

Power Supply, 120/240 VAC or 125 VDC, 40 Watt: IC695PSA040

Power Supply IC695PSA040 is a 40-Watt supply that operates from an input voltage source in the range of 85 to 264 VAC or 100 VDC to 300 VDC.

This power supply provides three outputs:

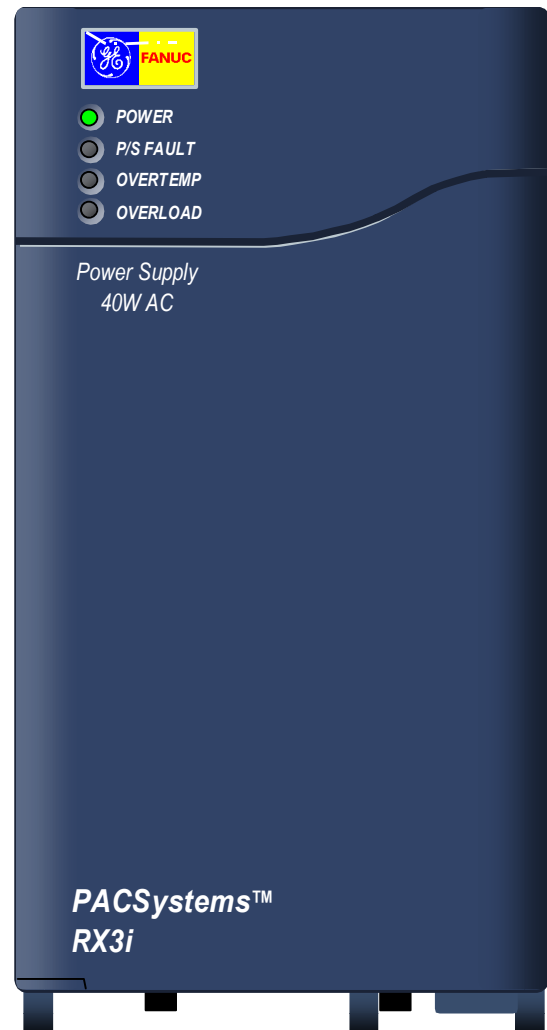
- +5.1 VDC output,
- +24 VDC relay output that can be used to power circuits on Output Relay modules.
- +3.3 VDC. This output is used internally by RX3i modules with IC695 catalog numbers.

Caution

Only one IC695PSA040 can be used in a PACSystems RX3i (IC695 catalog number) Universal Backplane. This Power Supply cannot be used with other RX3i power supplies in redundant or increased capacity modes. Power Supply version IC695PSA040C and before may cause equipment damage if inadvertently installed in the same backplane as another RX3i power supply.

If the number of modules required exceeds the capacity of the Power Supply, the additional modules must be installed in Expansion or Remote backplanes.

The Power Supply indicates when an internal fault occurs so the CPU can detect loss of power or log the appropriate fault code.



LEDs

Four LEDs on the Power Supply indicate:

- Power (Green/Amber). When this LED is green, it indicates power is being supplied to the backplane. When this LED is amber, power is applied to the Power Supply but the Power Supply switch is off.
- P/S Fault (Red). When this LED is lit, it indicates the Power Supply has failed and is no longer supplying sufficient voltage to the backplane.
- Over Temperature (Amber). When this LED is lit, it indicates the Power Supply is near or exceeding its maximum operating temperature.
- Overload (Amber). When this LED is lit, it indicates the Power Supply is near or exceeding its maximum output capability on at least one of its outputs.

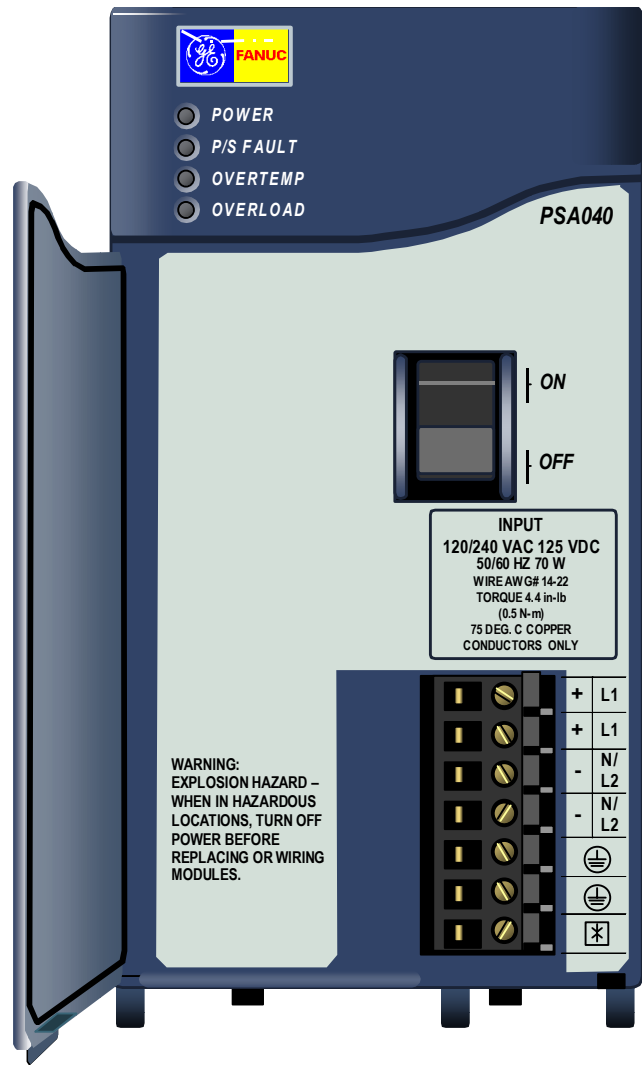
The CPU Fault Table shows a fault if any Overtemperature, Overload, or P/S Fault occurs.

On/Off Switch

The ON/OFF switch is located behind the door on the front of the module. The switch controls the operation of the outputs of the supply. It does NOT interrupt line power. Projecting tabs next to the switch help prevent accidentally turning it on or off.

Wiring Terminals

Terminals for power, ground, and MOV disconnect accept individual 14 to 22 AWG wires.



Specifications: IC695PSA040

Nominal Rated Voltage	120/240 VAC or 125 VDC
Input Voltage Range	
AC	85 to 264 VAC
DC	100 to 300 VDC
Input Power (Maximum with Full Load)	70 Watts maximum
Inrush Current	4 Amps, 250 milliseconds maximum *
Output Power	40 Watts maximum total 5.1 VDC = 30 Watts maximum 3.3 VDC = 30 Watts maximum The maximum total output power available depends on the ambient temperature, as shown.
Output Voltage	24 VDC: 19.2 VDC to 28.8 VDC 5.1 VDC: 5.0 VDC to 5.2 VDC (5.1 VDC nominal) 3.3 VDC: 3.1 VDC to 3.5 VDC (3.3 VDC nominal)
Output Current	24 VDC: 0 to 1.6 Amps 5.1 VDC: 0 to 6 Amps 3.3 VDC: 0 to 9 Amps
Isolation (input to backplane):	250 VAC continuous; 1500 VAC for 1 minute
Ripple (all outputs)	150 mV
Noise (all outputs)	150 mV
Ride-through time	20 ms. This is the length of time the Power Supply maintains valid outputs if the power source is interrupted
Wiring Terminals	Each terminal accepts one 14 AWG to 22 AWG wire.
Current per Terminal	6 Amps
Number of Daisy-Chained PSA040 Supplies	Up to 4

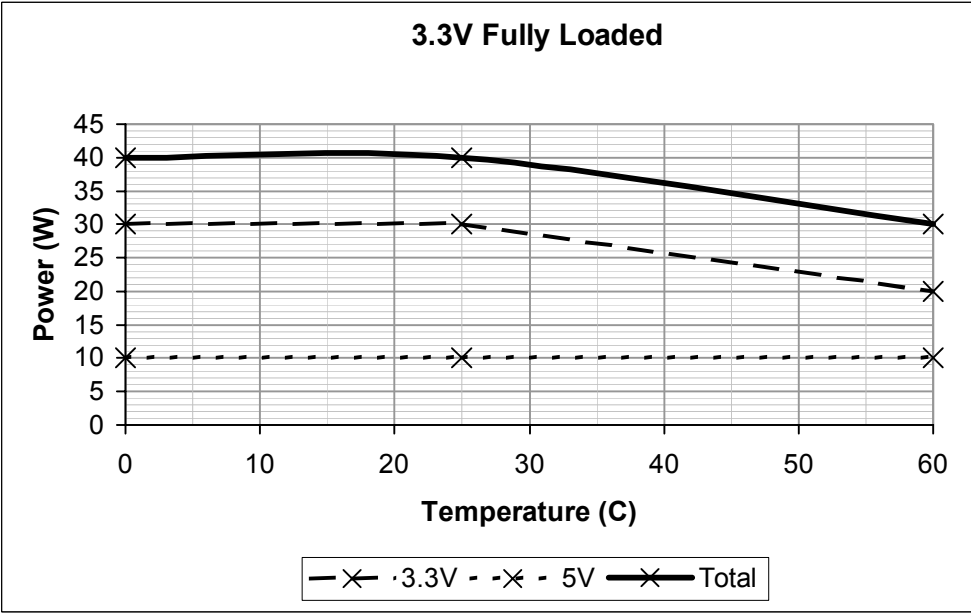
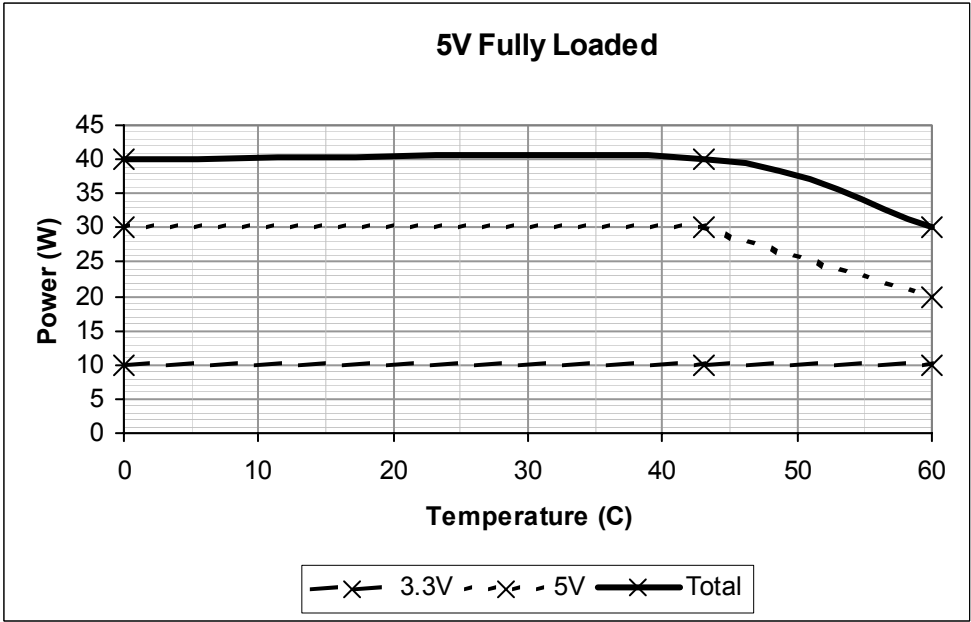
* The Inrush Current specification is given as a guide for sizing the external power source for the IC695PSA040. Peak inrush current may be higher for shorter durations.

Warning

The power supply's door must be closed. During normal operation with an AC power source either 120 VAC or 240 VAC is present on the AC Power Supply. The door protects against accidental shock hazard that could cause severe or fatal injury to personnel.

Thermal Deratings

The maximum output power for Power Supply PSA040 depends on the ambient temperature, as shown below. Full output power is available up to at least 32°C (89.6°F).



Overcurrent Protection

The 5.1 VDC output is electronically limited to 7 Amps. The 3.3 VDC output is limited to 10 Amps. If an overload (including short circuits) occurs, it is sensed internally and the Power Supply shuts down. The Power Supply continually tries to restart until the overload condition is removed. An internal, non-repairable, fuse in the input line is provided as a backup. The Power Supply usually shuts down before the fuse blows. The fuse also protects against internal supply faults. The CPU Fault Table shows a fault if any Overtemperature, Overload, or P/S Fault occurs. There is no additional indication if the Power Supply fuse blows.

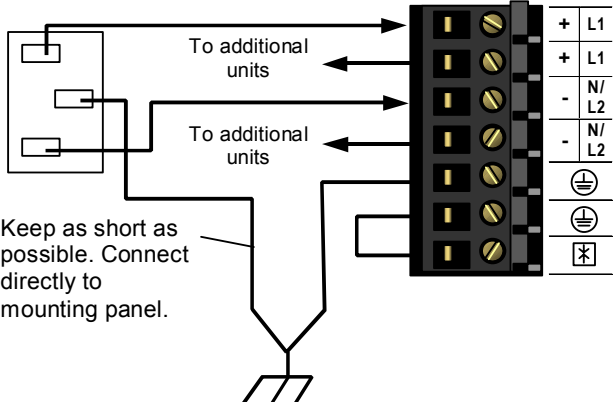
Field Wiring: IC695PSA040

Power Source and Ground Connections

The wires from the power source and ground connect to the terminals on the Power Supply as shown at right. Each terminal accepts one AWG 14 to AWG 22 wire.

Warning

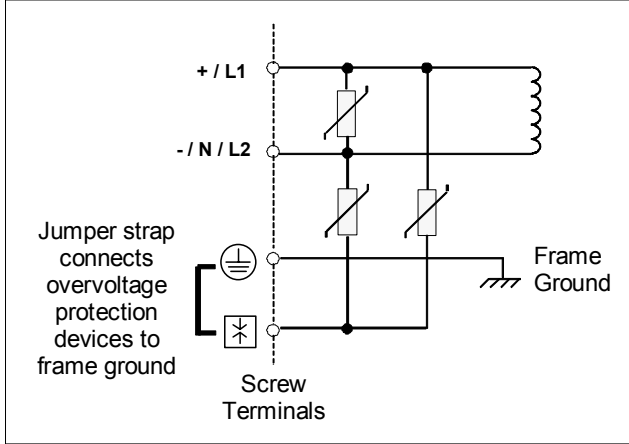
If the same external AC power source is used to provide power to two or more RX3i power supplies in the system, connection polarity must be identical at each power supply. A resulting difference in potential can injure personnel or cause damage to equipment. Also, each backplane must be connected to a common system ground.



Input Overvoltage Protection

The bottom terminal is normally connected to frame ground with a user-installed jumper as shown lower right. If overvoltage protection is not required or is supplied upstream, no jumper is needed.

To Hi-pot test this supply, overvoltage protection must be disabled during the test by removing the jumper. Re-enable overvoltage protection after testing by reinstalling the jumper.



In systems with a floating neutral input (the neutral line is not referenced to Protective Earth Ground), this jumper must NOT be installed. In addition, in a floating neutral system, voltage surge protection devices such as MOVs **must** be installed from L1 to earth ground, and from L2 (Neutral) to earth ground.