Power Supplies

P3-01AC $227.00

There are two power supplies available; both provide isolated 24VDC, 5VDC, and 3.3 VDC to the Productivity3000 bases.

The P3-01AC input power supply requires power from an external 100–240 VAC source.

The P3-01DC input power supply requires power from an external 24–48 VDC source.

No Power Budgeting
No power budgeting is required with either power supply. Any combination of I/O modules may be installed in any slots without power budget considerations.

AC Input Power Supply

WARNING!: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

IMPORTANT!

Hot-Swapping Information

Note: This device cannot be Hot Swapped.

P3-01AC User Specifications	
Input Voltage Range (Tolerance)	100 to 240 VAC (-15% / +10%)
Rated Operating Frequency	50 to 60 Hz with ± 5% tolerance
Maximum Input Power	72W
Cold Start Inrush Current	12A 3ms
Maximum Inrush Current (Hot Start)	12A 3ms
Input Fuse Protection (Internal)	Micro fuse 250V, 2A, slow blow Non-replaceable
Efficiency	83%
Output	24VDC @ 1.4 A (±10%) 5VDC @ 2.1 A (±5%) 3.3 VDC @ 6.1 A (±5%)
Maximum Output Power	57W Combined
Heat Dissipation	17W
Isolated User 24VDC Output	None
Output Protection for Over Current, Over Voltage, and Over Temperature	Self resetting for all three voltage outputs to base
Under Input Voltage Lock-out	55–65 VAC
Over Input Voltage Lock-out	265–280 VAC
Input Transient Protection	Varistor, plus input choke and filter
Operating Design Life	10 years at full load at 40°C ambient and 5 years at 60°C ambient

P3-01AC General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20°C–70°C (-4°F–158°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Enclosure Type	Open equipment
Voltage Withstand (dielectric)	1900 VDC applied for 2s
Insulation Resistance	>10MΩ @ 500VDC
Module Location	Power supply slot in any local, expansion, or remote base in a Productivity3000® System.
Weight	345g (12.1 oz)
Agency Approvals	UL508 file E157382, Canada & USA UL1604 file E200031, Canada & USA CE (EN61131-2*) This equipment is suitable for use in Class 1, Division 2, Groups A, B, C and D or non-hazardous locations only.

****Meets EMC and Safety requirements. See the Declaration of Conformity for details.***

Terminal Block Specifications	
Number of Positions	4 Screw Terminals
Pitch	0.3 inch (7.62 mm)
Wire Range	22–14 AWG (0.324 to 2.08 sq. mm) Solid Conductor 22–14 AWG (0.324 to 2.08 sq. mm) Stranded Conductor 3/64 inch (1.2 mm) insulation maximum
Screw Driver Width	1/4 inch (6.5mm) maximum
Screw Size	M3 size
Screw Torque	7–9 inch-pounds (0.882 - 1.02 N·m)

Power Supplies

P3-01DC $237.00

There are two power supplies available; both provide isolated 24VDC, 5VDC, and 3.3 VDC to the Productivity3000 bases.

The P3-01AC input power supply requires power from an external 100–240 VAC source.

The P3-01DC input power supply requires power from an external 24–48 VDC source.

No Power Budgeting
No power budgeting is required with either power supply. Any combination of I/O modules may be installed in any slots without power budget considerations.

DC Input Power Supply

WARNING!: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

IMPORTANT!

Hot-Swapping Information
Note: This device cannot be Hot Swapped.

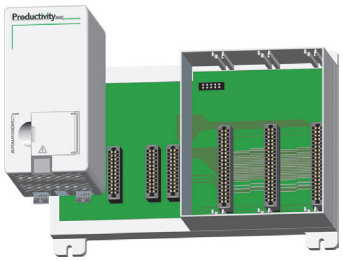
P3-01DC User Specifications		
Input Voltage Range (Tolerance)	24 to 48 VDC (-15% / +20% at 55°C) 24 to 48 VDC (-10% / +20% at 60°C)	
Maximum Input Ripple	< ±5%	
Maximum Input Power	67W	
Cold Start Inrush Current	10.5 A, 210µS @ 24VDC	
Maximum Inrush Current (Hot Start)	10.5A, 210µS @ 24VDC	
Input Fuse Protection (Internal)	Micro fuse 250V, 4A, Slow blow Non-replaceable	
Input Reverse Polarity Protection	Yes	
Output	F1 Rev. or lower: 24VDC @ 1.4A (±10%) 5VDC @ 2.1A (± 5%) 3.3 VDC @ 6.1A (± 5%)	F2 Rev. or higher: 24VDC @ 1A (±10%) 5VDC @ 2.0A (± 5%) 3.3 VDC @ 6.09A (± 5%)
Maximum Output Power	57W Combined	
Heat Dissipation	14W	
Isolated User 24VDC Output	None	
Output Protection for Over Current, Over Voltage and Over Temperature	Self resetting for all three voltage outputs to base	
Under Input Voltage Lock-out	< 19.8 VDC	
Over Input Voltage Lock-out	None	
Input Transient Protection	Varistor, plus input choke and filter	
Operating Design Life	10 years at full load at 40°C ambient and 5 years at 60°C ambient	

P3-01DC General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F)
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Enclosure Type	Open equipment
Voltage Withstand (dielectric)	750VDC applied for 2s
Insulation Resistance	>10MΩ @ 500VDC
Module Location	Power supply slot in any local, expansion, or remote base in a Productivity3000® System.
Weight	558g (19.7 oz)
Agency Approvals	UL508 file E157382, Canada & USA UL1604 file E200031, Canada & USA CE (EN61131-2*) This equipment is suitable for use in Class 1, Division 2, Groups A, B, C and D or non-hazardous locations only.

Terminal Block Specifications	
Number of Positions	4 Screw Terminals
Pitch	0.3 inch (7.62 mm)
Wire Range	22–14 AWG (0.324 to 2.08 sq. mm) Solid Conductor 22–14 AWG (0.324 to 2.08 sq. mm) Stranded Conductor 3/64 inch (1.2 mm) insulation maximum
Screw Driver Width	1/4 inch (6.5 mm) maximum
Screw Size	M3 size
Screw Torque	7–9 inch-pounds (0.882 - 1.02 N·m)

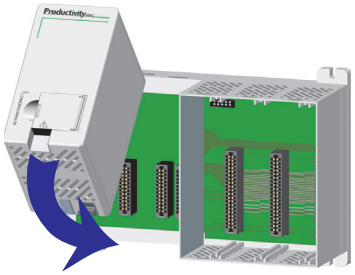
Power Supplies

Power Supply Installation



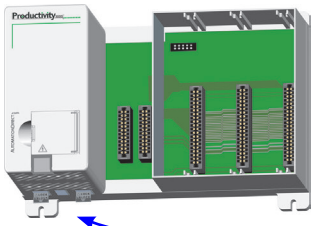
Step One:

Locate the left most socket in the base.



Step Two:

Insert the Power Supply at a 45° angle into the notch located at the top of the base and rotate down until seated in socket.



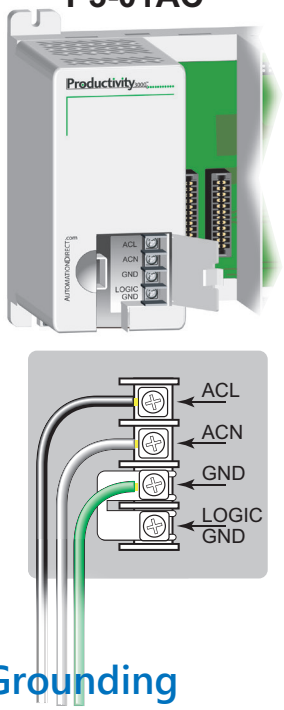
Step Three:

Snap the two retaining tabs into the locked position.

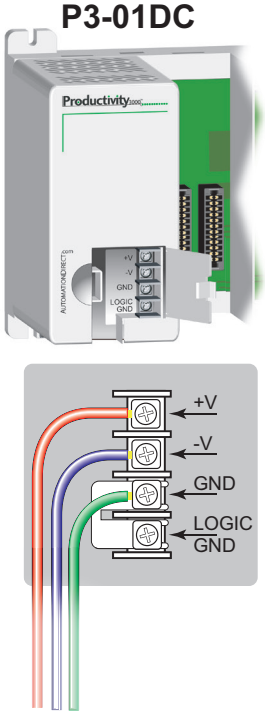
WARNING!: *EXPLOSION HAZARD – DO NOT CONNECT OR DISCONNECT CONNECTORS OR OPERATE SWITCHES WHILE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE NON-HAZARDOUS. DO NOT HOT SWAP.*

Power Connections

P3-01AC



P3-01DC



Grounding

A good common ground reference (earth ground) is essential for proper operation of the Productivity3000® system. One side of all control circuits, power circuits and the ground lead must be properly connected to earth ground by either installing a ground rod in close proximity to the enclosure or by connecting to the incoming power system ground. There must be a single-point ground (i.e. copper bus bar) for all devices in the enclosure that require an earth ground.