Power Supplies

P3-01DC <--->

There are two power supplies available; both provide isolated 24 VDC, 5 VDC, 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 Specifications

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	10.5A, 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	24VDC @ 1.4A (±10%) 5VDC @ 2.1A (± 5%) 3.3VDC @ 6.1A (± 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

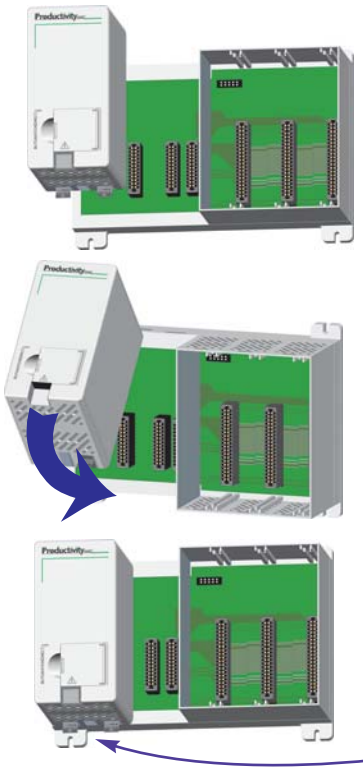
P3-01DC General Specifications	
Operating Temperature	0° to 60°C (32° to 140°F),
Storage Temperature	-20° to 70°C (-4° to 158°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Enclosure Type	Open Equipment
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.
Voltage Withstand (dielectric)	750 VDC applied for 2 seconds
Insulation Resistance	>10M Ω @ 500VDC
Module Location	Power supply slot in any local, expansion, or remote base in a Productivity3000 System.
EU Directive	See the "EU Directive" topic in the Productivity3000 Help File. Information can also be obtained at: www.productivitypac.com
Weight	558g (19.7 oz)

*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	22-14AWG (0.324 to 2.08 sq. mm) Solid Conductor 22-14AWG (0.324 to 2.08 sq. mm) Stranded Conductor 3/64 inch (1.2mm) 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 Nm)

Power Supplies

Power Supply Installation



Step One:
Locate the left most socket in the base.

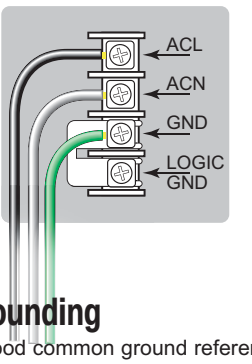
Step Two:
Insert the Power Supply at a 45° angle into the notch located at the top of the base and rotate down until seated in socket.

Step Three:
Snap the two retaining tabs into the locked position.

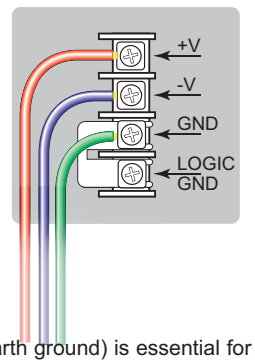
WARNING: **Explosion hazard – Do not connect or disconnect connectors or operate switches while circuit is live unless the area is known to be non-hazardous. Do not hot swap.**

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.