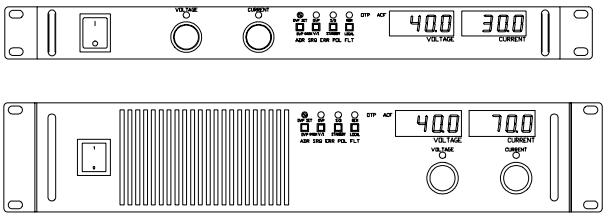
ISOL OPTION

TECHNICAL ADDENDUM



This option applies to all models of the DC output power supply, 1200 watt and 2800 watt versions.

Description

This option provides a 4-channel Isolated (ISOL) Programming Interface which allows remote programming and readback of the power supply's output voltage and current. The 0-5 V analog signals are isolated from the power supply's output and its chassis ground.

Specifications

The ISOL Interface provides isolation to 1000 Vdc. The following specifications are based on the specifications for the isolation amplifier used, except where noted.

Nominal Gain	1 V/V typical
Gain vs. Temperature	±10 ppm/°C typical
Non Linearity	±0.016% FSR typical, ±0.020% FSR maximum
Offset Voltage	±20 mV typical, ±50 mV maximum
Input vs. Temperature	±200 μV/°C typical
Input Voltage Range	0-5 V (installed)
Input Impedance	200 k typical
Readback Voltage Range	0-5 V (installed)
Readback Current Drive	±15 mA typical, ±5 mA minimum
Readback Load Capacitance	0.1 μF typical
Isolation Mode Rejection	140 dB at 60 Hz

Operation

CAUTION

In order to maintain isolation, do not connect either rear panel connector J2 terminal 3 (control ground) or the power supply return to J2 terminal 11 (program/monitor signal return).

CAUTION

When connecting program sources to a power supply with the ISOL interface installed, make sure that the voltage rating of the program wires is at least equal to the voltages likely to occur between the program wires and the power supply chassis and bus bars.

With ISOL installed, the power supply will no longer support resistive programming, or 0 to 10 V programming and readback. Any non-programmed function (either voltage or current limit) can still be controlled via the front panel.

1. Ensure that the power supply's rear panel SW1 switches 3, 4, 5, and 6 are set for 0-5 V programming and monitoring.

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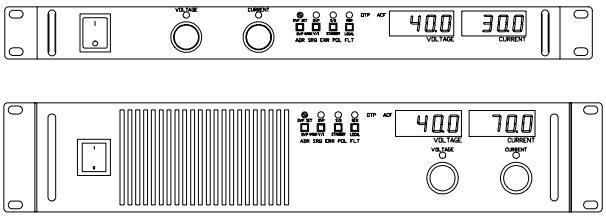

2. Connect the 0-5V programming source (or the monitor lines) to the J2 connector on the power supply's rear panel as described in the Remote Operation section in the operating manual. Follow all warnings and cautions concerning wiring and making connections in the J2 Programming Connector section of the manual.

   To maintain EMC integrity, the connections to the J2 connector must be made with 18-22 AWG (0.3-0.8 mm^2) wire, either individually or group shielded. The shield must be bonded to the power supply chassis next to the J2 connector. Maintain the shield to within 1.5" (40 mm) of the end of each wire. Strip 0.26" (6.5 mm) of insulation, insert into the proper terminal and tighten the wire clamp screw. Bond the shield(s) to the chassis with a connection less than 1.5" (40 mm) long.

3. Once the connections are made, use the power supply with the ISOL interface installed as you would use any power supply with a 0-5 Vdc programming source. The only differences are that the programming and monitoring sources are now isolated, and that resistive and 0-10 V programming as well as 0-10 V monitoring are disabled. All front panel functions are as usual.

Note: With ISOL installed, J2 connector terminals 5, 7, and 9 are disconnected. Use J2 connector terminal 11 for programming and monitoring return connections.

J2 Programming and Monitoring Connections with the ISOL Interface

	Voltage Program (VPGM)	Current Program (IPGM)	Voltage Monitor (VMON)	Current Monitor (IMON)
Program Signal	J2-6	J2-8	J2-10	J2-12
Return	J2-11	J2-11	J2-11	J2-11

Calibration

Follow the standard procedures in the operating manual to calibrate a unit which has had the ISOL interface installed.