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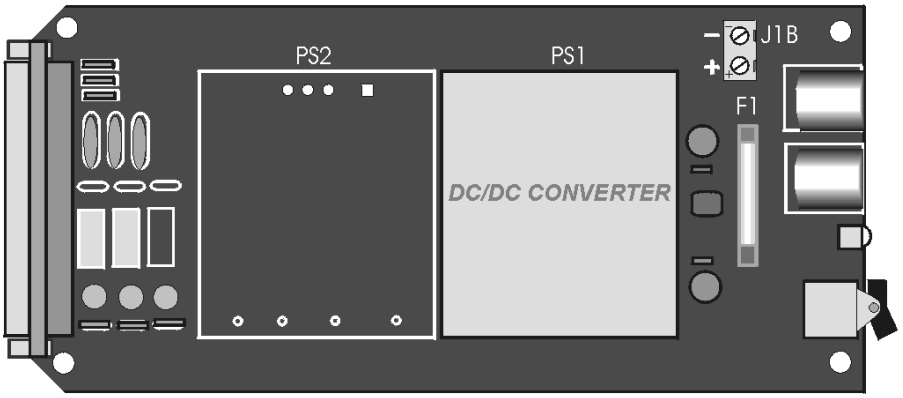
Reference Notes:

➢ Refer to Chapter 2, *Power Management*, in regard to calculating system power requirements.

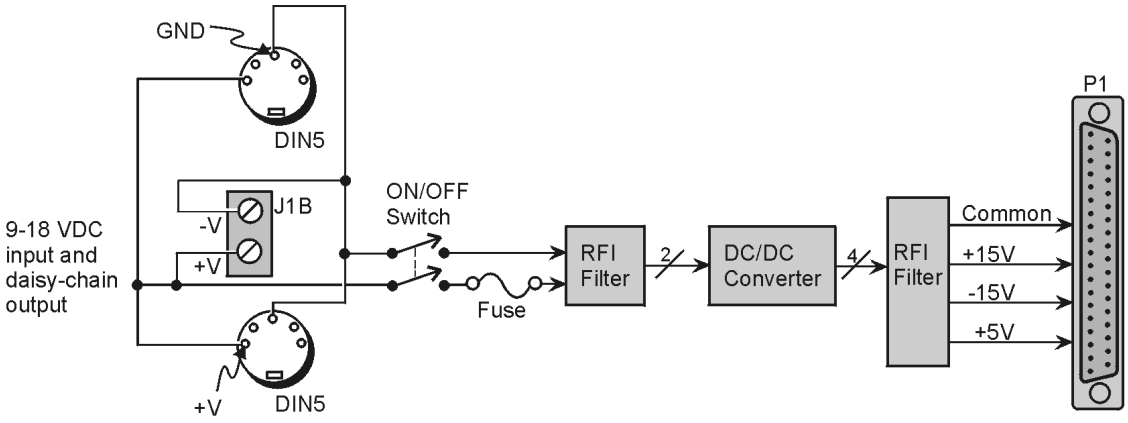
➢ Chapter 3, *System Connections and Pinouts*, includes pinouts for P1, P2, P3, and P4. Refer to the pinouts that are applicable to your system, as needed.

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 DaqBoard/2000 Series board 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.

Hardware Setup

LogBook and DBK Modules

The DBK33 has two DIN5 power connectors to allow daisy-chaining of multiple DBK33s or to share a common power source with a LogBook or a compatible DBK Module. Terminal block J1B can be used instead of the DIN5s (e.g., custom wiring with a DBK60). The DBK32A can be powered from the included AC adapter, a DBK30A battery module, or a 10-20 VDC source (e.g., a car battery).

Connect the DBK33 much like any other expansion card on a ribbon cable or inside an expansion chassis. The DBK33 can be installed into a DBK10, DBK60, or DBK41.

DaqBook and DaqBoard [ISA type]

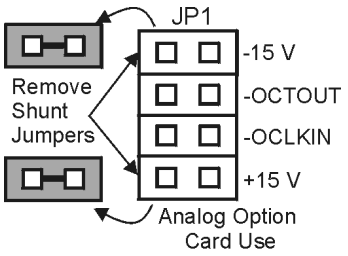
CAUTION

You must configure the DaqBook 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 or DaqBoard [ISA type]. Failure to remove these jumpers can result in damage to the DBK33 and DaqBook or DaqBoard [ISA type].

CAUTION

Do not place jumpers on the –OCTOUT and -OCKLIN 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 or DaqBoard [ISA type], as shown in the figure. DaqBooks and DaqBoards [ISA type] are shipped with these shunts positioned to deliver analog power to P1.



Auxiliary Power Configuration

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

DaqBoard/2000 Series and cPCI DaqBoard/2000c Series Boards

For configurations pertaining to DaqBoard/2000 Series boards or cPCI DaqBoard/2000c Series boards, you will most likely power DBK33 from the included AC adapter.

The DBK33 has 2 DIN5 power connectors to allow daisy-chaining of multiple DBK33s or to share a common power source with a DaqBoard/2000 Series [or /2000c Series] board.

Note: DBK33 has been enhanced by the addition of a terminal block. Terminal block J1B can be used instead of the DIN5s (e.g., custom wiring with a DBK60). The DIN5 connectors are still usable, and board functions have not been changed.

DBK33 connects much like an expansion card on a ribbon cable (or inside an expansion chassis). In relation to DaqBoard/2000 Series [or /2000c Series] expansion, DBK33 can be installed in a 3-Slot DBK10, a 3-slot DBK60, or a 10-Slot DBK41.

Cascading Power Connection

The DBK33 can be powered from the included AC adapter, a DBK30A battery module, or a 9-18 VDC source (e.g., a car battery).

The DBK33 has two DIN5 power connectors to allow daisy-chaining of multiple DBK33s or to share a common power source with a LogBook, DaqBook, or DaqBoard.

Note: Terminal block J1B can be used instead of the DIN5s; for example, in an application involving custom wiring with a DBK60. In regard to screw-terminal identification, J1B's positive terminal (+) is the one closest to fuse F1.

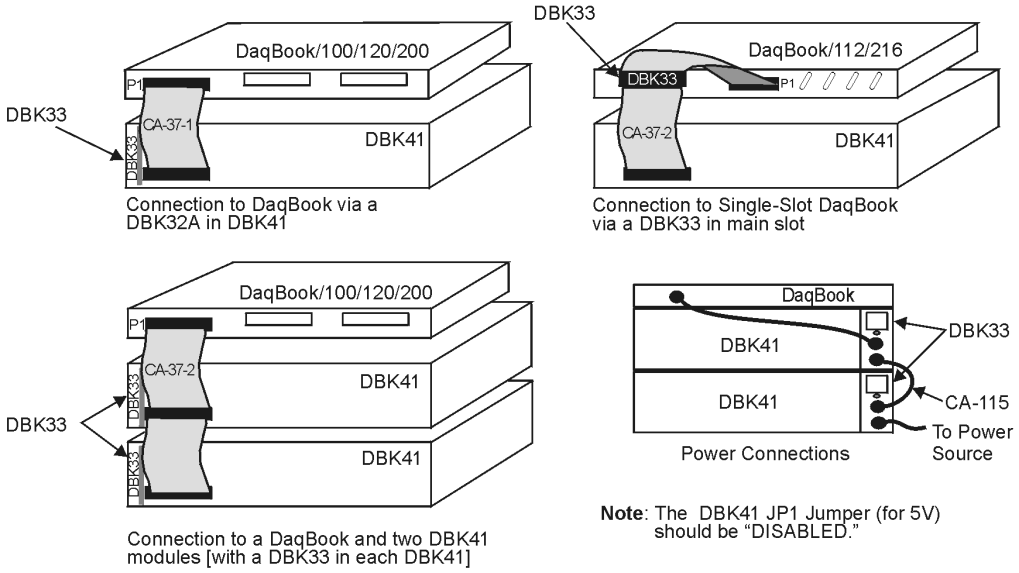
Connect the DBK33 much like any other expansion card on a ribbon cable or inside an expansion chassis. The DBK33 can be installed into a DaqBook/112 or DaqBook/216 internal expansion slot, a 3-Slot DBK10, a 3-slot DBK60, or a 10-Slot DBK41.

In regard to positioning a DBK33, any slot within the DBK10 may be used.

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

<u>For DBK41 Users</u>: When using a DBK33 in a DBK41, the DBK41's JP1 [a three-pin jumper] must be set to pins 2 and 3 (DISABLE +5 VDC). This disconnects the host P1 +5 VDC from the internal +5 VDC output. Refer to the *DBK41 Document Module* as needed.

<u>For DBK60 Users</u>: When using a DBK33 in a DBK60, the DBK60's JP2 [two-pin jumper] must be removed from the JP2 header pins located on the DBK60's P1 interconnect board. This action disconnects the host P1 +5 VDC from the internal +5 VDC output. Refer to the *DBK60 Document Module* as needed.



Examples of DBK32A Connections and Cascading Power

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: 3-1/4" × 8-1/4" × 3/4"

Full-Load Efficiency: 80% Typical

Full-Load Input Current Range:

2.10 A @ 9VDC

1.05 A @ 18 VDC

Input Connections: DIN5 (×2 for daisy-chaining)

Output Connections: 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)