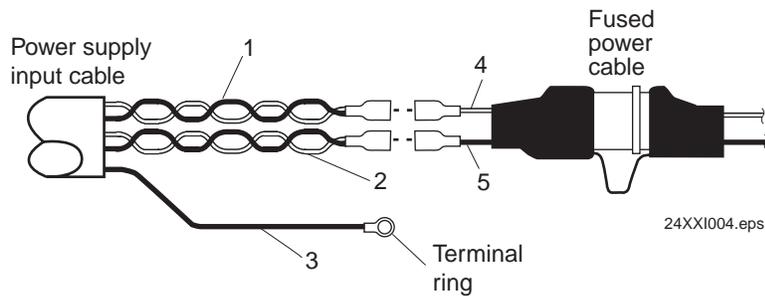
The power supply input cable has either a 2-pin, high-input voltage (15 to 96 VDC) connector or a 4-pin, low-input voltage (10 to 36 VDC) connector on one end. Make sure your cable has the proper cable connector for your power supply.

To connect the power supply input cable to the power supply

1. Slide the power supply input cable connector into the power supply socket as far as the connector will go.
2. Turn the cable connector collar clockwise to secure the cable to the power supply.

Attaching the Power Supply Input Cable to the Fused Power Cable

You must connect the power supply input cable to the fused power cable in series—make sure you connect the positive wires on the power supply input cable to the positive wire on the fused power cable, and the negative wires on the power supply input cable to the negative wire on the fused power cable.



1. Red and white twisted pair (positive).
2. Green and black twisted pair (negative).
3. Shield wire, twisted.
4. Red wire (positive, through fuse)
5. Black wire (negative, bypass fuse)

Attaching the 2455/2475 Power Cable to the DC Power Supply and to the Terminal

The 2455/2475 power cable ships with the terminal. The cable is approximately 1.8 m (6 ft) long and has a durable 3-pin connector on the power supply end. The terminal end of the cable has a 4-socket connector that is environmentally protected. Do not attempt to lengthen or shorten this cable.

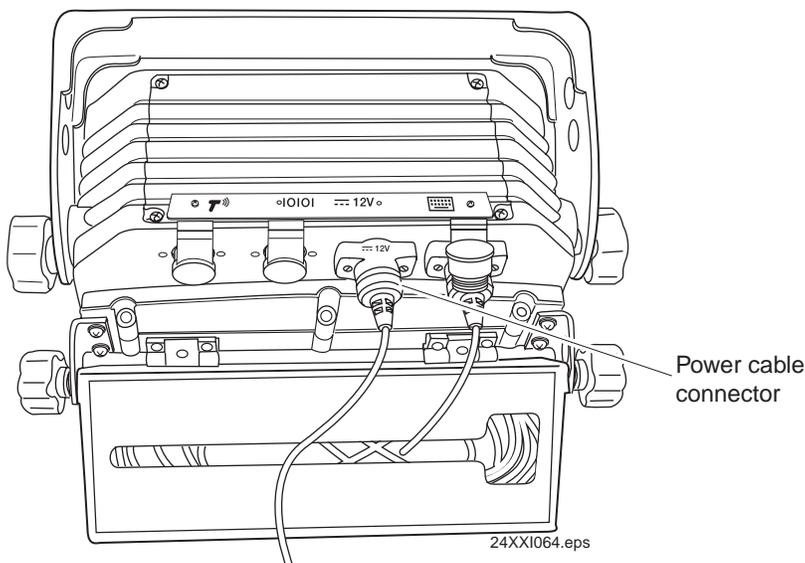
To connect the 2455/2475 power cable

1. Slide the 2455/2475 power cable connector into the DC power supply socket as far as the connector will go.
2. Turn the cable connector collar clockwise to secure the cable to the power supply.
3. Unplug the rubber plug from the Power Supply port on the 2455 or 2475.
4. Insert the other end of the 2455/2475 power cable into the Power Supply port on the 2455 or 2475. The icon on the power cable connector should align with the same icon on the 2455 or 2475. See the next two illustrations.



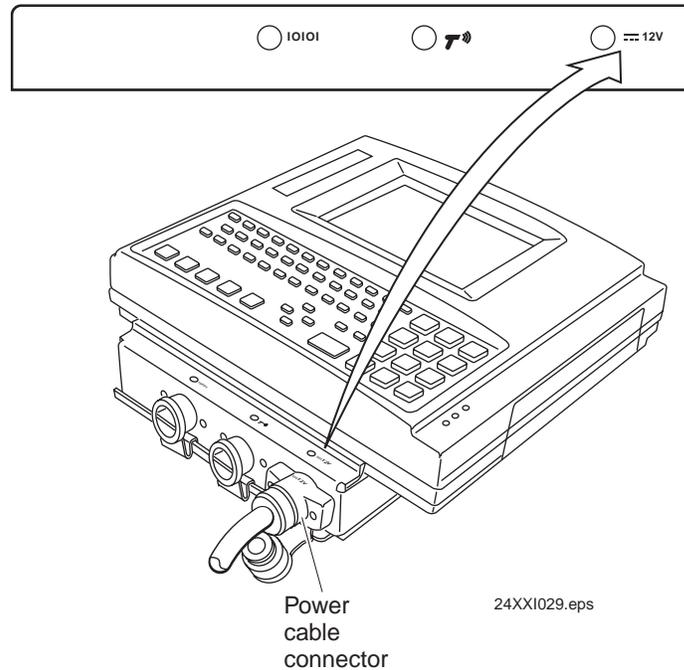
Note: The Power Supply port plug is not shown on the 2455 for clarity. Firmly push the 2455/2475 power cable connector straight into the Power Supply port. The Power Supply port is a keyed connection. If the connector doesn't fit, do not force it. Do not wiggle or twist the power cable connector—you may damage the connector.

Attaching the 2455 Power Cable to the 2455



Trakker Antares 2455/2475 DC Power Supply Installation Instructions

Attaching the 2475 Power Cable to the 2475



5. Use a small straight-slot screwdriver to tighten the two screws in the power cable connector and secure the cable to the 2455 or 2475.

Reconnecting the Vehicle Battery Cables

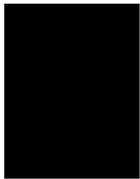
Reconnect the vehicle battery cables. You are now ready to begin using your 2455 or 2475. For help operating your 2455 or 2475, refer to the *Trakker Antares 2455 Vehicle-Mount Terminal User's Manual* (Part No. 067358) or the *Trakker Antares 2475 Vehicle-Mount Terminal User's Manual* (Part No. 072383).

Troubleshooting Information

This section provides information to help you identify and correct most power supply problems that may occur during installation.

To diagnose a problem

1. Inspect the power supply components.
2. Measure voltage and continuity.
3. Substitute parts.



Inspecting the Power Supply Components

There are three components you can inspect:

Power supply The power supply has a green LED near the output connector that lights when 12 VDC is present at the connector. If you suspect a power failure, check to see if the LED is lit. If the LED is lit, the failure is either in the 2455/2475 power cable or downline from it.

If the LED is not lit, the power supply is not producing 12 VDC output power. In this case, a fault can exist anywhere in the system. Use the “Troubleshooting Table” on page 15 to help you isolate, identify, and correct the failure.

Cables and connections Ensure that all cable connections are secure.

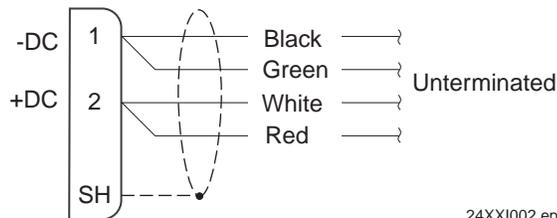
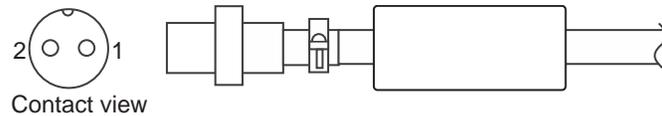
Fuse Open the twist-lock fuseholder and replace the fuse for a continuity test. If you substitute a new fuse and it also blows, the most likely cause is a shorted or miswired power supply input cable, or a faulty (or incorrect) power supply.

Measuring Voltage and Continuity

You can measure voltage and continuity to help troubleshoot power supply problems.

Voltage Connector pin-out information is included here so you can measure voltage at the power supply input cable connector and at either end of the 2455/2475 power cable.

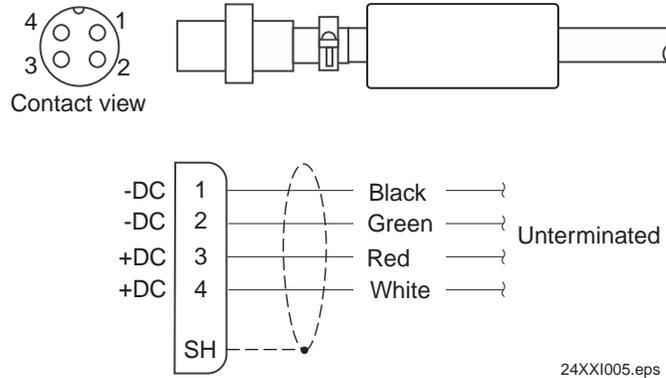
High-Input Voltage Power Supply Input Cable Connector



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Trakker Antares 2455/2475 DC Power Supply Installation Instructions

Low-Input Voltage Power Supply Input Cable Connector



Continuity An ohmmeter is sufficient to diagnose simple opens and shorts.



Note: If fuses blow sporadically or power supply shutdown occurs at random, you may want to check cables for high-resistance shorts between wires or between a wire and the cable shield.



Caution

Cables MUST be disconnected at both ends before conducting continuity tests. Failure to disconnect cables completely is likely to result in damage or destruction of your test equipment.

Conseil

Il FAUT déconnecter les câbles aux deux extrémités avant de procéder à des tests ou à des contrôles de continuité. Si les câbles ne sont pas complètement déconnectés, votre équipement de contrôle risque d'être endommagé ou même détruit.

Substituting Parts

Follow the guidelines in the “Troubleshooting Table” in the next section and substitute components only when directed to do so. If your installation suffers intermittent input power cable fuse failures, or if the power supply shuts down without good cause, substitute the power supply with a known-good power supply.

Advantages Component substitution is the quickest and most certain troubleshooting technique. Substitution is especially valuable when you are trying to resolve intermittent problems.

Disadvantages You must have the spare parts available or be prepared to borrow components from another working installation.



Troubleshooting Table

The following information assumes that your 2455 or 2475 does not work and that the problem is caused by the power supply or the power supply cables.

You Observe	Meaning	Solution
Power supply LED is lit.	Power supply is working.	Test or substitute the 2455/2475 power cable.
Power supply LED is not lit.	No output power from power supply.	Reset the power supply. For help, see the 2455 or 2475 user's manual. Test for input voltage.
Input voltage is normal for this kit at the power supply input connector, and the power supply LED is not lit.	Power supply is not working.	Replace the power supply.
Input voltage is not normal for this kit at the power supply input connector but is present at the vehicle power source.	No input power to the power supply.	Replace the fuse in the fused power cable if voltage is NOT present at connector. Replace the power supply input cable if input voltage is still not present at the connector. If you have a remote switch installed, make sure the DC power supply is turned on.

The power supply has automatic over-voltage, over-current, over-temperature, and shorted-output protection. If a fault other than over-current activates the protection, the power supply output condition indicator light will go out and you must then reset the power supply. Over-current conditions are self-correcting; therefore, intermittent, short-duration short-circuit conditions or low resistance in the power supply output will cause the power supply LED to blink off and on.

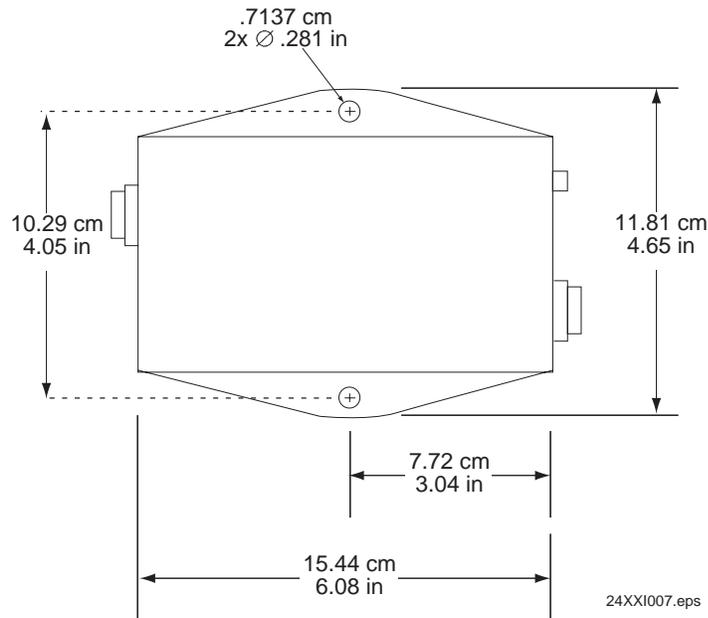
To reset the power supply

1. Disconnect the power supply input cable from the DC power supply for 10 seconds.
2. Reconnect the power supply input cable.

DC Power Supply Specifications

Use the specifications in this section to prepare a mounting location on the vehicle for the power supply. The low-input and high-input DC power supplies have the same dimensions.

DC Power Supply Dimensions



Note: The depth is 2.60 cm (1.025 in).



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