MicroCab™ 1500

High Reliability Non-Stop DC Power System

Small, corrosion-resistant, weatherproof package

Weatherproof. Compact. Rugged.

12/24/48VDC, 40-300Ah @ 24V, 40-150Ah @ 48V

UL Listed, IBC seismic certified systems

Sealed electronics compartment

Generous conduction cooling

Contact
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CAD drawings, firmware, certifications, and technical documentation are available on our website.

Weatherproof DC Power System

Delivers reliable battery-backed power

The MicroCab features high reliability, compact size, network comms, UL listed certification, and is CEC Title 20 energy efficient. Optional features include surge suppression, high temperature batteries, and thermal management.

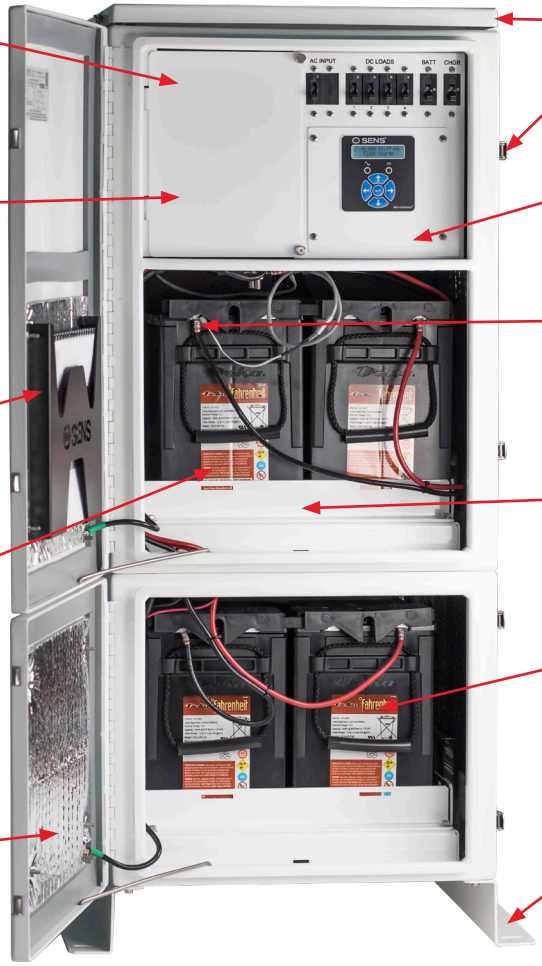
Sealed electronics bay
Protects electronics from dirt and humidity
Conduction cooled high efficiency rectifiers

Field wiring access compartment
Large, well-marked terminations
Easy access via top and front panels

Non-corroding construction
Aluminum enclosure
Stainless hardware
White paint reduces solar heating

VRLA storage battery
Standard VRLA for moderate climates
Optional high temp VRLA for longer life

Optional battery compartment insulation
Increases battery performance in cold environments
Increases battery life in hot environments



Fast operating, lockable cam latches
Top and front open for easy installation

Automatic battery load test
Safely checks battery's ability to sustain load

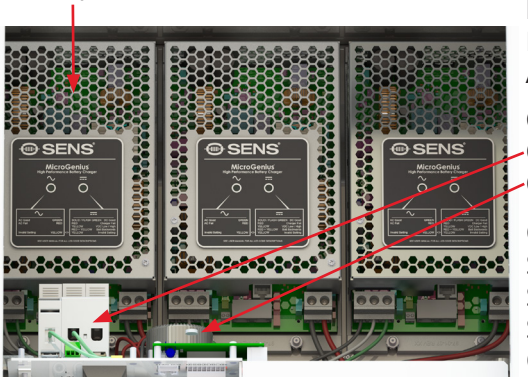
Battery temperature compensation
Maximizes battery life & performance

IBC seismic certified design to 2.5G S_{DS}
Includes battery tie-down kit

Optional second battery bay
Increases system battery capacity

Free-standing or wall/pole mounting
Free-standing cabinet shown

High reliability MicroGenius® 2 rectifiers
Deliver high efficiency & abuse resistance
Multiple rectifiers for increased current or redundancy
24V - up to 3 rectifiers at 15A
48V - up to 2 rectifiers at 12A

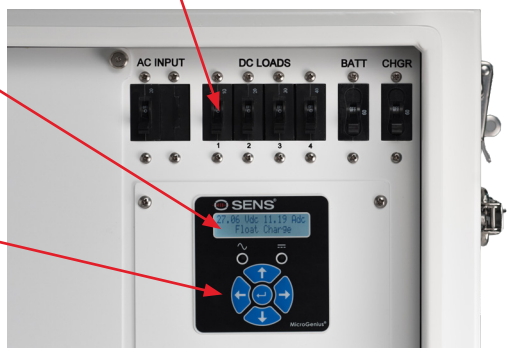


Display & control panel
Backlit LCD
Adjust using keypad or computer

Complete protection
Optional AC & DC surge suppression
Optional low voltage load disconnect

Communications & Alarms
Standard battery failure alarm
Standard Form C alarm contacts
Standard Modbus RS-485
Optional Modbus over Ethernet

DC distribution breakers (min 1, max 4)
10-40A per circuit available

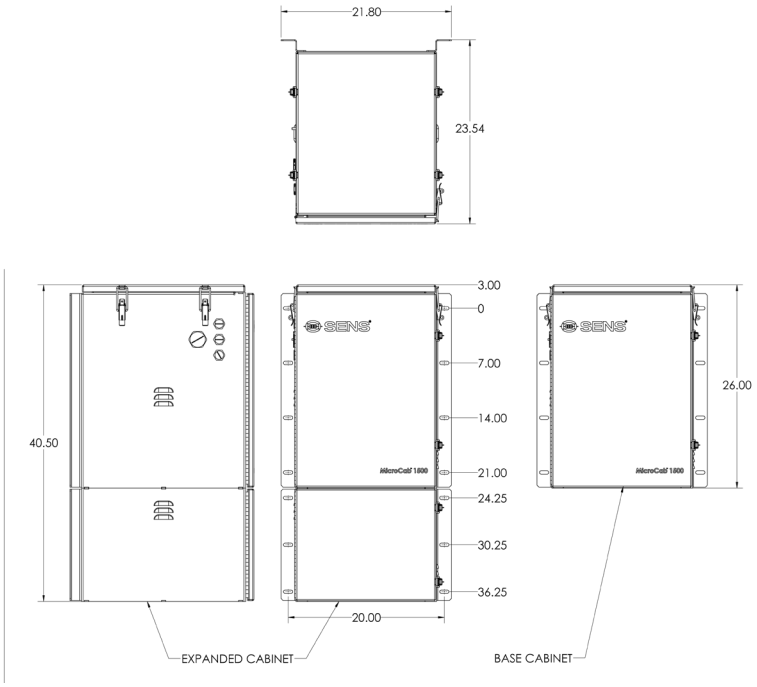


Dimensions and Weights

Wallmount enclosure

Cabinet without expansion base

Typical weight for a single cabinet 24V system is 280lbs.

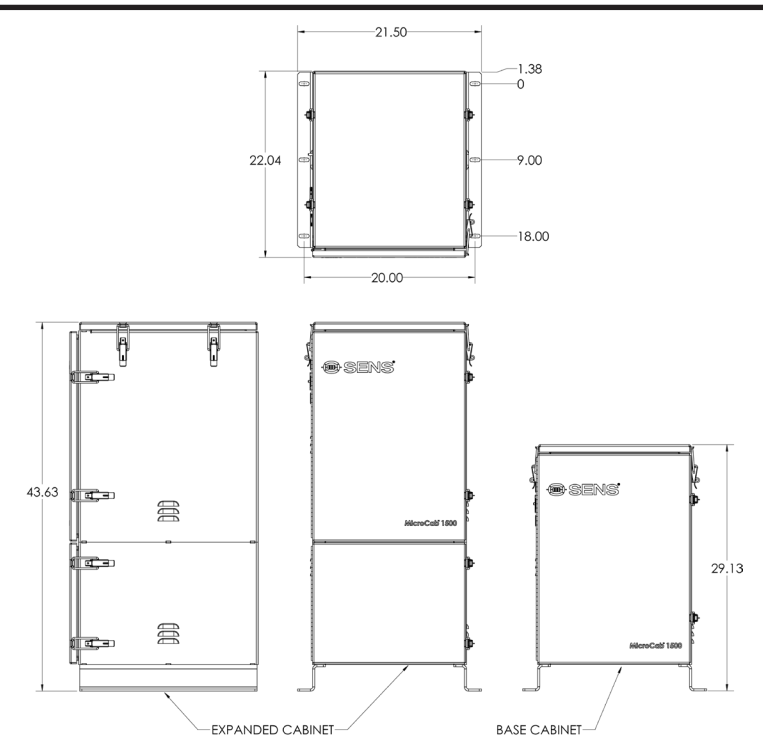


Free-standing enclosure

Cabinet with optional expansion base

Optional top lift brackets shown

Typical maximum weight for an expanded cabinet 24/48V system is 535lbs.



MicroCab™ 1500 Specifications

AC Input	Voltage, Frequency	90-265VAC , 47-63Hz auto-selecting
	Input current	14A maximum for models with 3x 12/24V rectifiers and heaters, 18A maximum for 2x 48V rectifiers & heaters
	Protection	2-pole circuit breaker rated 20A and 5KAIC, soft start, transient protection
	Efficiency	Up to 95%
	Power factor	>.95 typical at maximum rated load current and boost charge voltage
DC Output	Voltage	12V nominal: adjustable from 8-17V 24V nominal: adjustable from 8-34V 48V nominal: adjustable from 10-68V
	Line/load regulation	±0.5%
	Output ripple	< 30mVrms with or without battery
	Current (per rectifier)	450W: 15A at 12/24V nominal, 450W maximum (12A max below 170VAC input voltage in 24V configuration) 750W: 12A at 48V nominal, 25A at 12/24V nominal, 750W maximum 900W: 30A at 12/24V nominal, 900W maximum (24A max below 170VAC input voltage in 24V configuration) 1350W: 45A at 12/24V nominal, 1350W maximum (36A max below 170VAC input voltage in 24V configuration) 1500W: 25A at 48V nominal, 1500W maximum
	Charging characteristic	Constant voltage, current limited
	DC power supply	Delivers fast-responding, stable, well-filtered DC without battery
	Soft start	5 seconds from startup to full-required output
	Current limit	Factory set at 100%. Field adjustable. Subject to temperature & input voltage limits. Current limit set at max allowed current for redundant charger systems.
	Battery temperature compensation	Battery sensor controls changes in output voltage when battery temperature is between 0°C and +40°C
	Output protection	1-pole circuit breakers rated 60A and 10KAIC each for charger and battery disconnect, optional 1-pole load distribution breakers rated 10-40A and 10KAIC, transient protected
	Overvoltage protection	Self-resetting and selective
	Dead battery charge	Starts into and recharges zero volt battery without user intervention
	Output blocking protection	Non-functioning chargers are isolated from others in the system
Batteries	Type	VRLA, standard or high temperature
	Number	Up to 2 blocks with base cabinet, up to 4 blocks with expanded cabinet
	Ah capacity	Up to 150Ah at 48V, up to 300Ah at 24V, up to 600Ah at 12V
Adjustment & Controls	Factory adjustment	Factory set to customer specifications; field reconfigurable
	Adjustment	Change/customize settings from either front panel keypad, or computer using optional USB adapter & SENS Setup Utility
Alarms	Alarm operation	System automatically monitors all alarm conditions, but provides alerts only for those selected as active. Selected alerts shown on display and via Form C contacts. All alarms available via Modbus.
		Alarms (either factory defaults or customer-specified alarms) set at factory; field reconfigurable using SENS Setup Utility and onboard USB
	Display output	All active alarms shown on system display
	Network output	All alarms available via Modbus
	Form C contacts	Three alarm contacts available: Summary alarm, major alarms, minor alarms. Contact SENS Sales or see user manual for detailed information.
		Contacts rated 30VDC/VAC, 2A resistive, normally open or normally closed, assignable at factory or with SENS Setup Utility
		Time Delay: default 30 seconds, adjustable from 5 to 60 seconds

MicroCab™ 1500 Specifications

Status display	LEDs	Dual multi-color front panel status LEDs
	Digital metering	Voltmeter accurate to ±2%; ammeter to ±5%
	Status messages	20-character display of status and alarm messages
Networking	Modbus communications	Modbus RS-485 via field wiring terminal block. Optional Modbus over TCP/IP.
	SENSbus	Proprietary bus for internal communications, field programming and SENS accessories
Environmental	Operating temperature	-40°C to +70°C; meets full specification from -40°C to +40°C. Heaters and/or insulation are recommended for the batteries in ambient temperatures below 0°C.
	Cooling	Natural convection cooled; no fans in electronics bay
	Cold Start	5 seconds warm-up time required for operation below -20°C
	Humidity	5% to 95%, non-condensing
	Water ingress	Charging and electronics panel is IP 66, NEMA 4X Battery compartment(s) is IP 33, NEMA 3RX. Battery compartment(s) utilize louvers for battery gas ventilation.
	Electrical transient	ANSI/IEEE C62.41 and EN 61000-4-12 on power terminals
Options	Distribution Breakers	1-4 breakers, 10-40A each
	Low Voltage Load Disconnect	Disconnects the batteries from the load at a set voltage. Field reconfigurable.
	Expanded Battery Cabinet	Provides a second battery compartment doubling the battery capacity of 12/24V systems
	Battery Heater	Keeps batteries above 0°C in ambient temperatures down to -30°C
	Battery Insulation	Thermally insulates batteries in hot and cold environments and allows heaters to keeps batteries above 0°C in ambient temperatures down to -40°C
	Battery Fans	Provide forced ventilation to battery compartment(s). Thermostatically controlled.
	High Temp Batteries	Provides rated battery life of 6 years with battery temperatures at 35°C
	Supplemental Surge Protection	Provides supplemental AC and DC surge protection. Surge protective devices are field replaceable. Alarm indicates when replacement required.
Abuse protection	Reverse polarity	Rectifiers self-protect without fuse clearing; indication via LED and LCD; system recovers automatically after removal of the fault condition
	Wrong voltage battery	Charger-battery voltage mismatch shuts down charger(s). Indication/alarm provided.
	Overvoltage shutdown	Selective; shutdown only operates if charger causes the overvoltage condition
	Over temperature protection	Gradual output power reduction if heatsink temperature becomes excessive
Regulatory compliance	North America	UL Listed for the United States and Canada: CSA 22.2, No. 107.2; UL 1012 category QQIJ
		Seismic: IBC certified for rigid floor mount and both rigid and non-structure wall mount; max S_{DS} of 2.5G; IBC 2000-2022; California BC 2007-2022
		California Energy Commission (CEC): Title 20 Appliance Efficiency Regulations
		FCC Part 15, Class B
	European Union (CE)	MG2 Charger EMC: 2014/30/EU (EN 61000-6-2 & EN 61000-6-4)
		MG2 Charger LVD: 2014/35/EU (EN 60335-1 & EN 60335-2-29)
		RoHS: 2015/863, UK 2012 (EN 63000)
Construction	Housing/configuration	Welded 5052 aluminum, hi-reflective outdoor powder-coated finish
		All hardware is stainless steel
	Dimensions	See drawings
	Weight	Maximum weight of system (excluding batteries) is 105lbs (47.6kg)

How to Order

Product Type	Cabinet type	-	DC Volts	-	DC Amps	-	# Chgrs	-	Batt Type	Batt Cap.	-	Output Brkrs	-	LVLD	Batt Therm.	Surge Protect	Mount	-	Comms	Factory option
MC	2	-	24	-	45	-	3	-	S	30	-	4211	-	1	4	1	4	-	0	0
A	B		C		D		E		F	G		H		I	J	K	L		M	N

	Parameter	Code	Value
A	Product Family	MC	MicroCab™ 1500
B	Cabinet Type	1 2	Base cabinet Expanded cabinet
C	DC Output Voltage	12 24 48	12 VDC 24 VDC 48 VDC
D	DC Output Current	12 15 25 30 45	12A, 48V only 15A, 12/24V only 25A, 12/24/48V 30A, 12/24V only 45A, 12/24V only
E	Number of Chargers	1 2 3	1 1X MG2 2 2X MG2 (N+1 redundancy optional) 3 3X MG2 (12/24V only, N+1 or N+2 redundancy optional)
F	Battery Type	S H	Standard VRLA High temperature VRLA (only available with 70, 150, 300 and 600Ah battery capacity)
G	Battery Capacity	##	Nominal System Amp-hour Capacity (Ah/10, ex: “04”=40Ah, “30”=300Ah) 12V Ah choices: 40, 70, 100, 150, 200, 300, 400, 600Ah 24V Ah choices: 40, 70, 100, 150, 200, 300Ah 48V Ah choices: 40, 70, 100, 150Ah
H	Output Breakers	Slot A Slot B Slot C Slot D	1= 10A; 2=20A; 3=30A; 4=40A 0= blank; 1= 10A; 2=20A; 3=30A; 4=40A 0= blank; 1= 10A; 2=20A; 3=30A; 4=40A 0= blank; 1= 10A; 2=20A; 3=30A; 4=40A **NOTE: Min. 1 breaker required. All blank slots are covered with blank panel.**
I	Low Voltage Load Disconnect	0 1	No LVD With LVD
J	Battery Thermal Management	0 1 2 3 4 5 6 7	None Heaters Heaters, fans Heaters, insulation Heaters, fans, insulation Fans Fans, insulation Insulation
K	Surge Protection	0 1	Standard AC/DC protection Supplemental AC/DC protection
L	Mounting	1 2 3 4	Wallmount/polemount Wallmount/polemount with toplift Floormount Floormount with toplift
M	Communications	0 1	Standard, Modbus RS-485 Modbus TCP/IP
N	Configuration	0 X	Standard Factory specified custom configuration

Contact Information

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Contact SENS or your local sales representative for additional specification, engineering and installation information, or visit SENS’ website for latest available data. Specification subject to change without notice.