

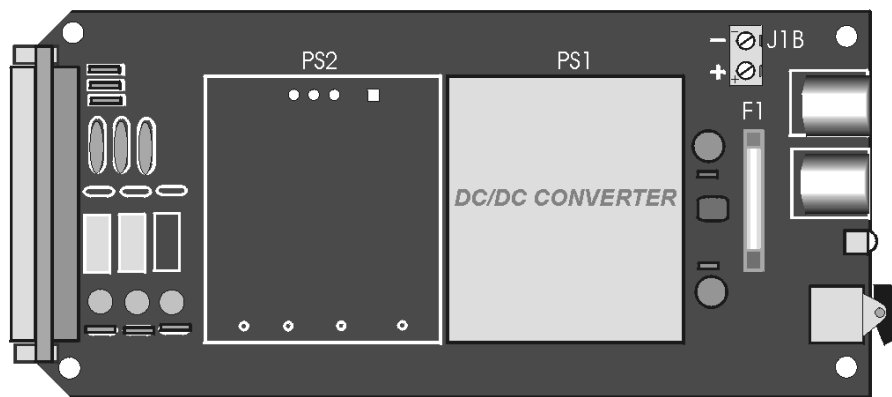
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Reference Notes:

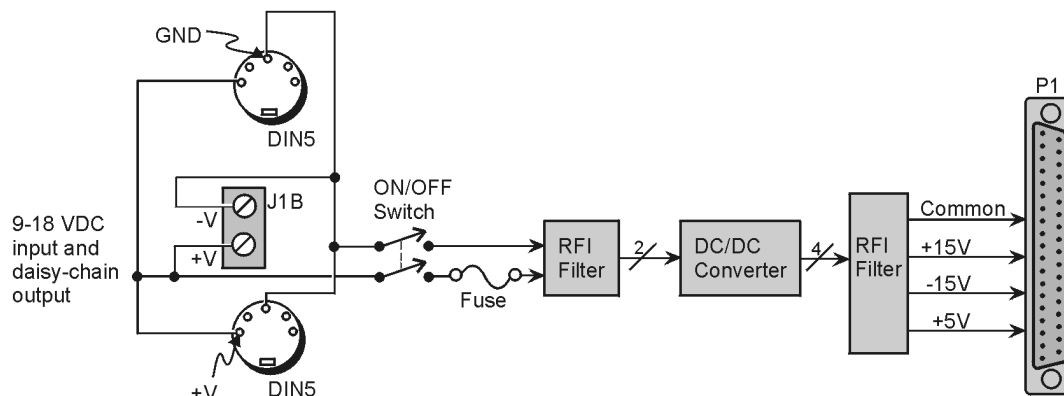
- Refer to *Power Requirements*, in the *DBK Basics* section, in regard to calculating system power requirements.
- The *System Connections and Pinouts* chapter includes pinouts for P1, P2, P3, and P4. Refer to the pinouts that are applicable to your system, as needed.

Overview



DBK33 Triple-Outlet Power Supply Card

The DBK33 provides added power (± 15 VDC and +5 VDC) via P1 in configurations where the expansion cards require more power than available from a LogBook, DaqBook, DaqBoard, or /2000 Series device or other power source. The card is compatible with all analog DBK cards and typically can support up to 12 DBK cards.



DBK33 Block Diagram

Note: If +5 V is not needed by the DBKs in use, you can use the DBK32A in place of the DBK33.

Configuring the Primary Device for use with a DBK33

Configuration for:

**DaqBook/100 Series & /200 Series and
DaqBoard/100Series & /200 Series [ISA-type boards]**

CAUTION



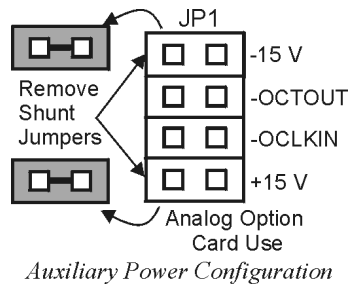
You must configure the DaqBook/100 Series & /200 Series devices or DaqBoard [ISA type] before connecting the DBK33. Do not connect the P1 cable without first removing the shunt jumpers from JP1 inside the DaqBook/100 Series & /200 Series devices or DaqBoard [ISA type]. Failure to remove these jumpers can result in damage to the DBK33 and DaqBook/100 Series & /200 Series devices or DaqBoard [ISA type].

CAUTION



Do not place jumpers on the -OCTOUT and -OCLKIN pins. If configured such, damage to the 8254 timer chip will result.

Using a DBK33 requires you to entirely remove the shunt jumpers from header JP1 inside the DaqBook/100 Series & /200 Series device or DaqBoard [ISA type], as shown in the figure. DaqBooks/100 Series & /200 Series devices and DaqBoards [ISA type] are shipped with these shunts positioned to deliver analog power to P1.



The JP1 default position will not work with a DBK33. Shunt jumpers must be removed before connecting DBK33. See previous Cautions.

Configuration for:

**DaqBook/2000 Series
DaqBoard/2000 Series
LogBook/300**

No hardware configuration is performed in regard to using the DBK33 with these devices.

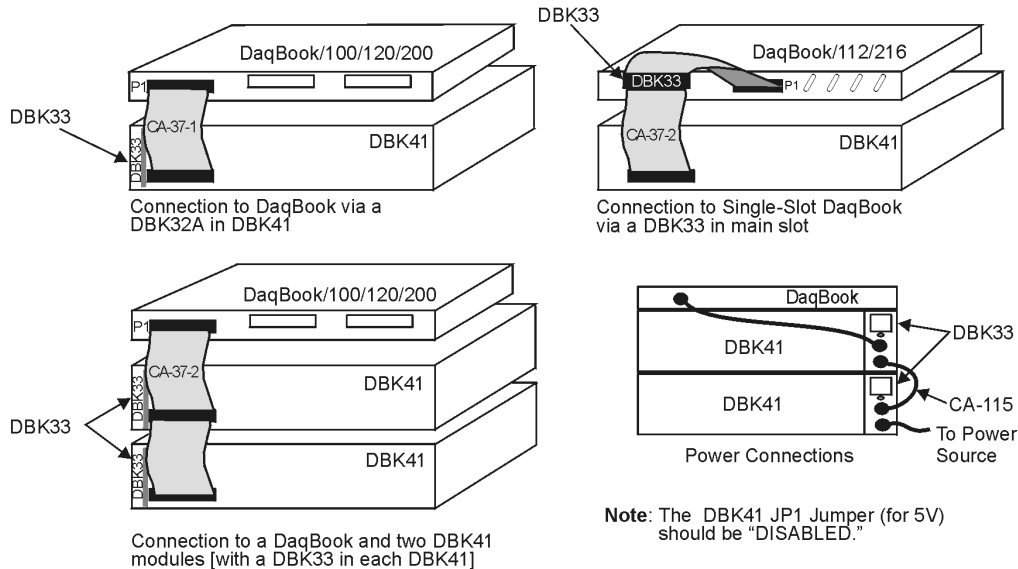
Configuration for:

**LogBook/360
DaqBook/260
DBK60
DBK41**

For these products, *if you will be installing a DBK33 internally*, you must have the correct configuration of backplane jumpers to avoid a power conflict. Refer to the device's primary documentation in regard to the configuration.

Connecting the DBK33

The DBK33 can be installed into the internal expansion slot of a DaqBook/112, DaqBook/216, DaqBook/2000X, a 3-Slot DBK10, a 3-slot DBK60, or a 10-Slot DBK41. It can also be used in a LogBook/360 and DaqBook/260.



Examples of DBK33 Connections



If you will be using a 3-port DaqBook, i.e., DaqBook/100, /120, /200, /260, or /2000 Series with a DBK41, then the best location for the DBK33 is the right-hand end-slot of the DBK41 when facing the DBK41's rear panel. This will be the left-hand slot if facing the DBK41 from the front-panel.

DBK33's P1 Connector

DBK33's DB37 P1 connector interfaces with the analog DBK in one of two ways:

- Via a backplane, such as in the case of installing the DBK33 in a DBK41. For products with P1 backplanes, *if you will be installing a DBK33 internally*, you must have the correct configuration of a backplane jumper(s) to disconnect the device's +5 VDC from the backplane. Refer to the device's primary documentation in regard to the configuration.
- Via a CA-37-x cable, which interfaces between the DBK33's P1 connector and the P1 connector(s) of the analog DBK(s) that it is to supply power to.

DBK33's DIN5 Connectors

The DBK33 can be powered from a 9 to 18 VDC source such as an AC/DC power adapter, a DBK30A battery module, or a car battery.

The DBK33 has two DIN5 power connectors to allow for the cascading of multiple DBK33s (via a CA-115 power cable). The lower right-hand section of the preceding figure portrays this scenario. Note that a DBK33 can share a power source with an acquisition device. For example, you can connect a CA-115 power cable to the DIN5 Power Out connector of a DaqBook, DaqBoard, or LogBook and then connect the other end of the CA-115 cable to one of the DIN5 connectors on the DBK33.

DBK33's J1B Terminal Block

Terminal block J1B has one positive (+) and one negative (-) screw terminal. The terminal block power connection is available for use as an alternative to using a DIN5 connector. As indicated in the block diagram on page 1 of this section, all three connectors are in parallel, i.e., the two DIN5 connectors and the J1B terminal block.

DBK33 - Specifications

Name/Function: Triple-Output Power Supply Card

Isolation, Input to Output: 500 VDC

Output Voltages:

+15 VDC nominal @ 250 mA

-15 VDC nominal @ 250 mA

+5 VDC nominal @ 1000 mA

Line Regulation: 0.2% max (+5 V); 5% max (± 15 V)

Load Regulation: 0.5% max (+5 V); 5% max (± 15 V)

Total Output Power: 15 VA (full load)

Input Voltage Range: 9 to 18 VDC

Included AC Adapter: 15 VDC @ 0.9 A

Size: 209 mm x 19 mm x 82 mm (8-1/4" x 3/4" x 3-1/4")

Full-Load Efficiency: 80% Typical

Full-Load Input Current Range:

2.10 A @ 9VDC

1.05 A @ 18 VDC

Input Connections: DIN5 ($\times 2$ for daisy-chaining)

Output Connection: DB37 Male

Parallel Provision: OR-ing diodes on output lines allow use of multiple DBK33s in larger systems

Controls: ON/OFF rocker-arm switch

Indicators: LED driven by input voltage

Over-Voltage Protection: Fuse followed by 19 V zener clamp

Switching Frequency: 100 kHz min

Operating Temperature Range: -20 to 70°C

Input Fuse: 3 A (Littelfuse 251003)