

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE PACSYSTEMS RX3i

IC695PSD140

40 W DC POWER SUPPLY

Used with the applicable PACSystems RX3i power supplies configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

LEDs light to warn of high temperature or high load conditions. The CPU Fault Table shows a fault if any Overtemperature, Overload, or P/S Fault occurs.

Wiring Terminals

Terminals for +24V and –24V power, ground, and MOV disconnect accept individual 14 to 22AWG wires

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. A projecting tab next to the switch helps prevent accidentally turning it on or off

Specifications: IC695PSD140

Specification	Description
Nominal Rated Voltage	24 VDC
Input Voltage Range	18 to 30 VDC
Input Power	60 Watts maximum at full load
Inrush Current	4 Amps, 100 milliseconds maximum †
Output Power	40 Watts maximum total of both outputs. 5.1 VDC = 30 Watts maximum 3.3 VDC = 30 Watts maximum Maximum output power depends on ambient temperature, as shown.
Output Voltage	5.1 VDC: 5.0 VDC to 5.25 VDC (5.1 VDC nominal) 3.3 VDC: 3.2 VDC to 3.465 VDC (3.3 VDC nominal)
Output Current	5.1 VDC: 0 to 6 Amps 3.3 VDC: 0 to 9 Amps
Isolation	None
Ripple (all outputs)	50 mV
Noise (all outputs)	50 mV
Ride-through time	10 ms This is the length of time the Power Supply maintains valid outputs if the power source is interrupted. If this Power Supply is used with IC694 and IC693 modules that have relay outputs, special precautions should be taken because dropouts in the source voltage will be seen by the module and could cause relay dropouts.
Wiring Terminals	Each terminal accepts one 14 AWG to 22 AWG wire.
Terminal Current	6 Amps
Number of Daisy-Chained PSD140 Supplies	Up to 4
Number of PSD140 Supplies in Universal Backplane	Up to 4
Installation Environment	For use in Pollution Degree 2 environments only

†The Inrush Current specification is given as a guide for sizing the external power source for the IC695PSD140. Peak inrush current may be higher for shorter durations.

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. Because it is designed for redundancy applications, this Power Supply latches “OFF” in fault conditions and will not automatically try to restart. Input power must be cycled to clear a latched fault. However, if the Power Supply is used in a non-redundant application where automatic restarting is required, a jumper plug can be installed as shown below. An internal non-repairable fusible link in the input line is provided as a backup. The Power Supply usually shuts down before the fusible link blows.

Introduction

PACSystems RX3i Power Supply IC695PSD140 is a multipurpose 40-Watt supply that operates from an input voltage source in the range of 18 VDC to 30 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.

Multipurpose Power Supply IC695PSD140 is suitable for use in load-sharing and redundancy applications. It must be installed in a PACSystems RX3i (IC695 catalog number) Universal Backplane. It can be used as the only power supply in the backplane, or combined with up to three additional Multipurpose Power Supplies.

⚠ CAUTION

- This Power Supply cannot be used with RX3i IC695PSD040 or IC695PSA040 Power Supplies in redundant or increased capacity modes. Damage to equipment may result.

Load Sharing

When RX3i Multipurpose DC Power Supplies are combined into load-sharing applications, following the installation guidelines given in this datasheet, they must be wired to the same power source in such a way that they all can be powered up or powered down simultaneously. The On/Off front panel switch on each of the power supplies must be left in the On position.

⚠ CAUTION

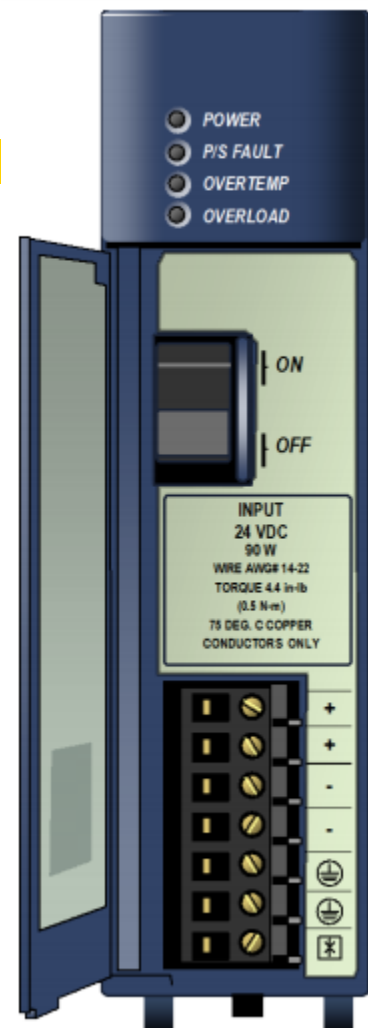
- In a load-sharing application, it is important to ensure that the load-sharing power supply modules' On/Off switches cannot be inadvertently used. The minimum number of power supplies needed to meet the system power requirements **MUST** have their switches always kept in the On position. Also, the load-sharing power supplies must be connected to the system power source through the same external switch. The system must be powered up and powered down only from the external switch. If individual power supplies are powered up or powered down using their On/Off switches or separate external switches, resulting in insufficient power capacity, equipment damage may result. It may be necessary to reload the PLC operating system to resume operation.

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. If the red P/S FAULT LED is lit, the Power Supply has failed and is no longer supplying sufficient voltage to the backplane. The amber OVERTEMP and OVERLOAD

Figure 1: Module With Opened Door



Installation in Hazardous Areas

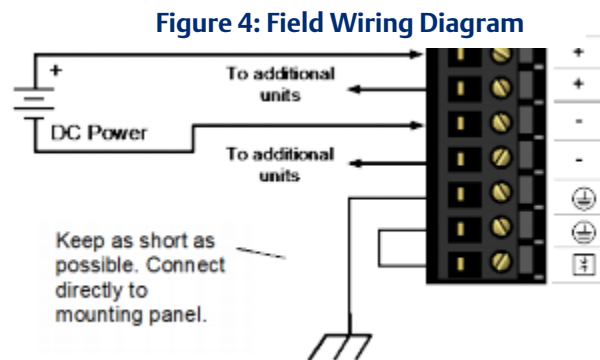
The following information is for products bearing the UL marking for Hazardous Locations or ATEX marking for explosive atmospheres:

⚠ WARNING

- EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2 OR ZONE 2;
- EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES; AND
- EXPLOSION HAZARD - DO NOT CONNECT OR DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.
- EQUIPMENT LABELED WITH REFERENCE TO CLASS I, GROUPS A, B, C & D, DIV. 2 OR ZONE 2 HAZARDOUS LOCATIONS IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D, ZONE 2, OR NONHAZARDOUS LOCATIONS ONLY.

Field Wiring: IC695PSD140

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. When tightening the screw terminals, do not exceed the maximum torque limit of 0.5 N-m (4.4 inch-lbs). Use copper conductors rated 75 degree C minimum.



⚠ WARNING

- If the same external DC power source is used to provide power to two or more power supplies in the system, connection polarity must be identical at each RX3i 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 at lower right. If overvoltage protection is not required or is supplied upstream, no jumper is required. 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.

⚠ WARNING

- This power supply is not isolated and is therefore not compatible with floating or positive grounded systems.

Figure 5: Over Voltage Protection

