

LOAD SHARING MICROGENIUS® AND ENERGENIUS® CHARGERS

Introduction

This application note describes how to load share MicroGenius 2, MicroGenius S2/S4, EnerGenius IQ2 and EnerGenius DC chargers. Load sharing is essential to synchronizing operation of Dynamic Boost and HELIX modes and ensures that current is shared within +10% between chargers. The load sharing accessory kit is available to order separately from the charger (SENS p/n 209069).

Network Cable or Load Share Accessory?

Using just a network cable for the load sharing connection between chargers can cause the display of a powered-down charger to continue to operate using power from the other charger. In this case, the powered-down charger may be mistaken as operational. In some configurations, power is limited such that the displays of both chargers may also start rebooting. Using the load sharing accessory separates power between the units and avoids unplanned reboots. Open-frame chargers without a display only need the network cable but using the load share accessory is also acceptable.

Using the load sharing accessory is preferred in all applications for chargers with displays, however it is only required for the following:

- EnerGenius IQ2 chargers including the optional communications protocol board (i.e., models with “M” or “N” at digit 13)
- EnerGenius DC Compact chargers
- EnerGenius DC Wallbox or Cabinet chargers rated 120V at 50A or 240V at 25A (i.e., only one rectifier module installed)
- MicroGenius S4 chargers rated 15A and without redundancy (i.e., only one rectifier module installed)

Users may opt to utilize only a network cable instead of the load sharing accessory for applications other than specified above. The load sharing accessory comes with multiple lengths of network cables, but users may substitute with alternate lengths. Use any CAT 5 or better network cable, rated 600VAC and 75°C minimum.

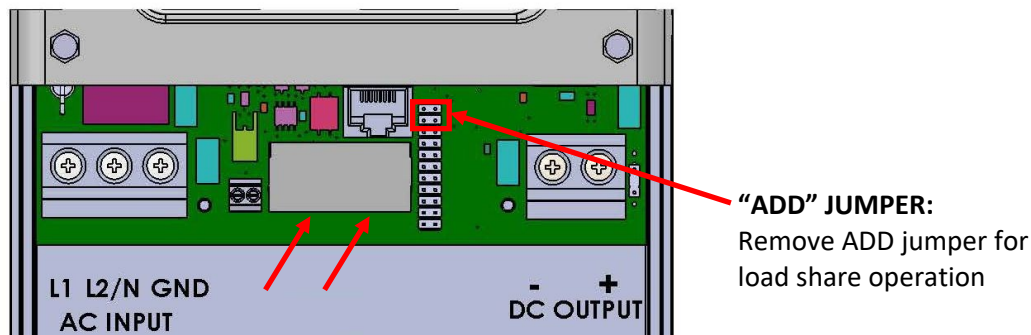
Installation

Connect a network cable to the “CHARGER 1” port and a second network cable to the “CHARGER 2” port on the load sharing accessory. Connect the other end of the network cables to the SENSbus or Service RJ-45 port on each charger, as specified per product family below. Ensure a 120-ohm terminator is located at both ends of the communications bus. Secure the load sharing accessory enclosure to a solid surface using the provided adhesive. The accessory may be secured inside or outside of the charger as desired.

Connection at Charger:

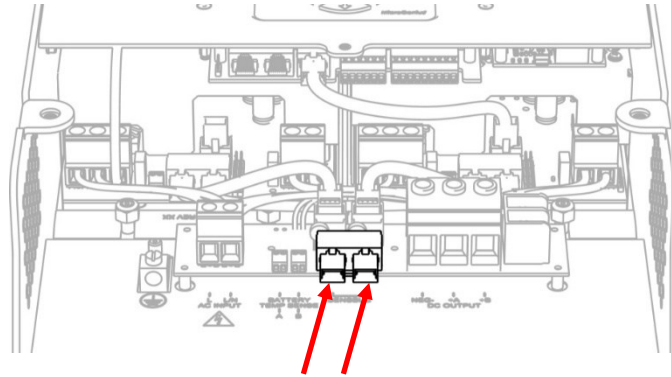
1. Connection at MicroGenius 2

Two RJ-45 ports are provided on each charger. Connect the load sharing accessory between chargers using one port. Place a 120-ohm terminator in the second port of each charger. If installed, remove the ADD jumper from each charger prior to operating. Chargers intended for load sharing must be configured with the same output settings to load share.



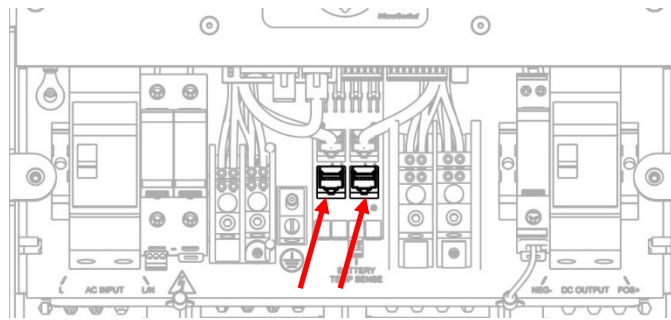
2. Connection at MicroGenius S2

Two RJ-45 ports are provided on each charger. Connect the load sharing accessory between chargers using one port. Place a 120-ohm terminator in the second port of each charger.



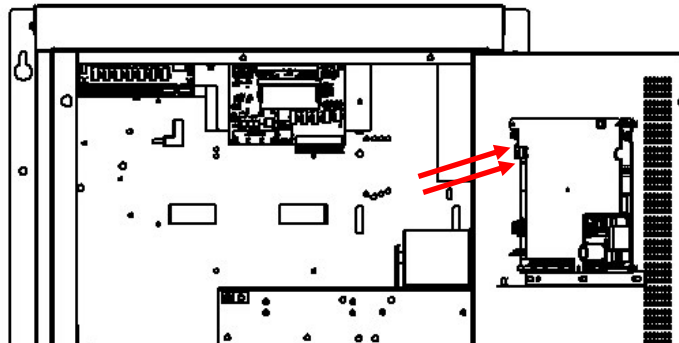
3. Connection at MicroGenius S4

Two RJ-45 ports are provided on each charger. Connect the load sharing accessory between chargers using one port. Place a 120-ohm terminator in the second port of each charger.



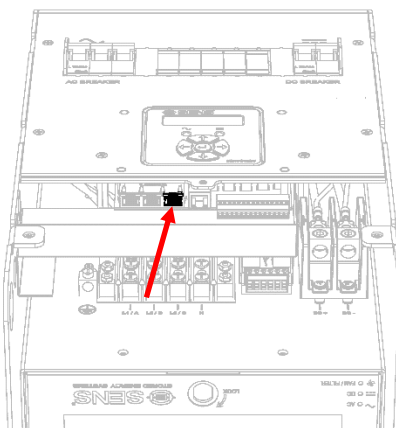
4. Connection at EnerGenius IQ

Two RJ-45 ports are provided on each charger. Connect the load sharing accessory between chargers using one port. Place a 120-ohm terminator in the second port of each charger. The terminator may be located in a SENSbus port on the optional relay or communications protocol boards rather than the control circuit board when the boards are included.



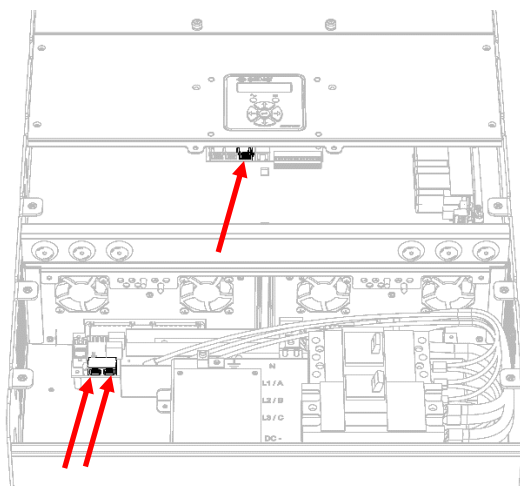
5. Connection at EnerGenius DC Compact

One RJ-45 port is provided on each charger. Connect the load sharing accessory between chargers using the port. Place a 120-ohm terminator in the “REMOTE DISPLAY” port on the load sharing accessory.



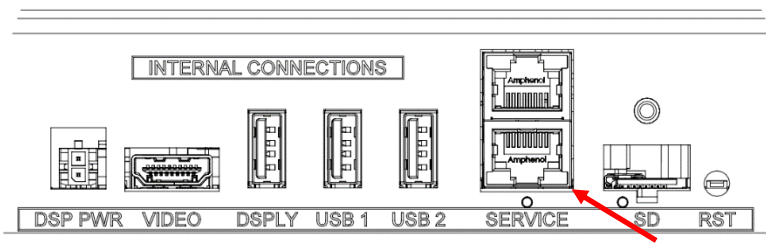
6. Connection at EnerGenius DC Wallbox

Three RJ-45 ports are provided on the charger. Connect the load sharing accessory between chargers using one port. Place a 120-ohm terminator in a second port of each charger.



7. Connection at EnerGenius DC Cabinet

Connect the load sharing accessory between chargers using the open SERVICE RJ-45 port. Each charger backplane includes a factory-installed 120-ohm terminator, no further termination is required.



Please contact SENS Customer Service at 303-678-7500 (x137) or service@sens-usa.com with any questions