

Model CPS - TS2E

TS 2 Cabinet Power Supply - Enhanced



Dimensions: 3.4" W x 7.1" H x 7.4" D

Meets NEMA TS 2 2003 Standards

- AC Line Input Voltage - 85 VAC to 135 VAC, 43/65 Hz
- AC Input - Fuse Protected
- Power Factor Correction ≥ 0.95
- 12 VDC Output - 5 Amps
- 24 VDC Output - 5 Amps
- DC Outputs -- Fuse Protected + LED Indications
- 12 VAC Unregulated Output - 250 mA
- Line Frequency Poly-Fuse Protected
- Advanced Switch Mode Design Provides High Efficiency
- Front Panel Test Jacks for AC/DC outputs
- Operating Temperature: -40°C to $+85^{\circ}\text{C}$

Enhanced Features:

- OLED Display for an easy to use interface
- Real-time display of all AC and DC voltages and currents
- No setup required - plug in and run
- 10/100 Ethernet Port for remote communications over internet or LANs
- Self-contained web server for monitoring real-time status
- Automatically logs all AC and DC voltages and currents
- Logs are stored on a removable standard MicroSD disk for easy access

Specifications

General: The power supply incorporates an advanced switch mode design to achieve a small, lightweight, yet high power supply. It features a microprocessor system for the monitoring and recording of all AC inputs and AC and DC outputs, and for providing an easy to use interface.

Environmental: Complies with NEMA TS-2 2003 Standards

Operating Ambient Temperature: -40° C to +85° C

Power Factor: ≥0.98 at full load

Efficiency: ≥75%

Front Panel Connector: MS3106A-18-1SW

Input Line Frequency: 43 Hz to 65 Hz

Input Line Voltage: 80 VAC to 135 VAC

Line Regulation: ±0.1%

Fuse Protection: The AC line is protected with a 4 Amp slow blow 3AG fuse (front panel).

In-rush current: In-rush current is limited to less than 3 Amps AC.

Outputs - DC Voltages: 12VDC ± 2% @ 5 Amps and 24VDC ± 2% @ 5 Amps

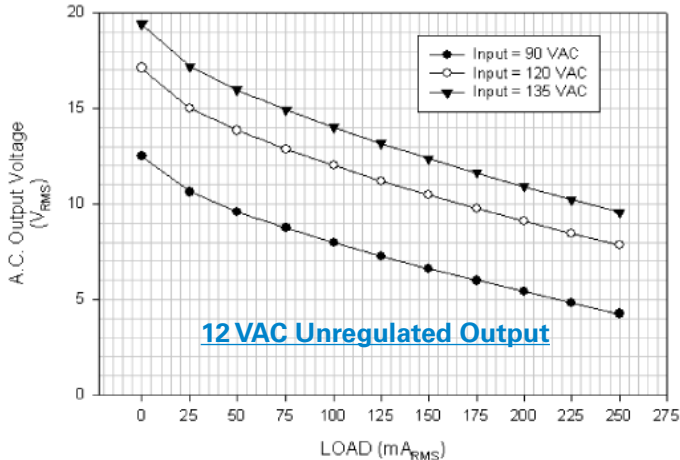
Output - Load Regulation: ± 1% Over current protection: If the DC load exceeds 7 Amps for longer than 130 milliseconds the DC output is shut-down.

Fuse Protection: DC outputs are protected with 5 Amp 3AG Slow blow fuses (front panel).

Output DC voltage indication: When either the 12 VDC or 24 VDC output voltage varies by more than ±1 VDC, their respective front panel LED changes from green to red. If the power supply shuts down due to a fault or the fuse blows, the front panel LED turns off.

Output - 12VAC 60 Hz: The sine wave output is referenced to AC neutral and provides up to 250 mARMS. The output is protected with a 0.25 Amp 3AG slow blow fuse (front panel).

Output AC voltage indication: When AC Line voltage is present and 12VAC fuse is not blown, the front panel 12VAC LED illuminates green. The LED extinguishes when 12VAC voltage is absent. It becomes proportionally less bright with increasing load on this output.



Output - AC Line Freq. Ref.: The line frequency reference output is a 60 Hz square wave with amplitude of 24 VDC ±2% referenced to DC common. The output can source or sink 100 mA. Transitions of the square wave occur within ±50 microseconds of the AC zero crossing.

Initial start-up: A soft start feature is provided for starting up under heavy loads. Power draw from the AC line is ramped up over a 4 millisecond period.

Self-checking: Self-monitoring feature shuts down the DC output in the event of a failure or excessive load.

Emissions: Radiated and conductive emissions are in compliance with FCC part 15, Class A.

Circuit Board: The printed circuit board is 0.062 inch thick FR4 material with 2 Oz. Copper. All holes are plated through. Circuit boards and components are conformal coated with a polyurethane coating.

Enclosure: The enclosure is fabricated with powder coated aluminum. Threaded mounting holes are located on top, bottom, and back and uses #8 Pan head screw.

User Interface: Front panel OLED Display is an organic light emitting diode display providing outstanding readability from -30° C to +80° C. Allows viewing and setup of all parameters and logs.

Size: 3.4 inches wide x 7.1 inches high x 7.4 inches deep

Weight: 2.71 pounds.

Enhanced Features

Real-time Measurements:

- AC Line voltage: Root Mean Square (RMS) voltage displayed is composed of at least 40 measurements (samples) across each line cycle of AC line voltage waveform.
- AC current draw: RMS current is composed of at least 40 samples across each line cycle of the AC current waveform.
- Voltage and current of 24 VDC output, 12 VDC output, and 12VAC output: each is sampled at least 40 times during a 100 μsec interval and then averaged together.

Logging:

- Provides detailed, time-stamped records of the following
 - Faults: High and Low DC Voltages
 - High DC currents
 - High and Low AC Voltages and Frequency
 - High AC Currents
- All AC inputs and outputs and DC outputs are continuously logged at 0.5 second intervals for up-to 6 month (with a standard 2GB MicroSD card installed)

Fault Trip Points	High	Low
AC Line Input Voltage	135 VAC	85 VAC
AC Line Input Frequency	63 Hz	57 Hz
24VDC Output Voltage	26 VDC	22 VDC
24VDC Output Current	>5.0 ADC	--
12VDC Output Voltage	14 VDC	10 VDC
12VDC Output Current	>5.0 ADC	--
12VAC Output Voltage	--	<4 VAC
12VAC Output Current	>250 mAAC	--

Data Storage: Standard removable MicroSD disk. The power supply comes with a 2GB capacity disk which the user can replace with any larger capacity disk for greater data storage capability. Logs are stored on the MicroSD card. Data is saved every 1/2 second is stored as comma separated value ASCII file with a date and time stamp. Faults are logged in a separate ASCII file with a date and time stamp.

Communications: 10/100 Ethernet port connectivity. Provides remote access to the power supply self-contained Web server over the internet and/or LANS. A unique MAC and IP address is set at the factory. The subnet mask and IP address can be changed by the user.

Web Server: By accessing the IP address of the power supply through a standard internet browser, a web page is created by the power supply displaying the real-time voltages and currents (inputs and outputs) as well as any previous (unacknowledged), latched, or in progress faults. This web page can easily be incorporated into any web site for, as an example, automatic e-mail of a faulted cabinet power supply.