

## INSTALLATION GUIDE

# NI PXI-1031DC DC Cable Kit

The PXI-1031DC DC cable is designed to connect the PXI-1031DC chassis to a DC power source. The cable consists of a DC power connector, 18 feet of 10 AWG cable, and a high heat, impact resistant, water tight fuse holder with a 30 A fuse installed. For maximum DC power source protection, the fuse is located as close to the DC power source as is practical.



**Cautions** The PXI-1031DC chassis should not be connected to a centralized DC system, it should be connected to a localized battery or DC power source. The DC cable should be terminated and connected to the DC source with UL Listed or Recognized Components rated minimum 30 V, 30 A, and suitable for 10 AWG wire.

Observe proper polarity when connecting to a DC power source. Refer to drawing CD\_186633-XX for more detail.

## Fuse Replacement



**Caution** Disconnect the cable from the PXI-1031DC chassis and any power source before replacing the fuse or connecting the fuse holder to the DC cable.

Complete the following steps to replace the fuse:

1. Unscrew the two halves of the fuse holder body by turning one half in a counter-clockwise direction.
2. Replace the fuse with an F30A, 500 VDC/600 VAC, 1.5 in. × .41 in. (10 mm × 38 mm) Midget, fast-acting fuse.
3. Align the mating tabs on one half of the fuse holder body with the slots on the other half, and screw the two halves back together in a clockwise direction. Hand tighten only.

## Reducing Cable Length

NI recommends using the cable at its designed length. If it is necessary to shorten the cable for a particular application, the following guidelines should be observed.



**Caution** Do *not* leave the fuse holder out of the cable assembly.

Complete the following steps to remove the fuse holder from the cable:

1. Carefully remove the heat-shrink tubing from both sides of the fuse assembly. Take care not to damage the cable insulation underneath the heat-shrink tubing.
2. Slide back the insulating boot on the load side of the cable only.
3. Loosen the set screw on the load side of the fuse holder and remove the fuse holder assembly with the line side cable attached.
4. Remove the load side insulating boot from the red cable.

Complete the following steps to prepare the cable for fuse holder re-installation:

1. Cut the cable to the desired length.
2. Cut an additional 18 inches of red cable only.
3. Separate the positive (red) and negative (black) leads for 4 inches.
4. Strip 1/2 inch of insulation from the red cable. Refer to drawing CD\_186633-XX for more detail.

Complete the following steps to re-install the fuse holder:

1. If heat shrink tubing will be used in step 5 below, slide the tubing onto the load side of the cable.
2. Re-install the load side insulating boot onto the red cable.
3. Install the fuse holder assembly onto the red cable. Tighten the set screw to 35 in.-lbs.
4. Slide the insulating boot onto the fuse holder assembly.
5. Install heat shrink tubing, electrical tape, or tie-wraps on both sides of the cable next to the fuse holder assembly insulating boots.



**Cautions** If the PXI-1031DC DC cable is shortened in a manner inconsistent with these instructions or specifications listed by National Instruments, the protective features of the cable may be impaired.

Do *not* lengthen the cable as an unacceptable voltage drop may occur. This may damage the power supply, or prevent chassis operation.

For maximum DC power source protection, keep the fuse holder as close to the power source as possible.

