



SERIES SIX

PROGRAMMABLE CONTROLLERS

GEK-90762

Source Voltage :
20 TO 32 V dc
Output Voltage:
+5, +12, -12 Vdc

24V dc INPUT HIGH CAPACITY I/O RACK POWER SUPPLY

GENERAL DESCRIPTION

The 24 V dc I/O Power Supply, which provides power for Series Six I/O modules, directly replaces a 115 V ac input high capacity I/O Power Supply should a change in source voltage become necessary or desirable. This power supply is a High Capacity model and does not substitute for a Standard I/O Power Supply.

The 24 V dc Input High Capacity I/O power supply features and benefits are summarized in Table 1. This supply provides regulated +5V, +12V and -12 V dc to the I/O rack backplane. The High Capacity power supply provides power for high current I/O module configurations and remote (with modem) I/O applications.

The 24 V dc High Capacity I/O power supply operates with input voltages ranging from 20 to 32 V dc. The input power is applied to a terminal block on the front panel, then routed through a switch and

fuse to a switching power supply. For a given load the input power drain is essentially constant. The power supply is protected against polarity reversal of the dc input.

On the front panel of the I/O rack power supply is an ON/OFF switch labeled, LOGIC POWER; visible through a lens is a Light-Emitting Diode (LED) that lights when the LOGIC POWER switch is in the ON position; and underneath a black plastic cover is a source voltage terminal block.

The I/O rack power supply also generates a power-fail signal (PSOK) which is used for system initialization and error indications-

Refer to Table 2 (next page) for the High Capacity I/O rack power supply specifications.

Table 1 FEATURES AND BENEFITS

FEATURES	BENEFITS
Input voltage can be 20 to 32 V dc	Can be used with dc power sources
POWER indicator on front panel. Power-fail signal supplied to I/O rack to generate system failure indications.	Simplified troubleshooting.
Wide variety of output power combinations.	Useful in a variety of applications more properly satisfy I/O rack power requirements.

Table 2 SPECIFICATIONS

<ul style="list-style-type: none"> • Dimensions: 12.46 x 9.00 x 2.75(inches) 317 x 229 x 70 (mm) • Input: 20 to 32 V dc 180 W (MAX) • Output: +5 Vdc, 16.5 A(max) +12 Vdc, 1.5 A(max) -12 Vdc, 1.0 A(max) 275 Units of Load (see Table 3) 	<ul style="list-style-type: none"> • Allowable Power Interruption: 10 ms minimum at 20 V dc • Operating Temperature: 0° to 60°C • Storage Temperature: -20° to +80°C • Humidity: 5%-95% (non-condensing) • Noise Immunity: Meets requirements of NEMA ICS 2-230 and ANSI C37.90A.
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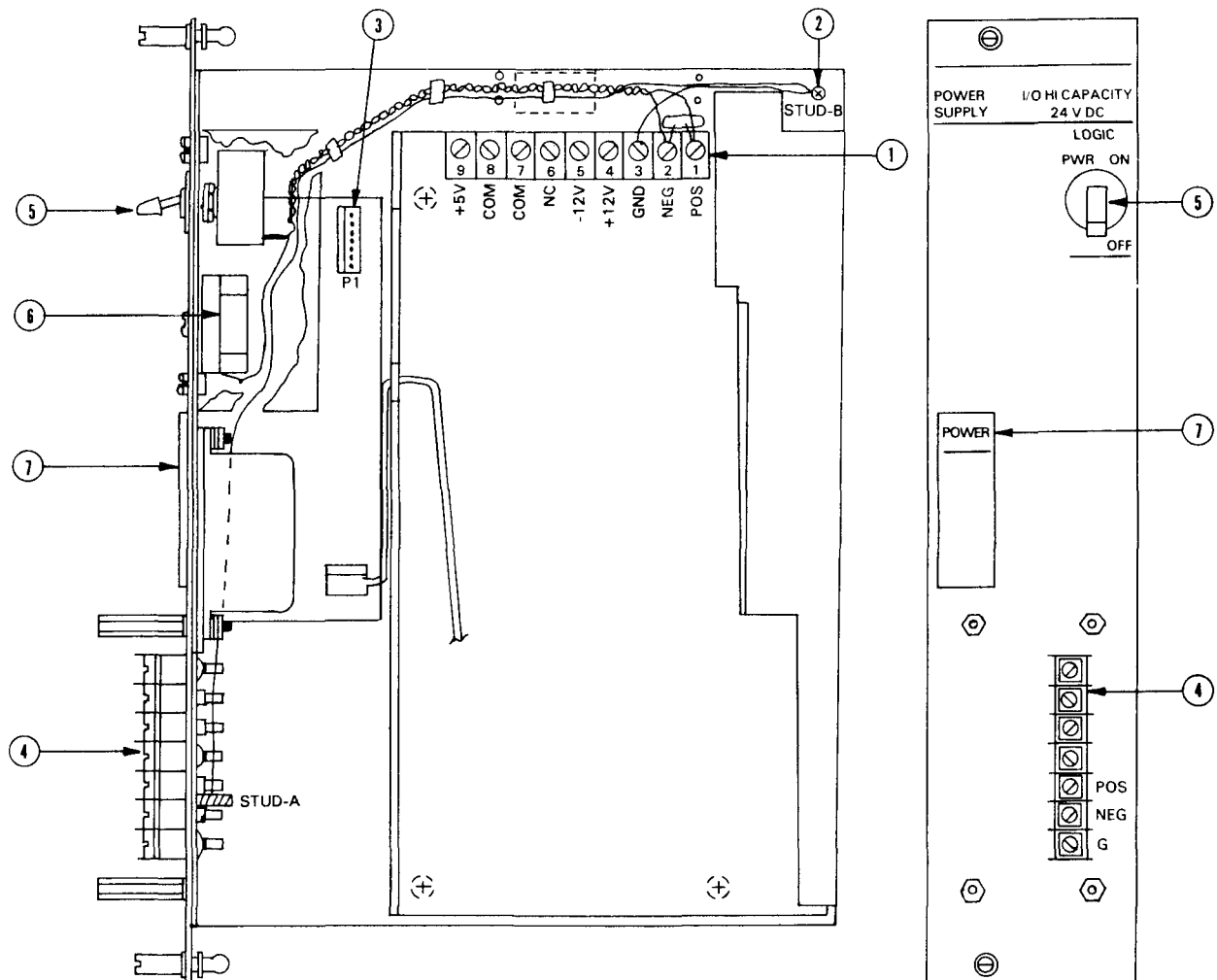


Figure 1 USER ITEMS (Part 1 of 2)

1. Main-Circuit-Board Terminal Strip
 2. Ground Terminal
 3. Auxiliary-Circuit-Board Connector
 4. Front-Panel Connector Block
 5. Power Switch
 6. Fuse
 7. POWER Light
- On: The voltage levels of all three DC outputs (+12V, -12V, +5V) are within tolerance.
- Off: At least one of these voltage levels is too low.

Figure 1 USER ITEMS (Part 2 of 2)

INSTALLATION

Verify that the 24 V dc High Capacity I/O power supply to be installed can accommodate the estimated load. Total the current units as indicated in Table 3, per the I/O modules to be used.

Input power requirements are a function of load. Typical efficiency at full load is approximately twice the estimated load power as determined from Table 3.

Verify that the dc input lines are of the correct polarity before applying power. An inadvertent reversal of input polarity will cause the supply to draw excessive currents and may blow an internal 8A slo-blow fuse. This fuse must then be replaced and the input polarity reversed before proper operation can be attained.

These steps define the procedures to be followed when a power supply is to be replaced on a Series Six I/O rack. The tools needed are a regular screwdriver, and a 5/16" wrench or nut driver.

1. Stop the system by switching the top key on the CPU to STOP.
2. Switch off all units in the system, including the user's power supplies.
3. Remove all power from the system, preferably at the source (i.e. throw the main circuit breaker for the system).
4. Locate the I/O rack power supply to be changed. The power supply is in the far right side of the I/O rack.
5. Remove the plastic cover on the lower portion of the power supply and, using a voltmeter, make sure there is no input power present.
6. Take note of the location and color of the input wires and then remove them.

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7. At the top and bottom of the power supply, there are quarter turn thumbscrews. To loosen, turn the thumbscrews approximately 1/4 turn counterclockwise.
 8. Grasp the thumbscrews and gently pull outward. Be careful not to damage the internal wiring while pulling the supply out. Pull the power supply completely out.
 9. Locate the wires that extend from the back of the I/O rack to the terminal on the power supply. These wires should be labeled or stamped with their location; the circuit boards have wire locations stamped on them also. (Refer to Figure 3.) Remove these wires. There is also a plastic wire clamp holding these wires in place. Detach this from the frame if there is not a similar item on the replacement power supply, or cut the clamp if there is one on the new supply.
 10. Remove the Molex connector that is on the narrow board in the front part of the power supply. The power supply should now be completely detached from the I/O rack.
 11. Take the replacement power supply and attach the wires as shown in Figure 3. Be sure to connect the molex connector (PI) to the power supply. Attach the wire clamp on the upper stud of the power supply frame, or if there is a clamp already there, wrap the wires in it.
 12. Slide the power supply into the rack, being careful not to damage the wires. When the power supply is all the way in, turn the thumbscrews clockwise until they lock in.
 13. Remove the plastic cover on the lower portion of the power supply and attach the Input wires as they were on the original supply (Refer to Step 6). Replace the plastic cover.
 14. Restore system power. Turn on the I/O rack. Check to see if the POWER light is on. If it is, turn on the rest of the system and resume normal operation.
 15. If the POWER light does not come on, the power supply is bad or there are other problems within the I/O rack. When this occurs, you can call your local authorized General Electric Programmable Control Distributor or your local General Electric Sales office for assistance.

Table 3 SUMMARY OF UNITS OF LOAD FOR I/O MODULES

Catalog Number IC600	Module Description	Units of Load (1)			Applicable GEK Number
		+5 V	+12 V	-12V	
BF800	I/O Receiver	9	-	-	83512
BF801	Remote I/O Receiver	42	10	10 (2)	83537
BF802	24 to 48 V dc Input	2	-	-	83513
BF804	115 V ac/dc Input	2	-	-	83513
BF805	230 V ac/dc Inpt	2	-	-	83513
BF806	12 V ac/dc Input	2	-	-	83513
BF808	Interrupt Input	3	-	-	83524
BF810	115 V ac/dc Isolated Input	2	-	-	83521
BF813	Type J Thermocouple Input	29	-	-	84867
BF814	Type K+ Thermocouple Input	29	-	-	84867
BF815	Type S Thermocouple Input	29	-	-	84867
BF816	Type T Thermocouple Input	29	-	-	84867
BF817	Type B Thermocouple Input	29	-	-	84867
BF818	Type E Thermocouple Input	29	-	-	84867
BF819	Type R Thermocouple Input	29	-	-	84867
BF827	High Speed Counter	19	-	-	83545
BF830	Advanced I/O Receiver	12	-	-	90771
BF831	High Density Input	4	-	-	83546
BF841	0 to +10 V dc Analog Input	29	-	-	83525
BF842	±10 V dc Analog Input	29	-	-	83525
BF843	4 to 20 mA Analog Input	29	-	-	83525
BF900	I/O Transmitter	34	-	-	83515
BF901	Remote I/O Driver	38	10	10 (2)	83537
BF902	24 V dc Sink Output	7	-	-	83521
BF903	48 V dc Sink Output	7	-	-	83521
BF904	115 V ac Output	9	-	-	83514
BF905	230 V ac Output	9	-	-	83514
BF906	12 V dc Sink Output	7	-	-	83521
BF907	12 V dc Source Output	7	-	-	83521
BF908	24 V dc Source Output	7	-	-	83521
BF909	48 V dc Source Output	7	-	-	83521
BF910	115 V ac Isolated Output	8	-	-	83541
BF912	230 V ac Isolated Output	8	-	-	83541
BF914	Reed Relay Output	13	-	-	83540
BF915	Axis Positioning, Type 1	23	7	3	83543
BF917	Axis Positioning, Type 2	21	11	6	90800
BF921	5 V TTL Output	3	-	-	84857
BF923	10 to 50 V dc Sink Output	3	-	-	84859
BF924	120V dc Output	5	-	-	90756
BF929	10 to 50 V dc Source Output	3	-	-	84858
BF930	115 V ac protected Output	8	-	-	90757
BF941	0 to +10 V dc Analog Output	29	-	-	83526
BF942	±10 V dc Analog Output	29	-	-	83526
BF943	4 to 20 mA Analog Output	29	-	-	83526
BF944	ASCII Basic Module (12K)	20	12	-	90758
BF945	ASCII Basic Module (20K)	20	12	-	90758
BF946	Loop Management Module	20	12	-	90802
BF947	I/O Link Local	20	12	-	90825
660CBB900/01	Genius Bus Controllers	20	2	-	90486

(1). For +5 V dc, 1 unit of load equals 60 mA (300 mw of power).
For +12 and -12 V dc, 1 unit of load equals 25 mA (300 mw of power).

(2) -12 V and 12 V current is less than 1 unit of load if RS-232 mode is not used.

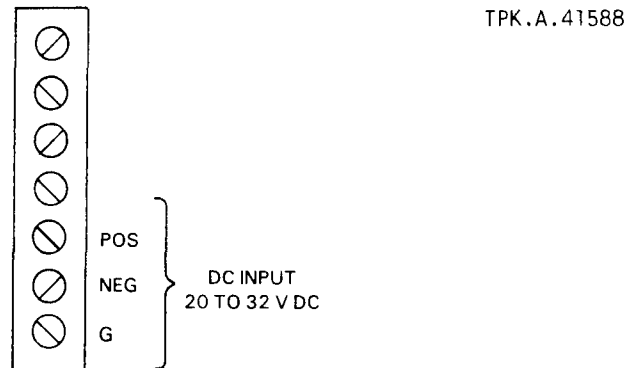


Figure 2 HIGH CAPACITY I/O POWER SUPPLY FRONT PANEL TERMINAL BLOCK

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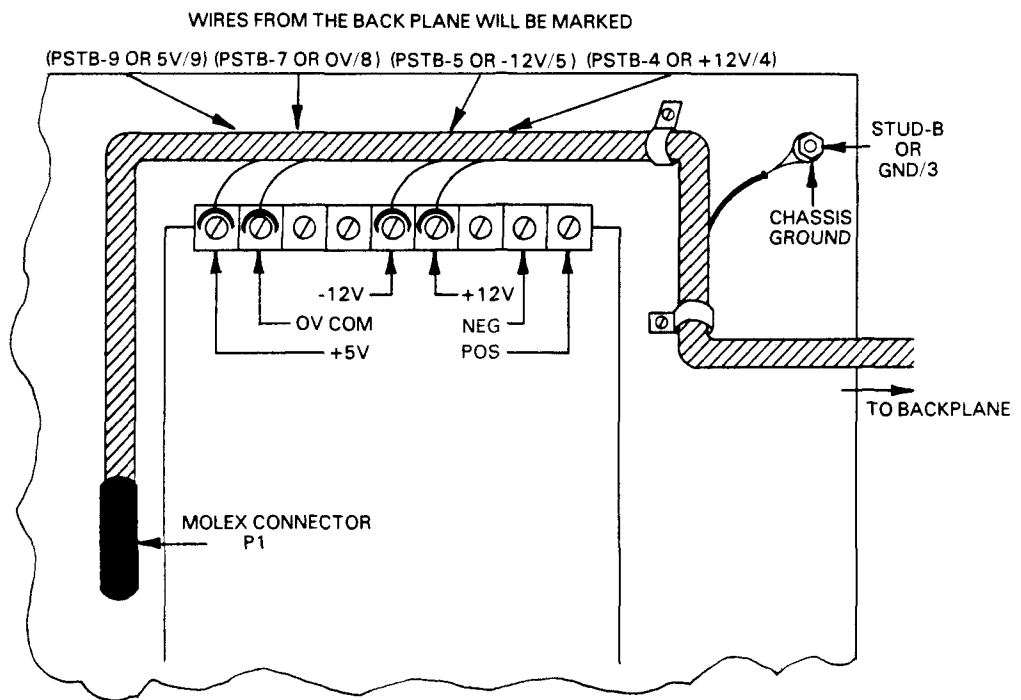


Figure 3 HIGH CAPACITY I/O POWER SUPPLY EXTERNAL WIRING

NOTE

This High Capacity I/O power supply (IC600PM542) is designed for use in the I/O rack IC600YR511. It may be substituted directly into standard rack IC600YR501 without any wiring changes to the standard rack. To use this power supply with High Capacity I/O racks IC600YR510 and IC600YR512 an I/O power supply cable adapter kit must be used and the kit installation is described in GEK-90751.

ORDERING INFORMATION

24 Vdc Input High Capacity I/O Rack Power Supply

IC600PM542



This symbol on the nameplate means the product is listed by Underwriters Laboratories Inc. (UL Standard No. 508, Industrial Control Equipment, subsection Electronic Power Conversion Equipment.)

For further information, contact your local GE Fanuc sales office.