

For the AC-powered G Series and legacy SC315 systems



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1.0 Warnings and Precautions

The following symbols indicate important safety warnings and precautions throughout this guide:



WARNING indicates that serious bodily harm or death may result from failure to adhere to the precautions.



CAUTION indicates that damage to equipment may result if the instructions are not followed.



NOTE suggests optimal conditions and provides additional information.

1.1 Warranty Disclaimer

This guide will familiarize you with the features and installation of Carmanah's AC-DC power supply. Failure to comply with the use, storage, maintenance, installation or placement instructions detailed in this guide could void the warranty.

1.2 Standards

Perform all installation, wiring, grounding and maintenance in conformance with local building and electrical codes. Adherence to the National Electrical Code (NEC) is mandatory to comply with any certification markings. Non-adherence to code may void the warranty.

1.3 Safety and Usage Precautions



Before lifting any heavy or bulky equipment, ensure the load is secured so moving parts do not shift, and that it can be lifted as far as needed without back strain or loss of grip. Installation may require more than one person.



Ensure the equipment is not powered during installation and wiring of the system.



Recheck all completed wiring for proper polarity prior to energizing the system.



Changes or modifications to Carmanah equipment not expressly approved by Carmanah could void both the user's authority to operate the equipment and the warranty.



NOTE

All Carmanah traffic products use a constant-current LED output circuit. Not all traffic beacons are compatible with this output. Please contact Carmanah for additional information and guidance when adding or replacing beacons or other hardware.

NOTE

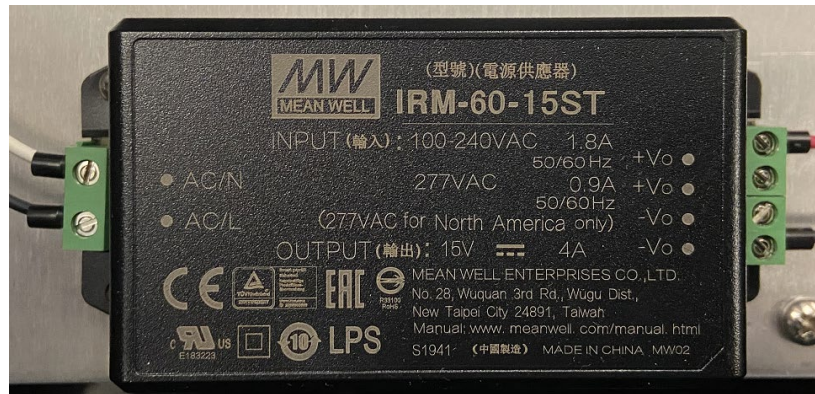
This guide is specific to the G Series AC-DC power supply installation and is not a replacement for the complete G Series product user manual.

Visit support.carmanah.com to download the complete product user manual.

2.0 AC-DC Power Supply Overview

AC input neutral
(white)

AC input line
(black)



DC output
positive (red)

DC output
negative (black)

3.0 Installation Procedure

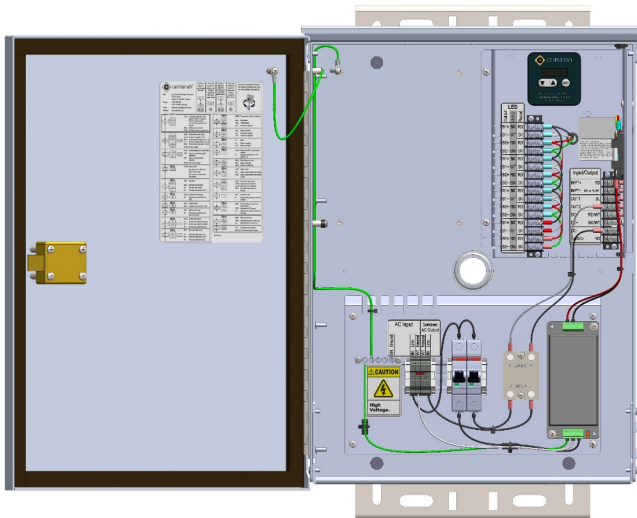
This guide is for installing the replacement AC-DC power supply into one of the following compatible Carmanah systems:

- Legacy – SC315
- G Series – SC315-G, R820-G, R247-G, R829-G

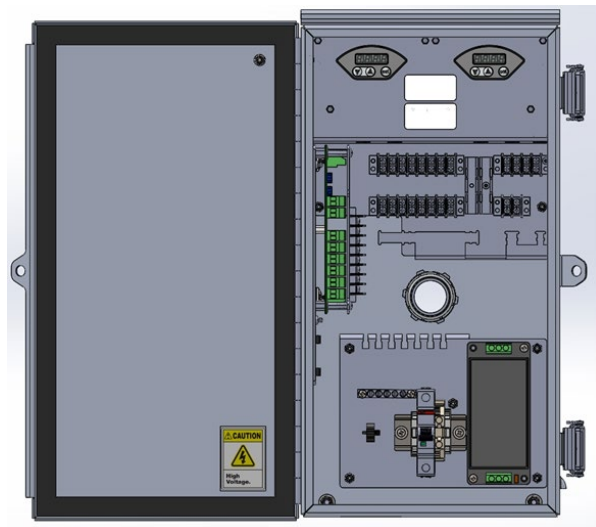
Refer to the individual product user manual for more details at support.carmanah.com. Contact Carmanah if you are installing a replacement AC backplane for the G Series system. The current G Series cabinets are physically larger than the legacy SC315 cabinets to allow for larger batteries and accessories. There are many different options available for the cabinet-based systems so your product may look different than one of the examples below.

Confirm which version of system and power supply you currently have installed and refer to the appropriate instructions starting with [Section 3.1](#).

The images in this guide may differ from your cabinet-based system. They are for illustrative purposes only.

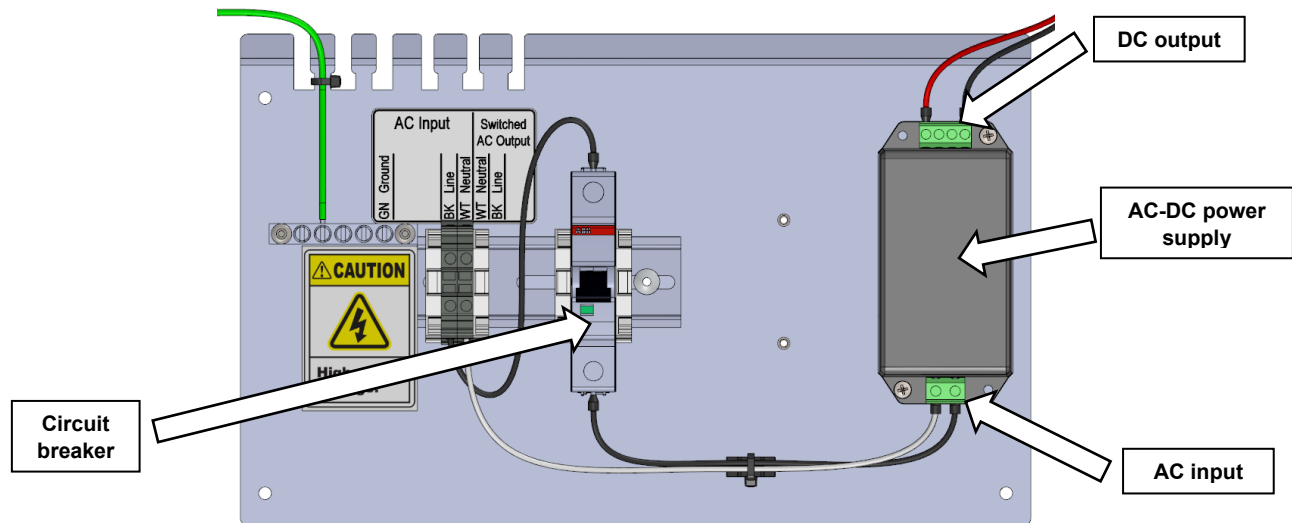


G Series AC Cabinet Example



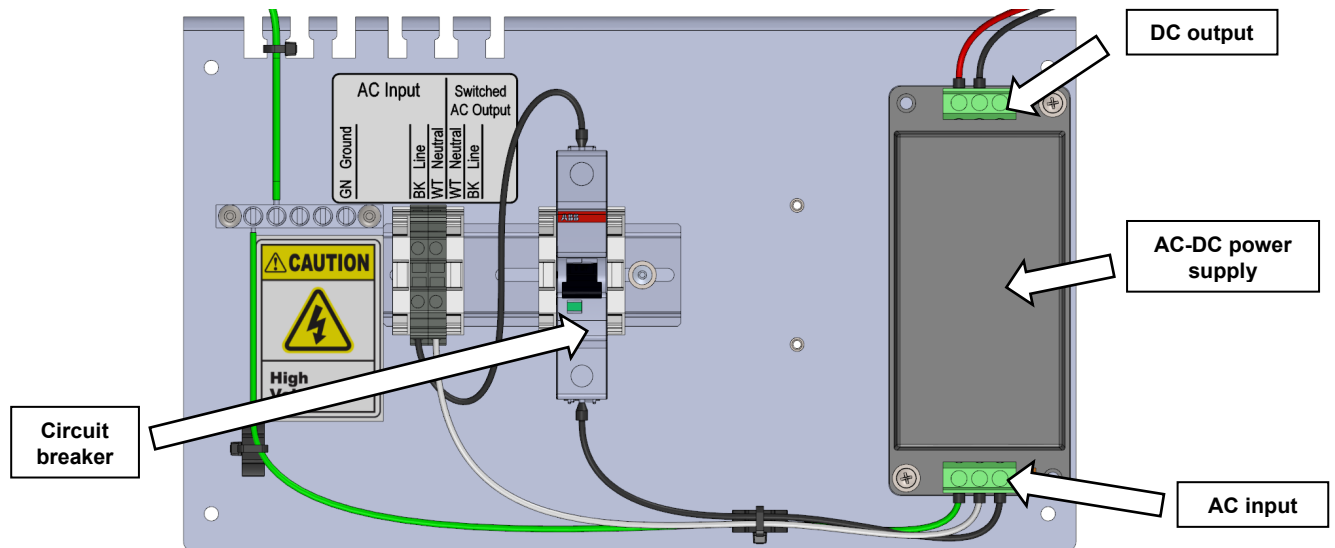
SC315 AC Cabinet Example

3.1 G Series – Meanwell AC-DC Power Supply Replacement



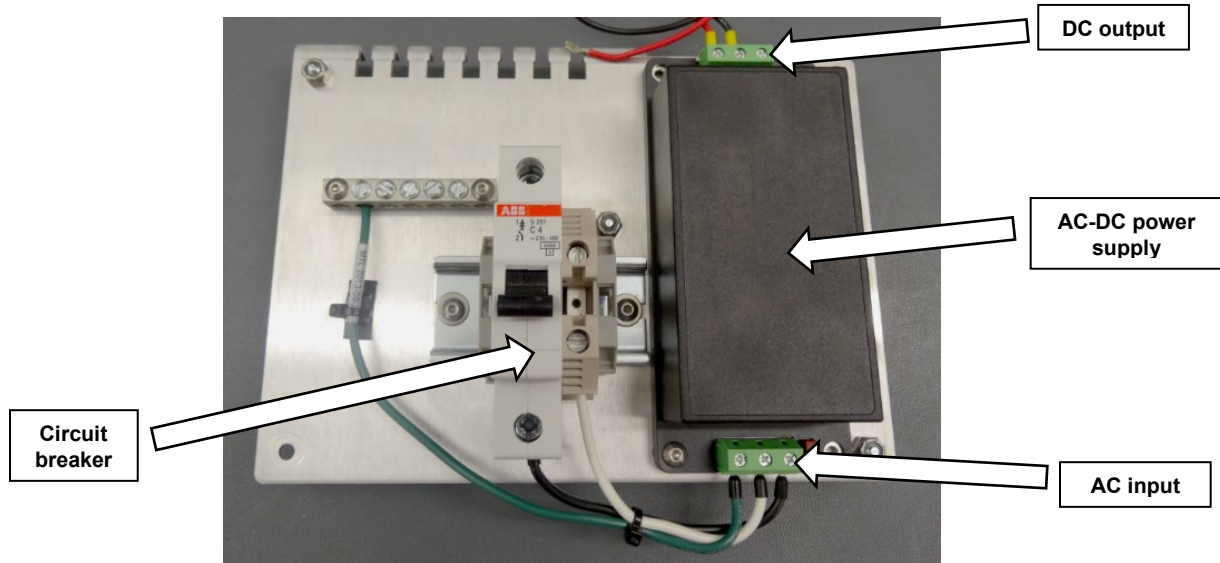
1. Access the inside of the power cabinet and switch the circuit breaker to the off position. It is also recommended to disconnect the AC power source coming into the cabinet if possible.
2. Remove input and output wiring from the existing power supply and set aside to reuse.
3. Remove the two mounting screws and set aside to reuse.
4. Remove existing AC-DC power supply and install the replacement. Note the orientation of the power supply with the DC output facing up in the cabinet.
5. Reinstall the two mounting screws and secure the power supply.
6. Reinstall the input (AC) and output (DC) wiring harnesses removed from step 2. Ensure the AC wiring is terminated at the terminals labelled as AC/N (white wire) and AC/L (black wire).
7. Reconnect the AC power source and switch the circuit breaker to the on position in the cabinet. Once the Energy Management System (EMS) has powered up you can test the system with the input method installed.
 - a. Note - 24/7 warning systems will begin flashing immediately.

3.2 G Series – Arch AC-DC Power Supply Replacement



1. Access the inside of the power cabinet and switch the circuit breaker to the off position. It is also recommended to disconnect the AC power source coming into the cabinet if possible.
2. Remove input and output wiring from the existing power supply and set aside to reuse. The green ground wire is to be disconnected from the bus bar and discarded.
3. Remove the two mounting screws and set aside, these will not be reused. Remove existing AC-DC power supply.
4. The new power supply is a smaller than the previous version, so the existing threaded PEM standoffs will not be able to be reused – new mounting holes must be drilled.
 - a. Drill two new holes in the mounting plate using a #30 drill bit to attach the new power supply. Use the provided 2x #4-40 screws and nuts to secure it in place. Do not drill through the rear of the cabinet. Note the orientation of the power supply with the DC output facing up in the cabinet. Either set of diagonal mounting holes may be used.
5. Reinstall the input (AC) and output (DC) wiring harnesses removed from step 2. Ensure the AC wiring is terminated at the terminals labelled as AC/N (white wire) and AC/L (black wire).
6. Reconnect the AC power source and switch the circuit breaker to the on position in the cabinet. Once the Energy Management System (EMS) has powered up you can test the system with the input method installed.
 - a. Note - 24/7 warning systems will begin flashing immediately.

3.3 Legacy SC315 – Arch AC-DC Power Supply Replacement



1. Access the inside of the power cabinet and switch the circuit breaker to the off position. It is also recommended to disconnect the AC power source coming into the cabinet if possible.
2. Remove input and output wiring from the existing power supply and set aside to reuse.
3. Remove the two mounting screws and set aside, these will not be reused. Remove existing AC-DC power supply.
4. The new power supply is smaller than the previous version, so the existing threaded PEM nuts will not be able to be reused – new mounting holes must be drilled.
 - a. Drill two new holes in the mounting plate, using a #30 drill bit, to attach the new power supply and use the provided 2x #4-40 screws and nuts to secure it in place. Do not drill through the rear of the cabinet. Note the orientation of the power supply with the DC output facing up in the cabinet. Either set of diagonal mounting holes may be used.
5. Reinstall the input (AC) and output (DC) wiring harnesses removed from step 2. Ensure the AC wiring is terminated at the terminals labelled as AC/N (white wire) and AC/L (black wire).
6. Reconnect the AC power source and switch the circuit breaker to the on position in the cabinet. Once the Energy Management System (EMS) has powered up you can test the system with the input method installed, which typically would be a pedestrian push button for this system type.



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