

Astrapi i Rack Mount Power Supply Module



Power Anytime, Anywhere

The Tesla™ Astrapi i Rack Mount Power Supply Module is expertly engineered as a single source of clean power for data centers and industrial control and communication equipment. The Power Supply Module is capable of delivering 6.3 kVA of reliable, filtered, regulated DC power while operating from single-phase AC power. As always, the unit is backed by a Tesla™ 2-year warranty, a trained support team, and an experienced staff of customer service professionals.

Models:

- **AST100-12** 14.25 V (12 V) @ 400 amps continuous power
- **AST100-24** 28.5 V (24 V) @ 200 amps continuous power
- **AST100-48** 57 VDC (48 V) @ 112 amps continuous power

Features:

- Paralleled ability
- Maintenance-free design
- Conforms to EIA-310 standard
- Fits in a 3U rack space
- Built-in Voltage and Amp Meter with backlighting
- Exceeds MIL-STD-810F/MIL-STD-461
- Single Phase 200-260 VAC 40 Hz - 1 kHz operation
- 99% efficient active power factor correction
- 1% THD (Total Harmonic Distortion)
- Host Gateway running LINUX Operating System
- The ability to measure and regulate current and voltage according to internal temperature
- Communications Interface Connector to connect with Tesla™ Battery Module



Features and Benefits

Digital Volt and Amp Meter

The DVAM provides measurements for the DC Output Voltage and Amperage between zero and 200 amps. This built-in meter allows the end user to monitor system output power consumption.

AC Input and DC Output Circuit Breakers

The AC Input Circuit Breaker serves as a power “On/Off” switch for the AC Input. The breaker also protects the system by tripping when the AC Input exceeds 35 amps continuous. The DC Output Circuit Breaker serves as a power “On/Off” switch for the DC Output. The breaker also protects the system by tripping when the DC Output exceeds 120 amps continuous.

AC Input

The AC Input accepts 200-260 VAC Single Phase, 40 Hz - 1 kHz.

Cooling Fans

Smart Cooling Technology utilizes active temperature monitoring for quiet and efficient heat dissipation.

DC Output

The DC Output safely provides 57 VDC @ 112 amps of clean, regulated power for the operation of delicate equipment. An optional second DC Output can be added to interface with the Tesla™ Power Distribution Unit (PDU) if the Single Power Distribution System (Extended Capacity) meets your needs. See the Multiple System Configuration Flowchart for an illustration.

Interface Connector

Allows for communications between the Tesla™ Battery Module and the Tesla™ Power Supply Module.



Figure 1: Digital Volt / Amp Meter, 120 DC Output (left) and AC Input Circuit Breaker (right)



Figure 2: AC Input and Cooling Fan



Figure 3: DC Outputs (shown with optional second output)



Figure 4: Interface Connector

LINUX Host Gateway/Ethernet Connections

LINUX Host Gateway

The Astrapi i Power Supply Module is a Host Gateway running a LINUX operating system. The Astrapi i System communicates through a SSH (Secure Shell) running 128-bit encryption to allow for secure communication between the host and the server. The encryption provides confidentiality and integrity of data over an unsecured network.

The system can be accessed via a host computer, a remote laptop, or secure web page. Access to the system can be controlled with passwords and certificates. The LINUX Host Gateway also runs a POP SMPT to send out status emails.



Ethernet Connections

LAN Connection

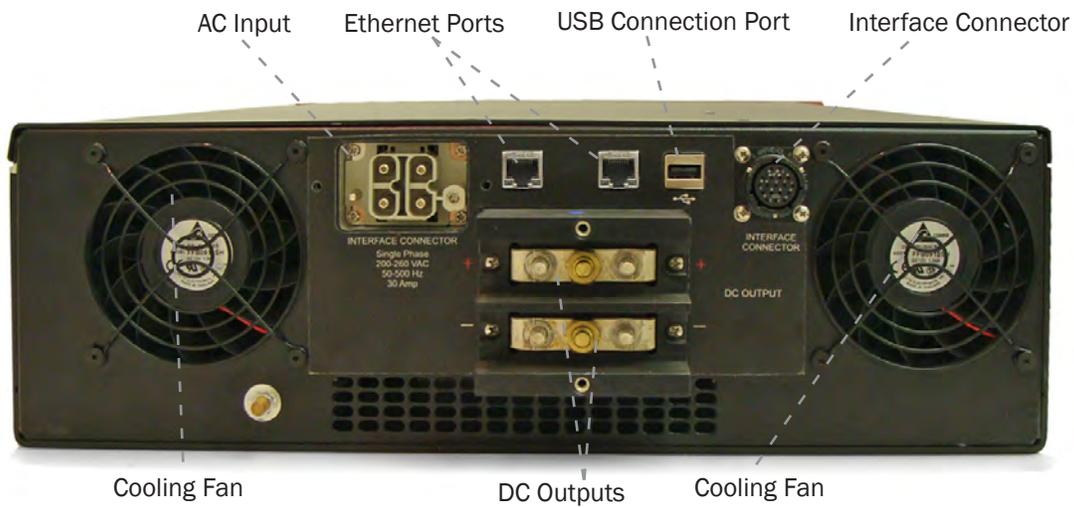
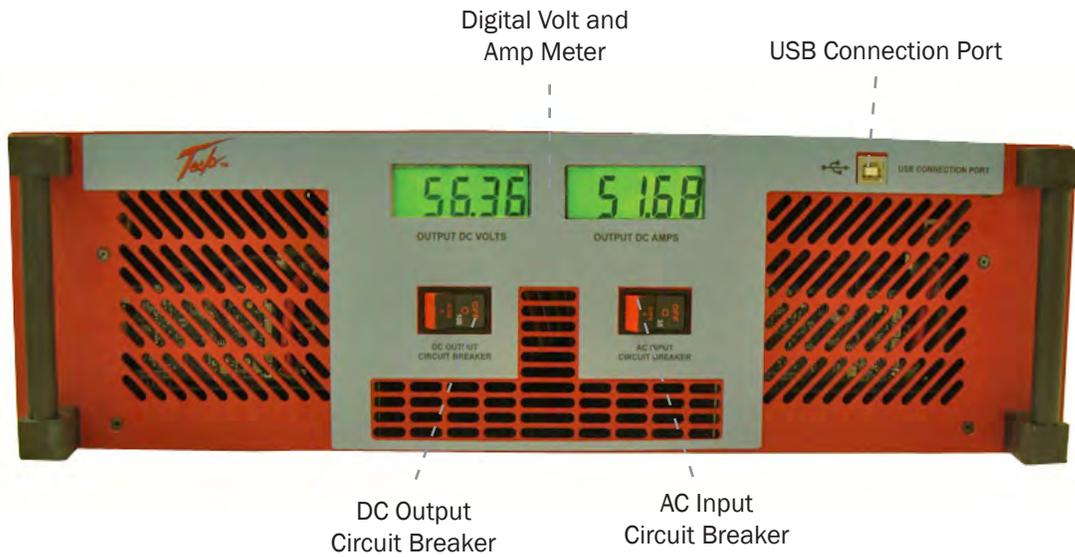
The Astrapi i Power Supply Module's LAN connection uses a DHCP server to connect multiple servers so that the rack functions as its own LAN. A DHCP server assigns IP addresses dynamically, while a DNS server allows you to assign individual names to the nodes in the rack.

WAN Connection

The Module's embedded host WAN connection provides a gateway to the internet and access to each LAN. The WAN connection also allows the user to access the ILO KVM through a SSH socket to control the system remotely.



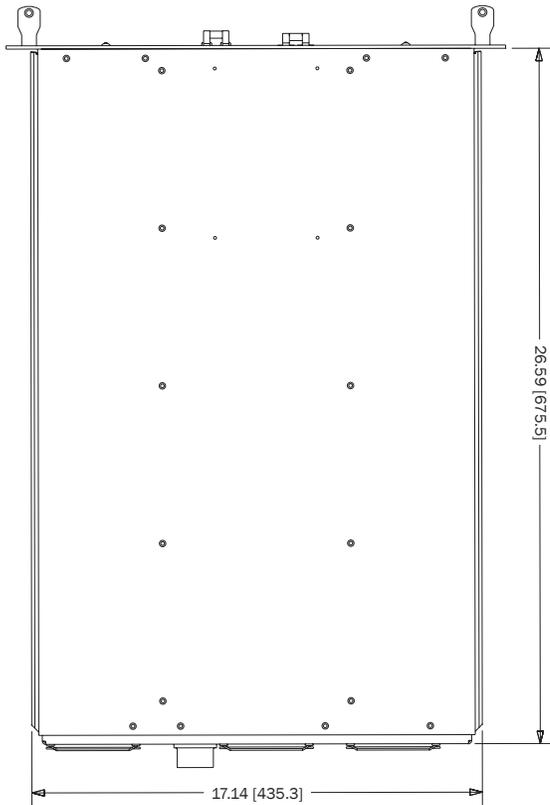
Components - Exploded View



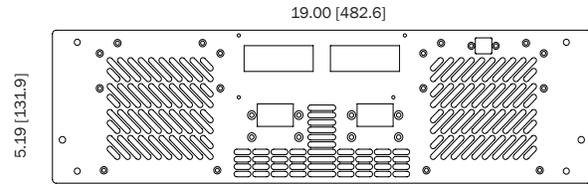
Powder Coated Aluminum Chassis



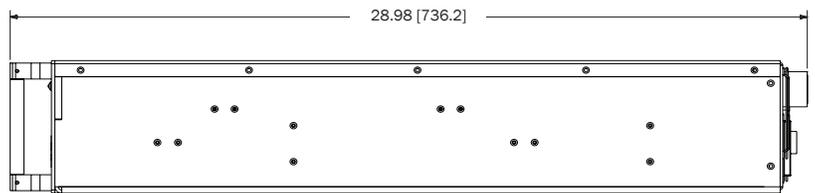
Dimensions and Technical Specifications



Top View



Front View



Side View

Technical Specifications:

Storage Temperature	-65 °C - +60 °C (-85 °F - 140 °F)
Operating Temperature	-40 °C - +60 °C (-40 °F - 140 °F)
DC Output - continuous	14.25 VDC @ 400 amps 28.5 VDC @ 200 amps 57 VDC @ 112 amps
AC Input Power	200-260 VAC, 40Hz-1kHz, 35 amps max.
Active Power Factor Correction	99% Efficiency 1% THD (Total Harmonic Distortion)
Vibration	Exceeds MIL-STD-810F
Weight	56 lbs (25.40 kg)