

HELIOS

Mini System 3500

3500W 48VDC Compact Flexible Power System

Total Power	3500 Watts
Input Voltages	96 - 264VAC
# of Outputs	1 - 15
Size	21.5" W x 5.25" H x 14" D



SPECIAL FEATURES

- 3500W Constant Power Output System
- Available in 110VAC or 220VAC systems
- 110 VAC systems contain from one to eight, 250W Output Rectifiers providing up to 1750W with N+1 Redundancy
- 220 VAC systems contain from one to eight, 500W Output Rectifiers providing up to 3500W with N+1 Redundancy
- Adjustable DC Output Voltage: (48 to 55.5V)
- Adjustable Temperature Compensation (Disabled to 144mV/DEG C)
- Adjustable Low Voltage Disconnect (Disabled to 47 V DC)
- Adjustable Battery Charge Control (2A to 20A)
- Distribution: 10 Fuse Positions (0 to 15A each)
 - Up to five breakers
- Power Factor Correction
- Current Sharing
- Soft Switching Technology
- Full Output Power at Full Temperature Range
- Full Complement of LED and Output Alarms Available
- Connections for up to Two Battery Strings
- EMI Filter Included
- Compact Dimensions (21.5"W x 5.25"H x 14"D) (550 x 133 x 300mm)
- Optional fan shelf for increased temperature range, and installation in areas with low volume or no air flow

ENVIRONMENTAL

- EMC/EMI: FCC Class B, CISPR Class B for digital devices, Bellcore GR-1089-CORE
- ESD: Bellcore TR-NWT-001089
- Temperature: -40° to +50°C with natural convection cooling, -40°C to +65°C with forced air cooling
- Humidity: 0 to 95% RH (non-condensing)
- Acoustic Noise: <65dB for full system including eight rectifiers, fan unit
- Cooling: natural convection / forced air
- Shock and Vibration: Bellcore TR-NWT-000063
- Fire Resistance: UL94VO
- Voltage Surge Protection: meets IEEE C62.41-1991

ELECTRICAL SPECIFICATIONS

Input

AC Input Voltage Range	110/120VAC (96 - 132 VAC)(250 watt rectifiers) 208/240VAC (176 - 264VAC)(500 watt rectifiers)
Frequency	50 - 60 Hz (45 - 65 Hz)
Efficiency	>86% (50 - 100% output load)
Power Factor	0.99 (50 - 100% output load)
Total Harmonic Distortion	<5%

Output

DC Output Voltage Range ...	-48VDC (user selectable 48 - 55.5VDC)
Maximum Output Power	1750 watt/system @110VAC (250 watt rectifiers) 3500 watt/system @ 220VAC (500 watt rectifiers)
Voltage Regulation	+/- 0.5% load/line and +/- 1.0% load/line/temperature
Dynamic Response	from +/-5% for 10% to 90% or 90% to 10% load step changes
Protection and/or	
Disconnect	fuses/breakers
Parallel Operation	+/- 10% of rated current between rectifiers
Power/Current Limit	102.5% +/- 2.5% of rated power at output voltages >42VDC
Capacitor Precharge	Automatic upon insertion
Hold-up Time	Output voltage remains above -42V for 30 msec
Voice Frequency Noise	less than 55 dB mC
High Frequency Noise	less than 250 mV rms

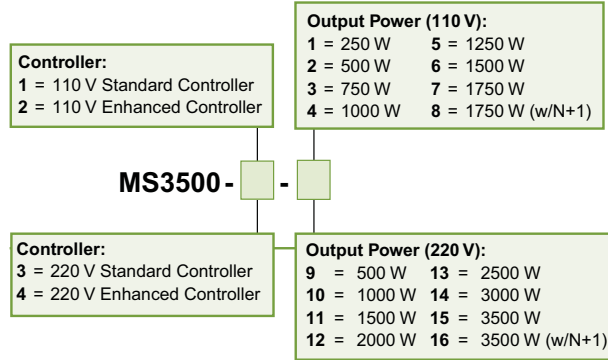
SAFETY

UL 1950
UL1801
CSA C22.2 No. 950
IEC-950



ORDERING INFORMATION

Mini System 3500¹



Notes:

1 System includes Shelf, Controller, Low Voltage Battery Disconnect, and one Fuse Pack.

BREAKER SELECTION FOR MS3500

Current [†]	Model Number
1 A	A0723076
5 A	A0723033
15 A	A0723037
20 A	A0723007
30 A	A0723040
50 A	A0723008

* All breakers rated @ 80VDC

OPTIONS

Battery interface module	Astec Part # A0681148
Temperature Probe for Standard Controller (analog, 10 ft.)	Astec Part # P0881761
Temperature Probe for Enhanced Controller (digital, 10 ft.)	Astec Part # P0881758
Fan Shelf.	Astec Part # NT5C22GA

Cables

Alarm Cable

Type		15 feet	30 feet	100 feet
34 position (J18)	Astec Part #	P0883245	P0883246	P0883247
20 position (J19)	Astec Part #	P0883248	P0883249	P0883250
16 position (J20)	Astec Part #	P0883251	P0883252	P0883253

BIM Interconnection Cables

Type		5 feet	15 feet
BIM to BIM	Astec Part #	P0876031	P0882987
BIM to Enhanced Controller	Astec Part #	P0876032	P0882989

NOTES

Standard Controller

The standard controller has control, monitoring and alarm features including temperature compensation and thermal control functions. Settings are selectable with dipswitches. Settings are programmed in the controller card and automatically configure any newly inserted rectifiers.

Enhanced Controller

The enhanced controller is microprocessor based and incorporates all of the features of the standard controller, as well as software based configuration and monitoring, and the addition of improved battery management. Software is included with the controller.

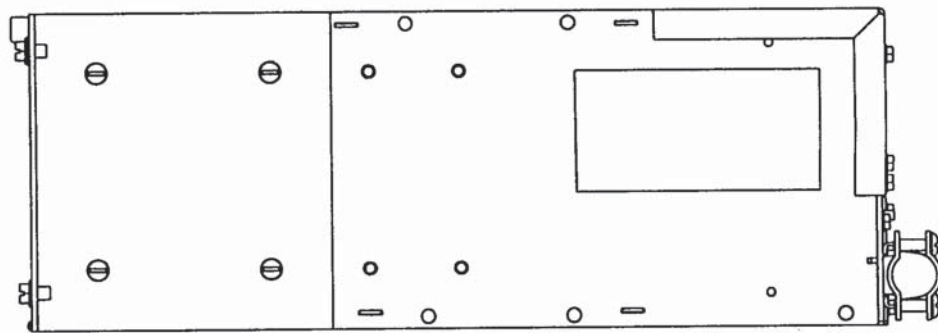
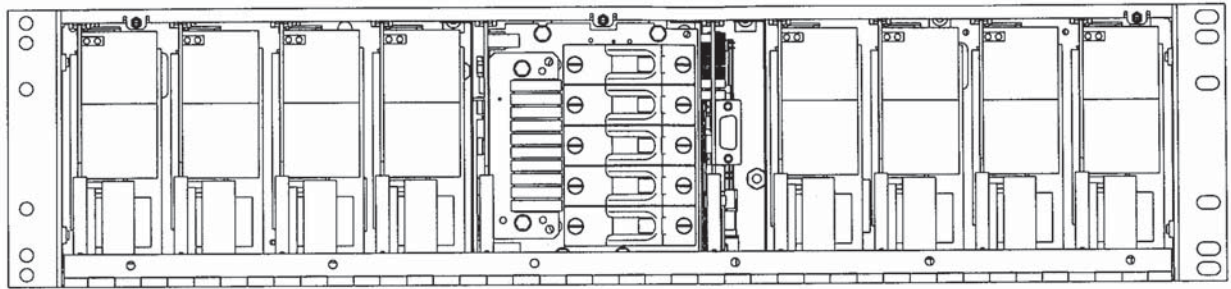
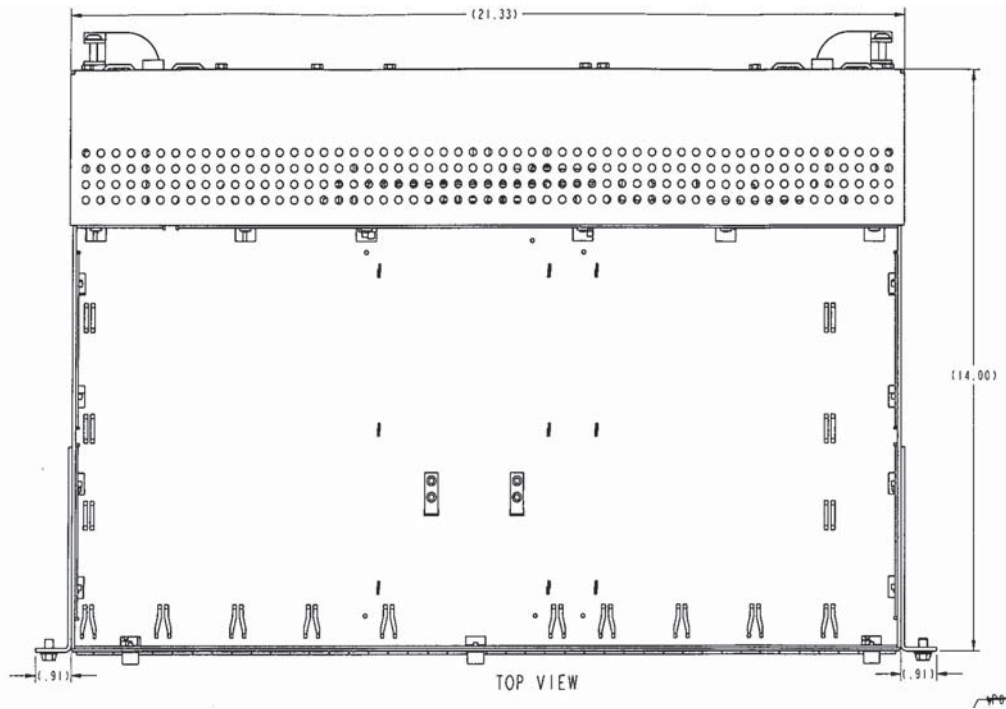
Battery Interface Module

The Enhanced controller is capable of more sophisticated monitoring of batteries by using the Battery Interface Module (BIM). The BIM maximizes battery life, and allows the Enhanced Controller to perform battery state/life calculations and prediction of battery life expectations.

The BIM is mounted on one battery of each battery string (maximum 12 battery strings) and is capable of providing the following information regarding the batteries, and protects the system from any battery malfunction via a circuit breaker: voltage, midpoint voltage, current, temperature (°C), ambient temperature (°C), battery interface module fail status, breaker status.



DRAWINGS • MINI SYSTEM 3500



RIGHT SIDE VIEW

