PLC4000 SERIES

120 WATT DC-DC POWER SUPPLY FOR THE ALLEN BRADLEY 1771 PLC SYSTEM

FEATURES

- **Active Current Sharing**
- **Full Redundant Operation**
- **Hot Swap Capability**
- **Remote Sense**
- **Monitor & Alarm Status**
- **Hold Up Time - 20mS**
- **Multiple Input Voltage Ranges**
- **Input & Output Protection**

Input

Input Power: 215 watts max.

Status Alarm: Signals PLC if input voltage drops below specified range.

Transient Protection: Fuse and back to back zener diodes protect against catastrophic failure.

Reverse Polarity Protection: Unit will not turn on if re- verse polarity is detected.

Isolation: 725V for 1 minute, 850V for 1 second. Conditions: input to output and input to case.

Output

Output Voltage: 4.87 - 5.25 Vdc (normal range for the 1771 PLC system, including noise and ripple.)

Current Range (non-redundant): 2 A min., 24 A max.

Current Range (redundant): 4 A min., 24 A max.

Remote Sense: Maintains accurate voltage at the PLC with recommended cable (up to 4 ft of 12 AWG wire).

Overcurrent: Unit will shutdown at 110-130% of rated output current. Reset by cycling power off for 15 seconds.

Overvoltage: Unit shuts down if output voltage exceeds 5.5 V. For redundant configuration, range is 5.5 - 6.0 V.

Undervoltage: Provides status alarm.

Turn on Time: 4 sec. max. to specified output range.

Ripple: 35 mV max. p-p, ripple + noise: 50 mV max. p-p measured at the PLC power input (through 4' cable).

Load Sharing: Active load sharing is enabled in redundant configuration.

Hold up Time: 20 mS min. after a 2 mS ride-through under worst case line and load conditions.

Transient Load: Maintains specified operation for up to a 25% load change. Shutdown may result for transients greater than 25%.

Status Output: Closed relay contact when outputs are within specified range.

PE Output: Power good signal to the PLC 1771 rack.

General Description

The Intronics' PLC4xxx is an external DC-DC power supply designed to completely and safely power a fully loaded Allen Bradley 1771 PLC. The PLC4xxx can be operated in "stand alone" or "redundant mode" for high availability system configurations. The units mount externally to the 1771 PLC to maximize available I/O slots and provide up to 24 amps @ 5Vdc to power most standard 1771 PLC rack configurations. The units contain appropriate monitoring and alarm circuitry to interface with the 1771 PLC rack. In the event of input power failure, the units have sufficient hold up time to ensure orderly system shutdown.

General Specifications

Size: 9" x 8" x 3.8" - Refer to figure 1.

Power supply and System Interface:
Refer to fig. 2 for stand alone configuration.
Refer to fig. 3 for redundant mode configuration.

Fuse: user accessible.

Input Cable: 14 AWG wire.

Output Cable: 12 AWG wire, 4 foot max.

LED Indicator: Input and output voltages are within specified limits when illuminated.

Safety Agency Approval: Pending (UUCSA/CE).

Ordering Information

Model Number	Input Voltage
PLC4024	20 – 32 Vdc (24 V nominal)
PLC4048	40 – 62 Vdc (48 V nominal)
PLC4125	90 – 145 Vdc (125 V nominal)

Rockwell Automation Encompass™ Partner

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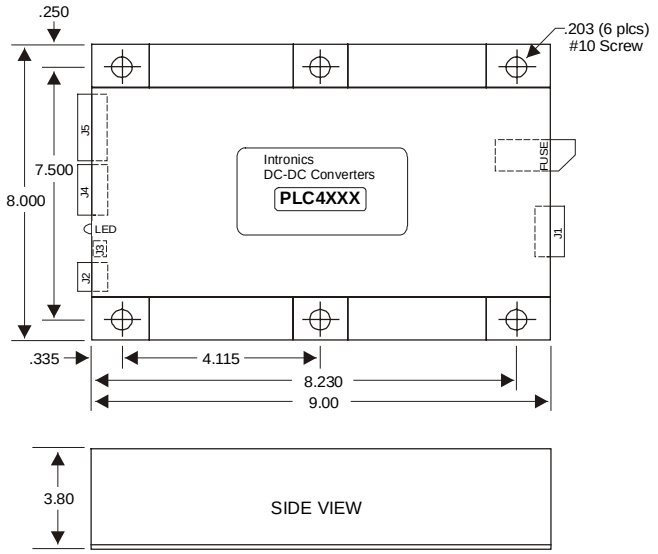
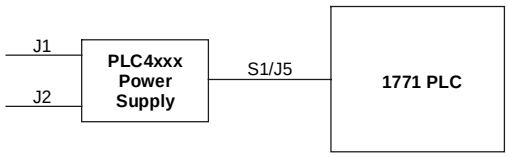
Mechanical Specifications and Connection Diagrams

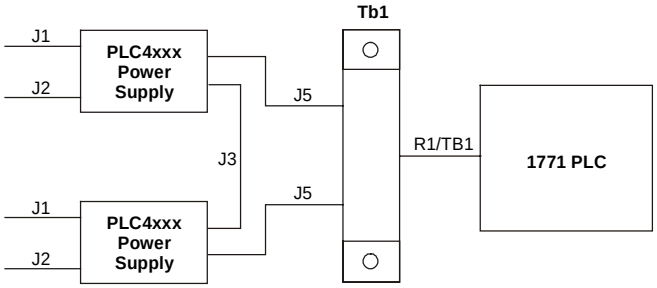
Mechanical Configuration – Figure 1



Single Unit Configuration – Figure 2



Redundant Unit Configuration – Figure 3



Note: In hazardous environments, input power must be turned off when fuses are being changed or units are being swapped.

Note: Specifications are subject to change without notice.

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Cables

CK1 – Stand alone configuration *IPN: 808-19960-10 (figure 2)*	Qty	Cable ID	Length
Input Power	1	J1	6’
Status Line	1	J2	5’
Single PLC	1	S1/J5	4’
CK2 – Redundant configuration			
IPN: 808-19960-20 (figure 3)	Qty	Cable ID	Length
INPUT POWER	2	J1	6’
STATUS LINE	2	J2	5’
Power Output	2	J5	2’
Current Share	1	J3	2’
Redundant PLC	1	R1/TB1	2’
Terminal Block	1	TB1	N/A

Note: Cable kits must be ordered separately.
All connectors are included in cable kits.

Pin Connections & Description

Pin	Description	Pin	Description
J1-1	+V in	J5-A1	+5Vdc out
J1-2	-V in	J5-1	N/C
J1-3	Chassis Gnd	J5-2	P/E
J2-1	- Status	J5-3	+Sense
J2-2	+ Status	J5-4	-Sense
J3-1	+V out	J5-A2	+5Vdc Return
J3-2	+V out 2	Case	Chassis Gnd
J3-3	Share out		
J3-4	Share in		
J3-5	Blank 2		
J3-6	Blank		
J3-7	Share Return		
J3-8	N/C		
J3-9	Shield		
Case	Chassis Gnd		

N/C = No Connect

Environmental Specifications

Storage Temperature: -40°C to + 85°C
Operating Temperature: + 0°C to + 60°C, baseplate + 75°C
Humidity: 5 – 95% non-condensing

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