

PST Power Supplies

- Linear, unregulated DC power for PWM servo amplifiers
- Internal toroidal transformer
- Thermal circuit breakers on AC power input eliminate inrush tripping at power on, permit fast reset in field.
- Screw-terminal connections for mains wiring and motor power connections.
- Small footprint (7" X 11.5")
- Dual AC-voltage input for OEM flexibility when shipping to international markets.



Model	Vdc	A _{dc}	W	V _{ac}
PST-040-13-DP	40	13	520	115/230
PST-070-08-DP	70	7.5	525	115/230
PST-140-04-DP	140	3.	490	115/230

IMPORTANT:

As of January 1, 2015, Copley Controls will no longer accept new orders for these power supplies. Orders for these products can be placed until January 1, 2015 and scheduled with ship dates through July 1, 2015.

DESCRIPTION

PST models are linear, unregulated power supplies for Copley Controls PWM servo amplifiers.

The small footprint takes advantage of the fact that multiple-amplifier installations seldom operate at the maximum continuous power rating of each individual amplifier. Particularly in incremental motion applications, machine design commonly prevents simultaneous movement of all axes, and when motion occurs, it requires less than the amplifiers peak rating.

The power output rating of the PST models is sufficient to drive the majority of applications, given the varying duty cycles and power outputs of the mounted amplifiers.

The PST-040-13-DP model is compatible with 24~55 Vdc drives. The PST-070-08-DP is compatible with 24~90 Vdc drives. The PST-140-04-DP is compatible with 24~180 Vdc drives.

All of the -DP models offer switch-selection of mains voltages: 115/230 Vac at 50/60 Hz.

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GENERAL SPECIFICATIONS

Test conditions: Ambient temperature = 25°C

OUTPUT POWER

MODEL	PST-040-13-DP	PST-070-08-DP	PST-140-04-DP	
DC Volts, full load	40	70	140	Vdc, at rated Vac input
DC Volts, no load	45	79	159	Vdc, at rated Vac input
DC Amps, continuous	13	7.5	3.5	Vdc, at rated Vac input
DC Amps, peak	33	20	10	For 1 sec, 20% duty cycle
Watts, continuous	520	525	490	Full-load
Ripple voltage	2%	2%	2%	Peak-peak % of DC Volts

INPUT POWER

	PST-040-13-DP	PST-070-08-DP	PST-140-04-DP	
AC Volts	115/230	115/230	115/230	Vac, single-phase
AC Frequency	47-63	47-63	47-63	Hz
Internal circuit breaker	15	15	15	A

OTHER

	PST-040-13-DP	PST-070-08-DP	PST-140-04-DP	
Internal capacitor	47,000	20,000	6,800	µF
Capacitor rated voltage	63	100	200	Vdc
Capacitor surge voltage	79	125	250	Vdc (Note 1)
Reverse energy absorption	56	51	69	Joules (Note 2)
Bleeder resistor	3.9 k	3.9 k	6.8 k	Ohm
Isolation	yes	yes	yes	Transformer-isolated secondary
Breakdown voltage	4 kV	4 kV	4 kV	Rating

ENVIRONMENTAL

Operating temperature	0 °C (32F) to 50 °C (122F)
Derating	0.86% / °C from 50 C to 65 C

PROTECTIONS

Mains input overcurrent	Thermal circuit-breaker, 15 A, time-delay
Fan power overcurrent	Fuse receptacle for AC power to TB2 for a mains-powered fan (user supplied)

MECHANICAL & ENVIRONMENTAL

Size	11.5 x 7.0 x 3.47 [292 x 177.8 x 88.1] in[mm]
Weight	18 [8.2] lb[kg]
Ambient temperature	0 to +50 C operating

Notes:

- 1) The surge voltage rating is the maximum over-voltage including DC, peak AC and transients to which the capacitor may be subjected for short periods of time (not exceeding 30 seconds every 5 minutes).
- 2) Reverse energy absorption is the energy returned to the power supply when a servo drive decelerates an inertial load. It is the energy that will raise the power supply voltage from its rated output voltage to the capacitors rated voltage.

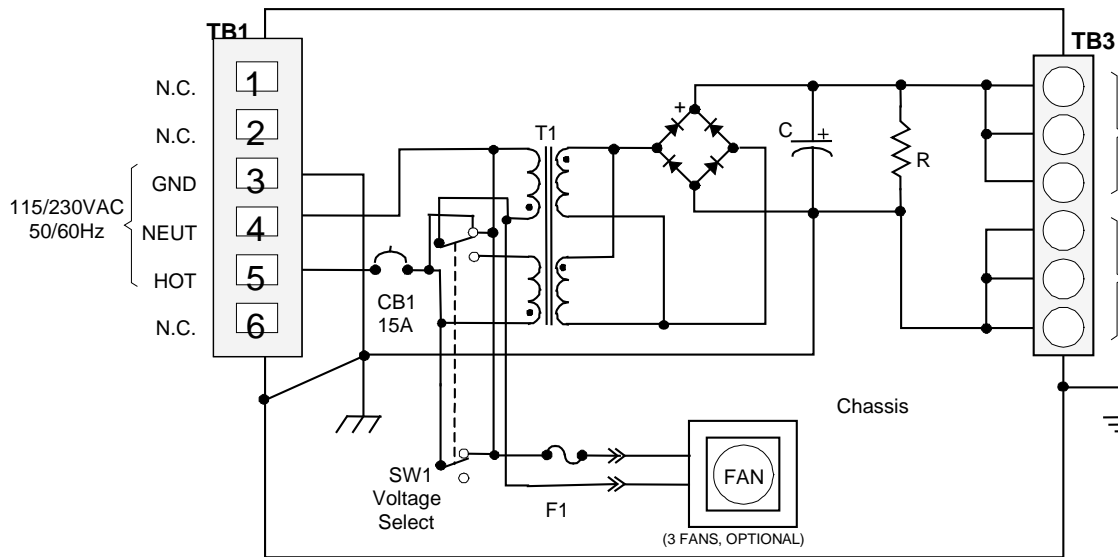
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APPLICATION INFORMATION

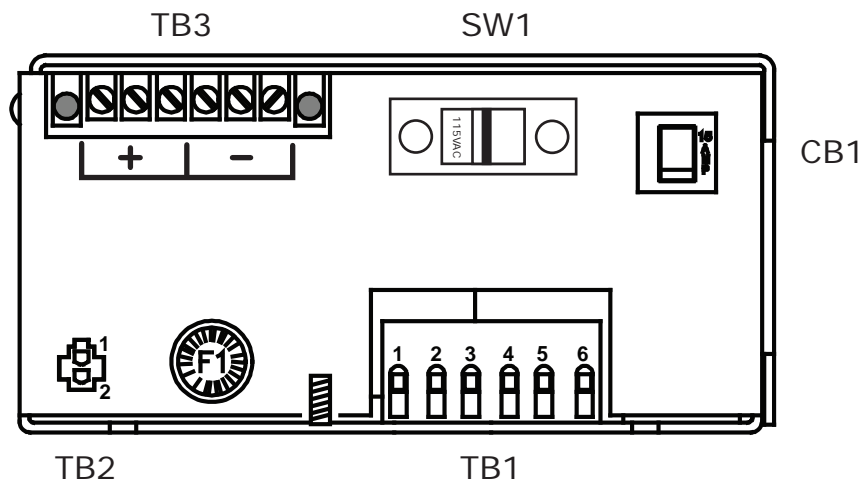
CONSTRUCTION

An internal toroidal transformer provides isolation from the mains as well as voltage step-down. A thermal circuit-breaker in the AC input will tolerate inrush current to charge the internal filter capacitor, as well as peak power outputs up to 2.5X the continuous output power. Mains power is also connected to a receptacle (TB2) for powering a user supplied fan. This output is fuse-protected.

FUNCTIONAL DIAGRAM



CONNECTIONS



PST Power Supplies

MASTER ORDERING GUIDE

PST-040-13-DP	PST Power Supply, 40 Vdc @ 13 Adc, 120/240 Vac
PST-070-08-DP	PST Power Supply, 70 Vdc @ 8 Adc, 120/240 Vac
PST-140-04-DP	PST Power Supply, 140 Vdc @ 4 Adc, 120/240 Vac

DIMENSIONS

in [mm]

