Chapter 4

Cabling the Switch

4.1   Connecting Power Cables

Important! Installation of this equipment must comply with local and national electrical codes. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

The switch operates with two installed power supplies. At least one power supply must connect to a power source. Two circuits provide redundancy protection. Appendix D displays the location of the power supplies on the rear panel of the switch.

Important! Read all installation instructions before connecting the system to the power source.

- **Non-Redundant Configuration:** Connect power to either of the two power supplies.
- **Redundant Power Supply Configuration:** Connect power to both power supplies.
- **Power down the Switch:** Remove all power cords and wires from the power supplies.

Important! This equipment must be grounded. Never defeat the ground conductor.

Important! This unit requires overcurrent protection.

4.1.1   AC Power Supply

The AC power supply connects to a circuit that provides 100-240 VAC, 50 or 60 Hz, and 5.29-2.2 A. Figure 4-1 displays an AC power supply, including the power socket on the right side of the module.

The power supplies require power cables that comply with IEC-320 and have a C13 plug. The accessory kit provides two IEC-320 C13 to C14 power cables, each two meters long.

Figure 4-1: AC Power Supply

4.1.2   DC Power Supply

The DC power supply connects to a circuit that provides 40-72 VDC and 13.9–7.72 A. Figure 4-2 displays the DC power supply with the terminal cover in place (left illustration) and with the terminal cover removed (right illustration).
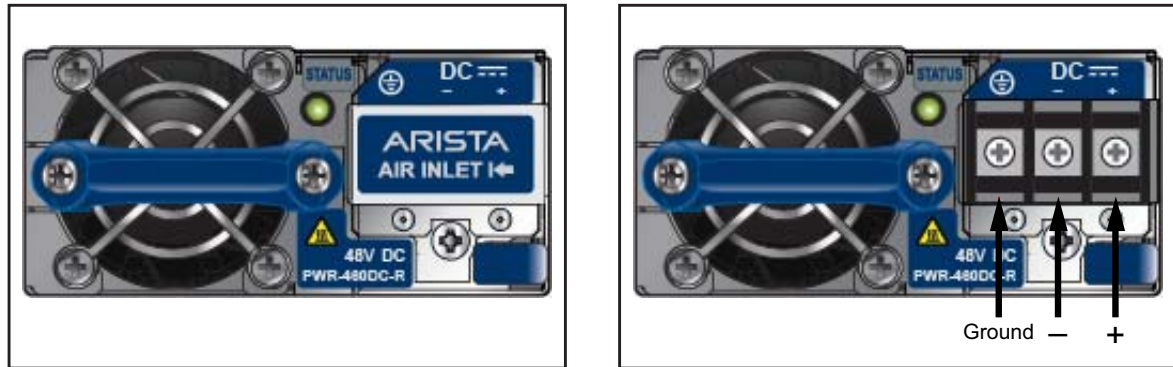

Figure 4-2: DC Power Supply – terminal cover in place (left); terminal cover removed (right)

Ensure the wires connecting the DC power supply to the power source meet the following:

*   DC Input Wire Size: AWG 14 (2.0 mm^2) or larger as appropriate
*   Safety Ground Wire Size: AWG 14 (2.0 mm^2) or larger as appropriate
*   Wire Terminal (Lug): ring or spade, 14-16 AWG, #8 (4 mm) screw
*   Overcurrent protection: 20 A.

Important! Ensure power is removed from DC circuits before performing any installation actions. Locate circuit breakers or fuses on DC power lines servicing the circuits. Turn off the power line circuits or remove the fuses.

To connect a DC power supply to power source:

Step 1   Remove the terminal cover to expose the connectors on the right side of the module (Figure 4-2).

Step 2   Attach the appropriate lugs to the source DC wires.

Use DC cables with either insulated crimp-on spade lugs or insulated crimp-on ring connectors.

Important! Wire size must comply with local and national requirements and electrical codes. Use only copper wire.

Step 3   Connect the DC-input wires to the terminal block in this order:

1. Ground cable to the ground connector on the terminal block.

2. Negative (–) source DC cable to the negative (–) connector on the terminal block.

3. Positive (+) source DC cable to the positive (+) connector on the terminal block.

Important! Apply the ground connection first during installation and remove last when removing power.

Step 4   Replace the terminal cover.

4.2   Connecting Serial and Management Cables

The accessory kit includes the following cables:

- RJ-45 to DB-9 serial adapter cable.
- RJ-45 Ethernet cable.

Table 4-1 lists the pin connections of the RJ-45 to DB-9 adapter cable.

Table 4-1 RJ-45 to DB-9 Connections

RJ-45		DB-9		RJ-45		DB-9	
RTS	1	8	CTS	GND	5	5	GND
DTR	2	6	DSR	RXD	6	3	TXD
TXD	3	2	RXD	DSR	7	4	DTR
GND	4	5	GND	CTS	8	7	RTS

The front panel contains the console, management, and USB ports. Figure 4-3 displays the ports on the 7124FX switch. Appendix C displays the front panel of all switches covered by this guide.
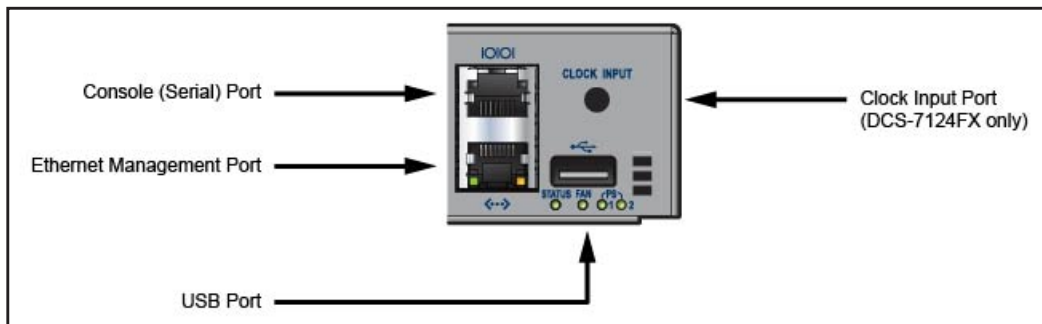

Figure 4-3: Front Panel Ports

Connect the front panel ports as follows:

- **Console (Serial) Port:** Connect to a PC with the RJ-45 to DB-9 serial adapter cable. The switch uses the following default settings:
  - 9600 baud
  - No flow control
  - 1 stop bit
  - No parity bits
  - 8 data bits
- **Ethernet Management Port:** Connect to 10/100/1000 management network with RJ-45 Ethernet cable.
- **USB Port:** The USB port may be used for software or configuration updates.
- **Clock Input Port:** Port type is MCX connector, 2-5.5V, 50 ohm termination.

Caution   Excessive bending can damage interface cables, especially optical cables.