

Getting Started

MicroGenius[®]S4

Automatic Battery Charger/Power Supply

PATENTED US 9,270,140; 9,385,556; 9,413,186; 9,509,164; 9,466,995; 9,948,125

Connections - single output with breakers

CONNECT **RS-485 MODBUS** OR **J1939** NETWORK CABLE TO RJ-45 CONNECTOR (see user manual for connector pinout, RJ-45 to terminal block adapter p/n 208026 available from SENS)

*CONNECT **TCP/IP MODBUS** NETWORK CABLE TO RJ-45 CONNECTOR (optional feature)

CONNECT **AC** WIRES AT BREAKER TERMINALS 100-240VAC, 50/60HZ

DO NOT CONNECT AT TERMINAL BLOCK WHEN BREAKER PRESENT

CONNECT **GROUND** WIRE

REMOTE BATTERY TEMPERATURE SENSOR (connect at leftmost terminal block)

REMOVE PLUGGABLE **ALARM** TERMINAL BLOCK TO INSTALL ALARM WIRES

SEE INSIDE COVER LABEL FOR FACTORY ALARM ASSIGNMENTS

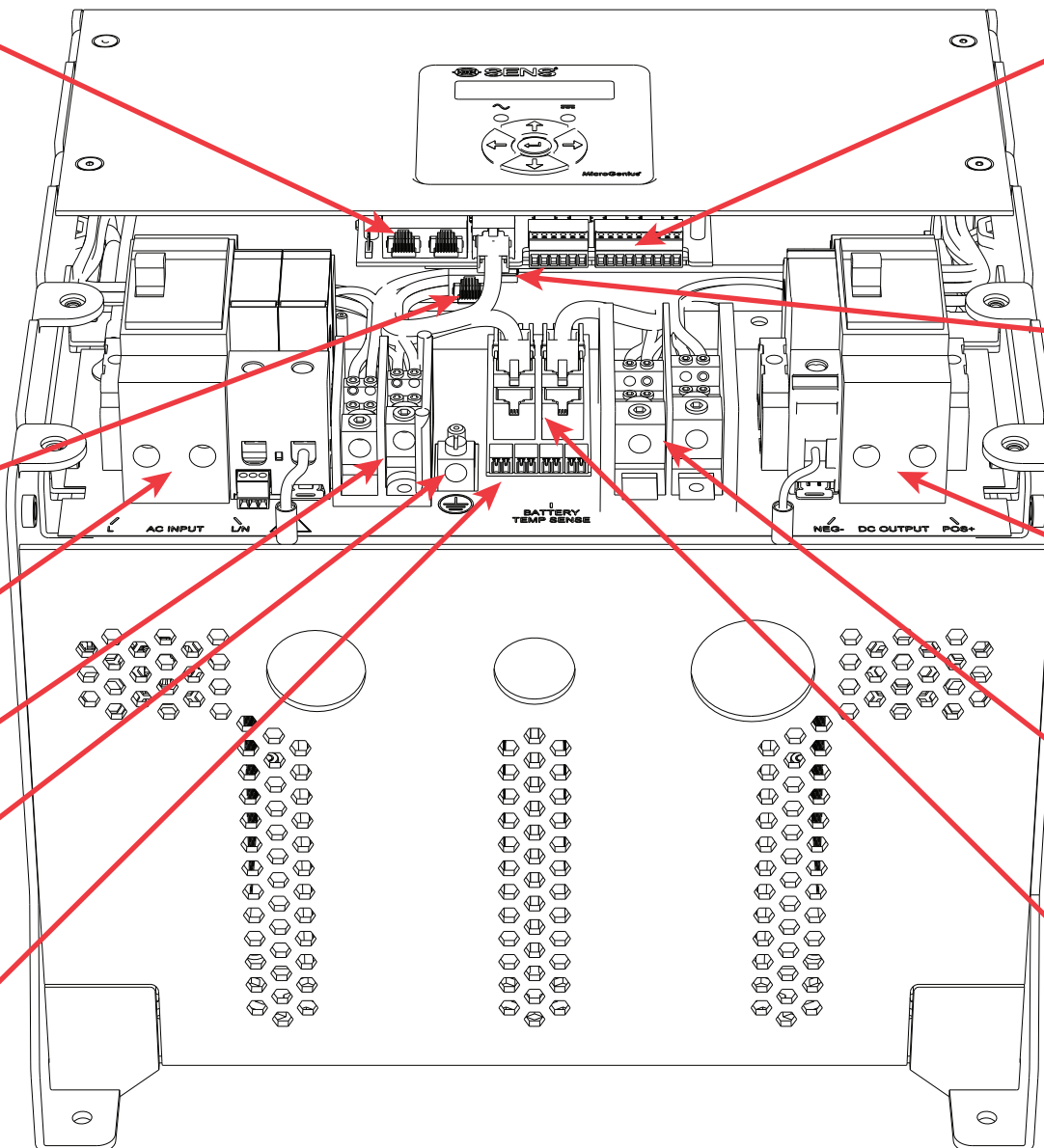
CONNECT SENS SETUP UTILITY TO USB WHEN **OPTIONAL TCP/IP MODBUS PCA** INCLUDED

CONNECT **DC** WIRES AT BREAKER TERMINALS

SEE INSIDE COVER LABEL FOR FACTORY OUTPUT CONFIGURATION

DO NOT CONNECT AT TERMINAL BLOCK WHEN BREAKER PRESENT

SENSbus - CHARGER LOAD SHARING, REMOTE ACCESSORIES OR SENS SETUP UTILITY (do not connect J1939, TCP/IP or RS-485 here)



Connections - single/multiple output, no breakers

CONNECT **RS-485 MODBUS** OR **J1939** NETWORK CABLE TO RJ-45 CONNECTOR (see user manual for connector pinout, RJ-45 to terminal block adapter p/n 208026 available from SENS)

*CONNECT **TCP/IP MODBUS** NETWORK CABLE TO RJ-45 CONNECTOR (optional feature)

CONNECT **AC** WIRES AT TERMINAL BLOCKS 100-240VAC, 50/60HZ

CONNECT **GROUND** WIRE

REMOTE BATTERY TEMPERATURE SENSORS (optional, one per output)

REMOVE PLUGGABLE **ALARM** TERMINAL BLOCK TO INSTALL ALARM WIRES

SEE INSIDE COVER LABEL FOR FACTORY ALARM ASSIGNMENTS

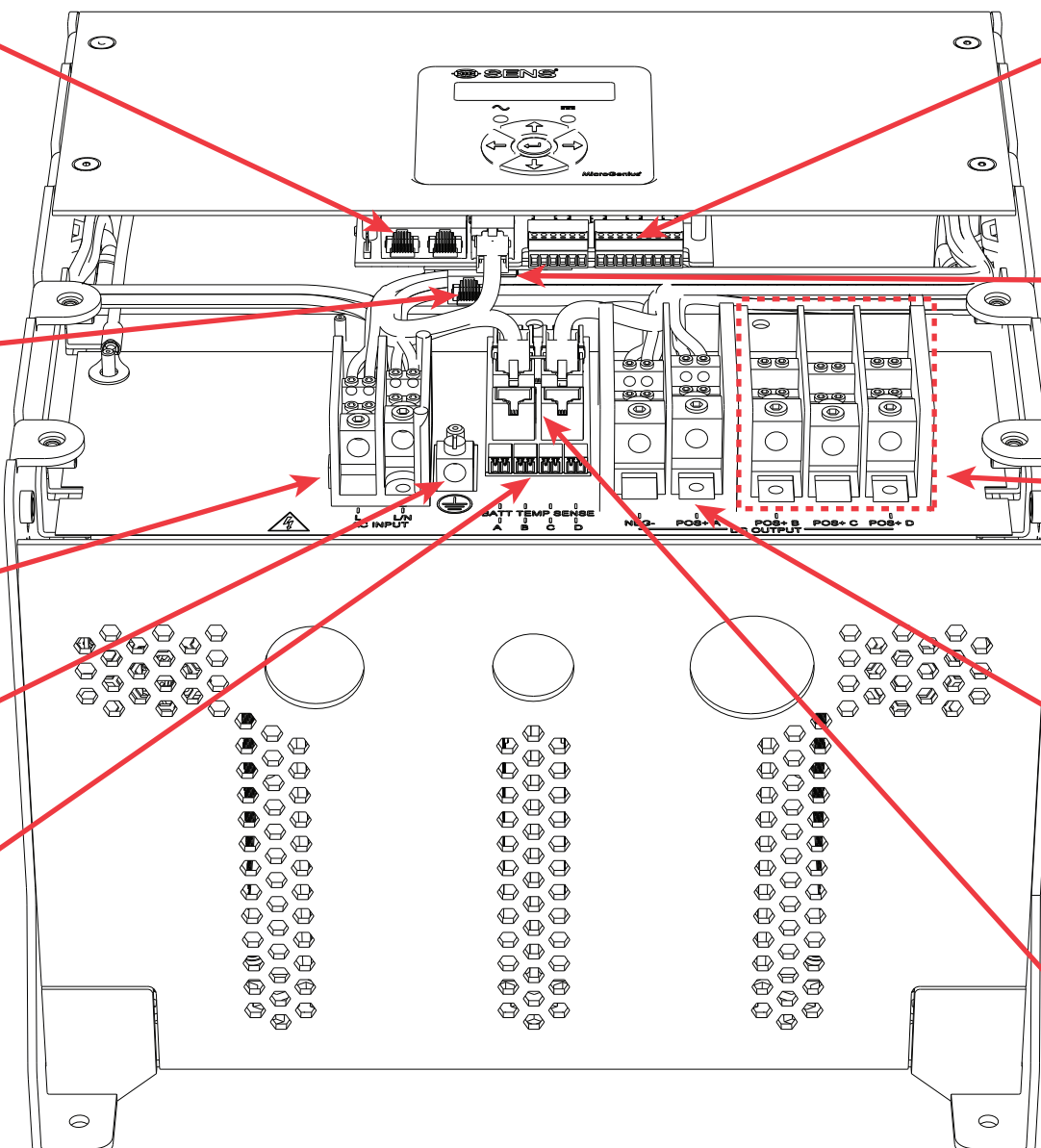
CONNECT SENS SETUP UTILITY TO USB WHEN **OPTIONAL TCP/IP MODBUS PCA** INCLUDED

MULTIPLE OUTPUTS OPTIONAL (outputs share common negative connection)

CONNECT **DC** WIRES AT TERMINAL BLOCKS (multiple outputs optional)

SEE INSIDE COVER LABEL FOR FACTORY OUTPUT CONFIGURATION

SENSbus - CHARGER LOAD SHARING, REMOTE ACCESSORIES OR SENS SETUP UTILITY (do not connect J1939, TCP/IP or RS-485 here)



*See user manual for details regarding J1939 and TCP/IP Modbus configuration

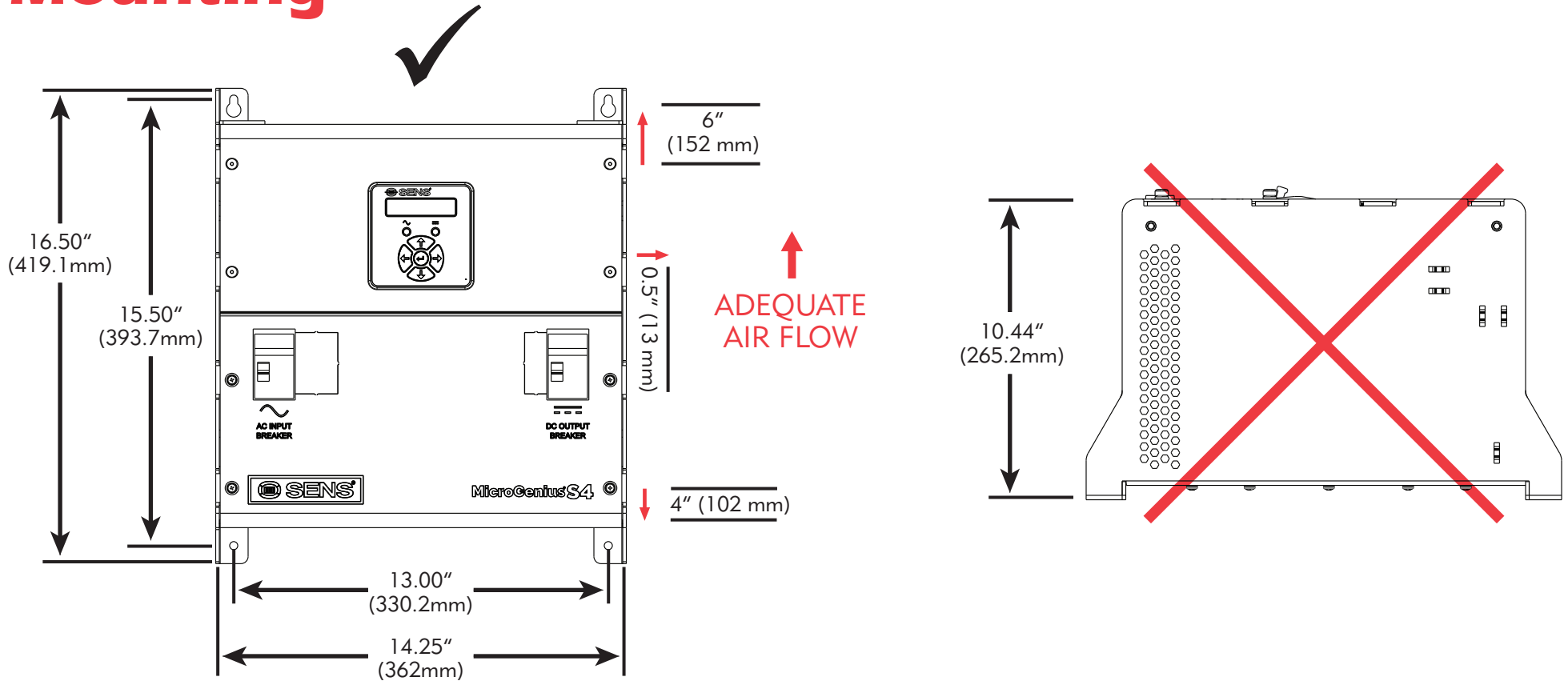


MicroGenius® S4

Automatic Battery Charger/Power Supply

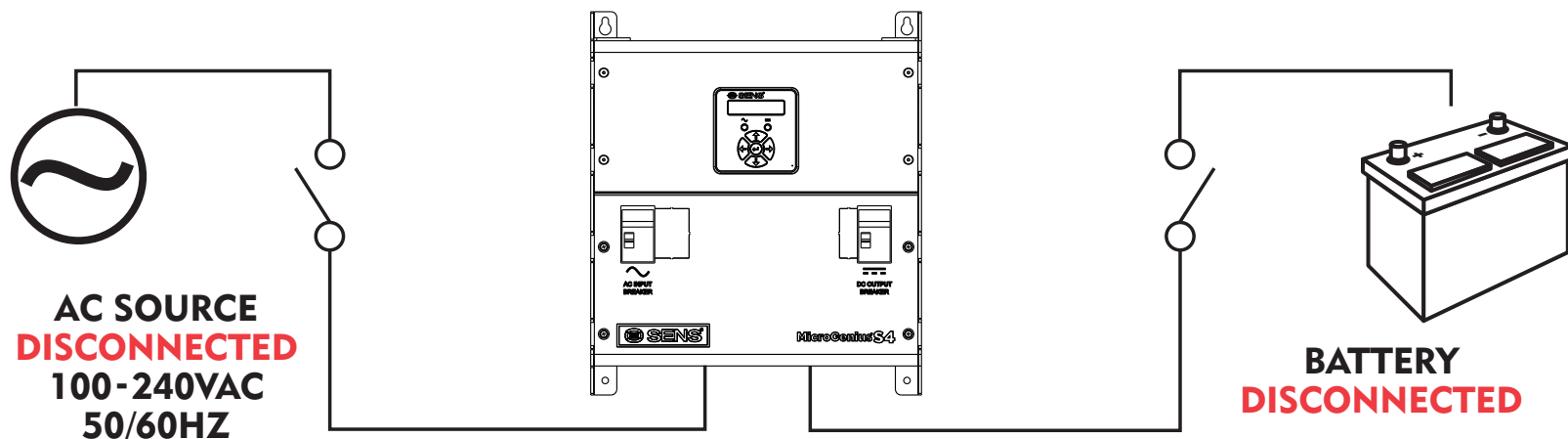
PATENTED US 9,270,140; 9,385,556; 9,413,186; 9,509,164; 9,466,995; 9,948,125

Mounting



Power On - Connect battery then energize AC power

SEE APPLICATION NOTE 26 TO COMMISSION NICD BATTERIES



Note - Chargers configured to boost may be in boost for up to 24 hours at start-up if battery voltage is low

IMPORTANT SAFETY INSTRUCTIONS

- SAVE THESE INSTRUCTIONS** –This guide contains important safety and operating instructions for MicroGenius®S4 battery chargers.
- Do not expose charger to rain or snow.
- Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
- This charger is intended for commercial and industrial use. ONLY TRAINED AND QUALIFIED PERSONNEL MAY INSTALL AND SERVICE THIS UNIT.
- Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; shut off power at the branch circuit protectors and have the unit serviced or replaced by qualified personnel.
- To reduce risk of electric shock, disconnect branch circuit feeding charger before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
- WARNING – RISK OF EXPLOSIVE GASES**
 - WORKING IN VICINITY OF A LEAD-ACID OR NICKEL-CADMIUM BATTERY IS DANGEROUS. STORAGE BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF UTMOST IMPORTANCE THAT YOU READ THIS DOCUMENT AND FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.**
 - To reduce the risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of a battery. Review cautionary markings on these products and on engine.
- PERSONAL PRECAUTIONS**
 - Someone should be within range of your voice or close enough to come to your aid when you work near a storage battery.
 - Have plenty of fresh water and soap nearby in case battery electrolyte contacts skin, clothing, or eyes.
 - Wear complete eye protection and clothing protection. Avoid touching eyes while working near a storage battery.
 - If battery electrolyte contacts skin or clothing, wash immediately with soap and water. If electrolyte enters eye, immediately flood the eye with running cold water for at least 10 minutes and get medical attention immediately.
 - NEVER** smoke or allow a spark or flame in vicinity of battery or engine.
 - Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short circuit battery or other electrical part that may cause explosion. Using insulated tools reduces this risk, but will not eliminate it.
- Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a storage battery. A storage battery can produce a short circuit current high enough to weld a ring or the like to metal, causing a severe burn.
 - When charging batteries, charge 6 and 12 cell LEAD-ACID or 10 and 20 cell LIQUID ELECTROLYTE NICKEL-CADMIUM batteries only, with rated capacity of 30 to 1100 Ampere hours. Certified for fire pump and emergency generator applications. For a 24 hour recharge time do not exceed 220 Ampere hours of capacity per 12A charger output current. Do not use this battery charger to supply power to an extra-low voltage electrical system or to charge any type of non-rechargeable, dry cell, alkaline, lithium, nickel-metal-hydride, or sealed nickel-cadmium batteries that are commonly used with home appliances. These batteries may burst and cause injuries to persons and damage to property.
 - NEVER** charge a frozen battery.
 - The charger contains a DC output fuse for internal fault protection, but this will not protect the DC wiring from fault currents available from the battery. Consult national and local ordinances to determine if additional battery fault protection is necessary in your installation.
- PREPARING BATTERY FOR CHARGE**
 - Be sure area around battery is well ventilated while battery is being charged.
 - Ensure battery terminals are clean and properly tightened. Be careful to keep corrosion from coming in contact with eyes.
 - Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. Do not overfill. For a battery without removable cell caps, such as valve regulated lead acid batteries, carefully follow manufacturer's recharging instructions.
 - Study all battery manufacturer specific precautions such as removing or not removing cell caps while charging and recommended rate of charge.
- CHARGER LOCATION**
 - Locate the charger as far away from the battery as DC cables permit.
 - Never place charger directly above or below battery being charged; gases from battery will corrode and damage charger.
 - Never allow battery acid to drip on charger when reading electrolyte specific gravity or filling battery.
 - Do not operate charger in a closed-in area or restrict ventilation in any way.
 - Do not set anything on top of the charger.



For information and service on any SENS product, please contact us at:

Sales 1.866.736.7872 • 303.678.7500 • Fax 303.678.7504 • www.sens-usa.com • info@sens-usa.com

Stored Energy Systems, LLC

1840 Industrial Circle, Longmont, CO 80501 USA