

***Intellitronix***  
**Intelligent Electronics**

**CH1 ENERGY MANAGEMENT AND  
DISTRIBUTION CENTER**

**INSTALLATION MANUAL**



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**!WARNING!**



All wiring must conform to local, national, and regional regulations. Only use copper conductors for all wire connections. Do not exceed the electrical rating of the CH1 Energy Management and Distribution Centers as this may cause equipment failure and/or electrical shock which may result in severe personal injury or death.

Disconnect or isolate all power supplies before making electrical connections. More than one disconnection or isolation may be required to completely de-energize equipment. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

**!CAUTION!**

**INSTALLATION AND SERVICING**

This product should be installed and serviced only by a certified or licensed electrician familiar with applicable safety codes and installation requirements. Failure to observe this precaution could result in electrical shock or bodily injury. Consult your servicing dealer before attempting any work on this product.

**!WARNING!**

**Spark Hazard**

This product employs components that can produce arcs or sparks. To prevent fire or explosion do not install in compartments containing batteries or flammable materials (LP gas). This product is NOT ignition protected.

### GENERAL COMPLIANCE INFORMATION

Agency Listings

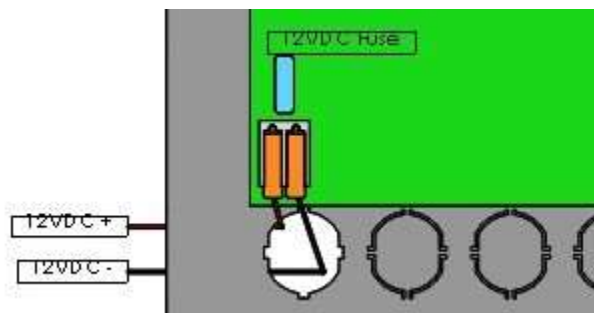
ETL - TBD

### CIRCUIT PROTECTION

CH1 Energy Management and Distribution Centers Fuses and Breakers

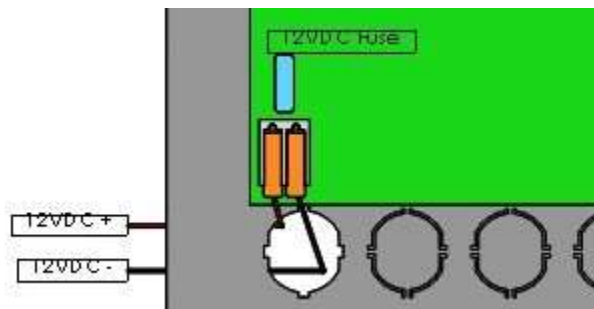
#### DC FUSE (12Volts)

There is one 3amp 12VDC automotive blade fuse inside the enclosure. This fuse protects the electronics and relay coils. If the wired remote Control Module lights up and/or LEDs in the Power Module are lit, the fuse is good. To access this fuse, you must disconnect all power coming into the CH1 Energy Management and Distribution Center and remove the inner cover.



#### Wiring the DC Power

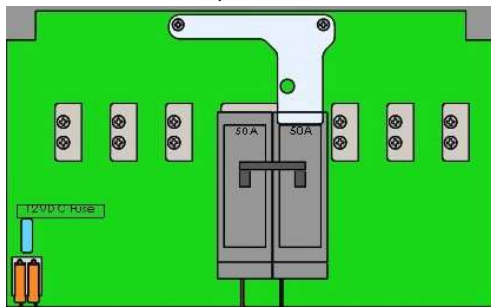
A lever operated connector is provided inside the Power module enclosure to connect 12V power, next to the 3-amp 12VDC automotive fuse. Use a knockout and strain relief to introduce 12VDC power and ground. We recommend Heyco 1280 strain relief. This powers the CH1 Energy Management and Distribution Center electronics, relays, and wired remote Control module. If the 12VDC power is not connected, no energy management will occur, all AC circuits will stay on.



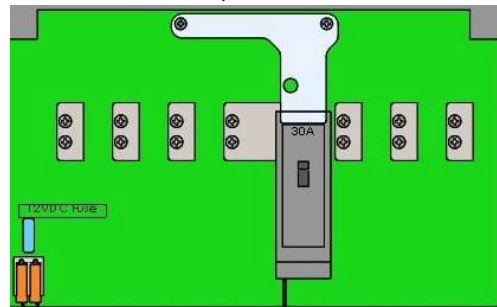
### **AC Circuit Breakers (120/240 Volts)**

The CH1 Energy Management and Distribution Center accepts standard residential breakers. The CH1 has two configurations, 50amp and 30amp. The 50amp configuration uses a double 50amp breaker pair to power each of two buses, using all six of the breaker connectors (“stabs”). For the 30amp configuration, a double wide base breaker connector (“stab”) is used to connect the two busses, allowing one phase, one 30amp main breaker to connect to all six of the branch breaker connectors. A list of factory tested and approved breakers are as follows. The breakers are widely available in-home improvement stores.

50A shown below;



30A shown below;



### **UL-Listed Main Circuit Breakers, Rated for 120/240V, Maximum 30A / 50A**

The following breakers have been approved for use as 30/50 Amp Main breakers in the CH1 Energy Management Distribution Center:

<b>Manufacturer</b>	<b>Model/Cat. No./Type</b>
ITE/Siemens	Type QP or QT
Square D	Type HOM or HOMT

### **UL-Listed Branch Circuit Breakers, Rated for 120/240V, Maximum 20A**

The following breakers have been approved for use as Branch breakers in the CH1 Energy Management and Distribution Center:

<b>Manufacturer</b>	<b>Model/Cat. No./Type</b>
ITE/Siemens	Type QP or QT
Square D	Type HOM or HOMT

### **INSTALLATION INSTRUCTIONS**

Installing the CH1 Energy Management and Distribution Center

#### **Mounting the Enclosures**

The CH1 Power module enclosure should be mounted in an accessible area such as a wall or in the side of a cabinet near the Shore power entrance and battery (batteries). Select a mounting location that is appropriate to prevent excessive heat, water, moisture, dust and dirt entering the unit.

Cut an opening 1/8" wider than the enclosure to allow the distribution center to slide in easily. The rough opening is 9" W x 9" H. The enclosure is 4" deep. Be sure to allow enough space behind the unit for wiring. After wiring is completed, the enclosure fastens to the wall or cabinet using 4 wood screws (not supplied). Strain reliefs must be used to tightly secure the wires wherever the wires enter the enclosure, except for the ethernet cable. The ethernet cable plugs into a jack in a square hole in the back of the Power module. We recommend Heyco 1280 strain relief.

The CH1 Control module enclosure is mounted in a similar fashion. It is 3.75" W x 2" H x 1.12" D. Leave room in the back for the ethernet wire connection.



**!WARNING!**



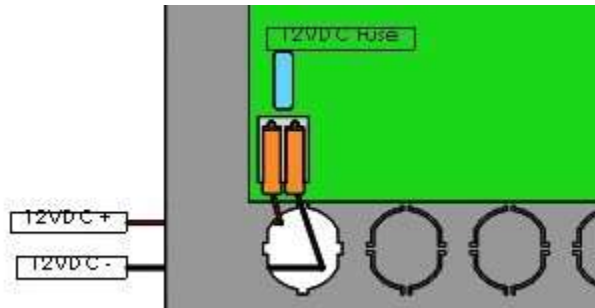
#### **RISK OF ELECTRICAL SHOCK**

Disconnect or isolate all power supplies before making electrical connections. More than one disconnection or isolation may be required to completely de-energize equipment. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

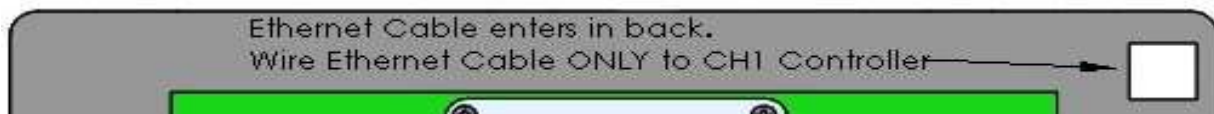
### **Wiring the Control Module**

The Control Module is connected to the Power Module with a standard ethernet cable, CAT 5 or higher. It gets both 12VDC power and data, via this cable, from the Power Module. There is a square hole in the back of the Power module with an ethernet jack.

12VDC Wiring shown below;



Ethernet cut out shown below;



### **Wiring the AC Power**

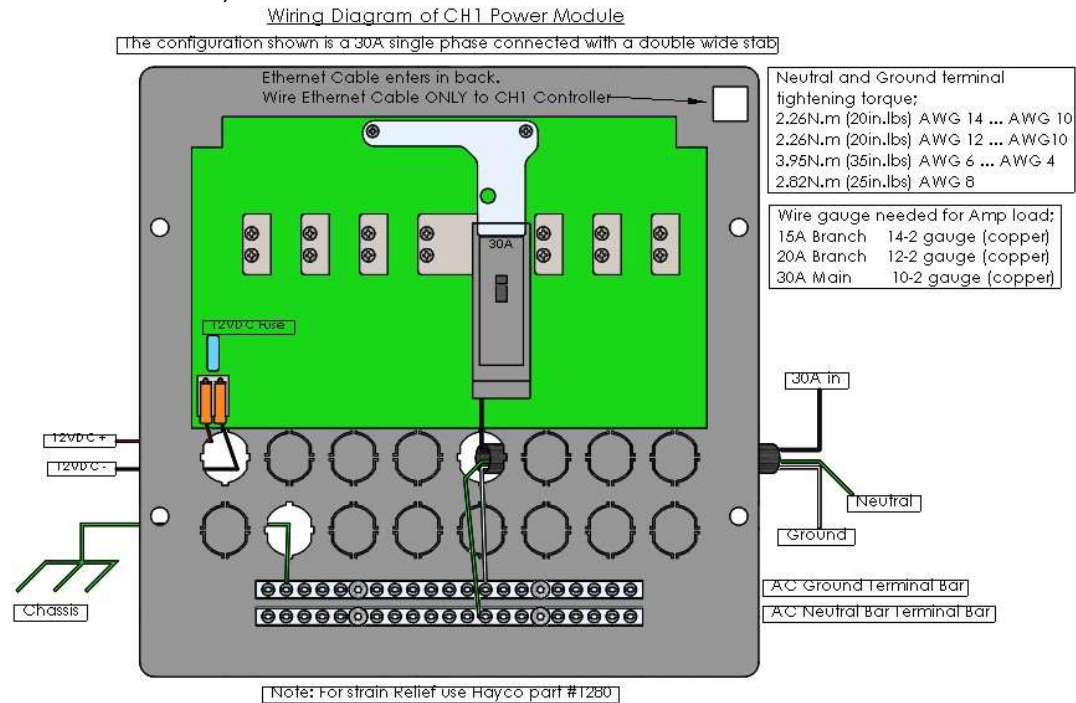
The Shore cord should be routed through one of the knockouts in the back of the wiring compartment and secured with a Romex strain relief. We recommend Heyco 1280 strain relief. The Main breakers should be installed in the center position as indicated by the label in the enclosure. For 30 Amp service, the Black (Hot) wire is connected to the 30 Amp Main breaker. For 50 Amp service, the Black wire is connected to one of the 50 Amp Main breakers and the Red wire is connected to the other 50Amp main. The White (Neutral) wire is connected to the Neutral Terminal bar at the bottom of the wiring compartment. The Green (Ground) wire is connected to the Ground Terminal bar located above and behind the Neutral Terminal bar.

When wiring has been completed, make sure all terminals are torqued to the specifications listed on the back of the door assembly.

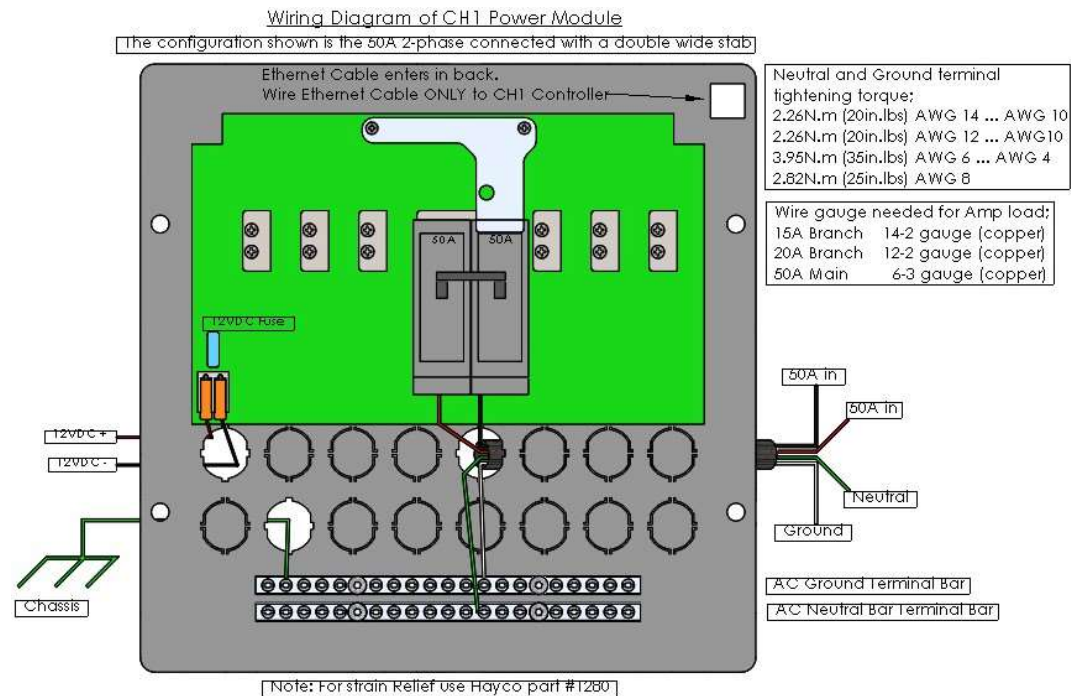
When replacing any of the installed circuit breakers, the replacement should be of the same manufacturer, type designation, and equal interrupting rating. The "Short-Circuit-Current" rating for the breaker should be 10,000 Amps.

Visual aids on next page.

30A shown below;



50A shown below;





### **Wiring the AC Breakers**

**Ensure no AC power is connected to the RV from either the Shore Power or on-board generator.**

Determine the proper size breakers for the loads that the CH1 Energy Management and Distribution Center will be powering. We recommend that all the breakers are the same brand. One 30 amp or two 50 amp main breakers and up to 6 non-duplex branch breakers can be installed in the CH1 Energy Management and Distribution Center. Route the Romex leads for the Branch circuits through strain reliefs in the back of the wiring compartment. In a similar fashion, connect the Black wire to the Branch breaker and the White and Green wires to the appropriate Terminal bar.

### **CAUTION**

#### **INSTALLATION AND SERVICING**

This product should be installed and serviced only by a certified or licensed electrician familiar with applicable safety codes and installation requirements. Failure to observe this precaution could result in electrical shock or bodily injury. Consult your servicing dealer before attempting any work on this product.

### **WARRANTY**

#### **Warranty**

What does this warranty cover and how long does it last? This Limited Warranty is provided by Intellitronix Inc. ("Intellitronix") and covers defects in workmanship and materials in your Intellitronix CH1 Energy Management System and breaker panel. This warranty period lasts for 12 months from the date of purchase at the point of sale to you, the original end user customer, unless otherwise agreed in writing (the "Warranty Period"). You will be required to demonstrate proof of purchase to make warranty claims. This Limited Warranty is transferable to subsequent owners but only for the unexpired portion of the Warranty Period. Subsequent owners also require original proof of purchase as described in "What proof of purchase is required?"

#### **What will Intellitronix do?**

During the Warranty Period Intellitronix will, at its option, repair the product (if economically feasible) or replace the defective product free of charge, provided that you notify Intellitronix of the product defect within the Warranty Period, and provided that Intellitronix through inspection establishes the existence of such a defect and that it is covered by this Limited Warranty.

Intellitronix will, at its option, use new and/or reconditioned parts in performing warranty repair and building replacement products. Intellitronix reserves the right to use parts or products of original or improved design in the repair or replacement. If Intellitronix repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 90 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of Intellitronix.

Intellitronix covers both parts and labor necessary to repair the product and return shipment to the customer via Intellitronix selected, non-expedited surface freight within the contiguous United States

and Canada. Alaska, Hawaii and outside of the United States and Canada are excluded. Contact Intellitronix Customer Service for details on freight policy for return shipments from excluded areas.

### **How do you get service?**

If your product requires troubleshooting or warranty service, contact your merchant. If you are unable to contact your merchant, or the merchant is unable to provide service, contact Intellitronix directly at:

Telephone:

1 440 359 7200 (direct)

Fax: 1 440 210 7646

Email: [support@Intellitronix.com](mailto:support@Intellitronix.com)

Website: [www.Intellitronix.com](http://www.Intellitronix.com)

Returns are only accepted with an accompanying approved RMA # and form.

### **What proof of purchase is required?**

In any warranty claim, dated proof of purchase must accompany the product and the product must not have been disassembled or modified without prior written authorization by Intellitronix.

Proof of purchase may be in any one of the following forms:

- The dated purchase receipt from the original purchase of the product at point of sale to the end user
- The dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status
- The dated invoice or purchase receipt showing the product exchanged under warranty

### **What does this warranty not cover?**

Claims are limited to repair and replacement, or if in Intellitronix's discretion that is not possible, reimbursement up to the purchase price paid for the product. Intellitronix will be liable to you only for direct damages suffered by you and only up to a maximum amount equal to the purchase price of the product.

This Limited Warranty does not warrant uninterrupted or error-free operation of the product or cover normal wear and tear of the product or costs related to the removal, installation, or troubleshooting of the customer's electrical systems. This warranty does not apply to and Intellitronix will not be responsible for any defect in or damage to:

- a) the product if it has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment
- b) the product if it has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the Intellitronix product specifications including but not limited to high input voltage from generators and lightning strikes

- c) the product if repairs have been done to it other than by Intellitronix or its authorized service centers (hereafter "ASCs")
- d) the product if it is used as a component part of a product expressly warranted by another manufacturer
- e) component parts or monitoring systems supplied by you or purchased by Intellitronix at your direction for incorporation into the product
- f) the product if its original identification (trademark, serial number) markings have been defaced, altered, or removed
- g) the product if it is located outside of the country where it was purchased
- h) any consequential losses that are attributable to the product losing power whether by product malfunction, installation error or misuse.



## Installation Manual

Thank you for choosing the Intellitronix Load Shed (CH1 Energy Management and Distribution Center).

We appreciate your business and our other products can be found at <https://www.intellitronix.com/>.

Intellitronix products are proudly made in the USA in Euclid, Ohio.

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