

# **EMS**

## **Electrical Management System**

### **Complete Operating & Warranty Guide**

**EMS-PT30C**  
**Rated at 120 Volts/30 Amps**

**Manufactured & Warranted**  
**by**  
**Progressive Industries**

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## Warnings:

DO NOT exceed the rating on the EMS for any reason. However this device is designed to be reduced down to 120V/15A, and still maintain full protection.

DO NOT modify the EMS in any way. This will void the warranty, compromise protection and could result in a possible shock or fire hazard.

It is important to always check the pedestal power outlet for charring; this condition means that the source receptacle is providing a weak connection. DO NOT use it. It could result in possible melting of the RV power plug.

When running extension cord(s) from the RV to a power source always use appropriate size cable. Make sure that the cable is rated for outdoor use to reduce the risk of electrical shock. The smaller the cable the higher resistance and more voltage loss, plus it may result in an electrical fire.

Whenever servicing or installing the EMS, or any other AC power device, make sure that the power is disconnected from the source.

RV wiring is different than the wiring found in homes. The neutral and ground wires are isolated in an RV. In a home they are tied together at the service panel. The reason, homes have a bonded ground system and RVs do not. Therefore never bond the neutral and ground together for any reason. This will create a ground fault condition and may result in electrical shock and/or fire hazard.

EMS has 220 volt protection. Should this condition occur the EMS will read the 220 volt condition, display the appropriate error code and will shut down instantly. **Do not** under any circumstances bypass the EMS. Severe damage to the RV will result.

## Features

**High Low Voltage Protection:** Whenever source power falls below 104 volts, or it rises above 132 volts the EMS automatically shuts down power to the RV. Once the source power rises above 104-volts, or falls below the 132-volt level the time delay indicator flashes for the preset time and then automatically restores power to the RV.

**Time Delay for A/C Compressor:** Whenever source power is interrupted (by the source or the EMS), due to a fault condition, the built in time delay is activated for 136 seconds. This prevents the air conditioners from trying to start up under load. Starting up under load will burn up air conditioners

**3-Mode Surge Protection:** This feature provides full surge protection L-N, L-G, and N-G. Joule rating is 1780, with a response time of <1 nano second.

**Surge Indicator:** In the unlikely event a power surge damages the surge protector circuit within the EMS, L-N, or L-G, the digital display error code will read E-10. This is your indication that the surge part of the EMS needs to be replaced.

**Reverse Polarity Protection:** If source power has a reverse polarity condition, the EMS will not allow power to the RV and the error code will read E1.

**Open Neutral Protection:** If the source power has an open neutral condition the display will not light, and will not allow power to the RV.

**Open Ground Protection:** If source power has an open ground condition the EMS will read an error code of E2 and will not allow power to the RV.

**AC Frequency Protection:** If source power frequency deviates +/- 9 hertz from 60 cycles per second the EMS will shut down source power, and indicate an E7 or E8 error code on the digital display.

**Accidental 220V Protection:** If 220 volts is detected when plugging into source power the EMS will not allow power to the RV. If this condition occurs while power is applied to the RV, the EMS shuts off power instantly. The display will read the voltage, and the appropriate error code.

**Integrated Information Panel:** Scrolls continuously all of the power source information, voltage, current, frequency, error codes, and previous errors. Each reading is displayed for 2 seconds

**Previous Error Code:** This feature tells the user why the EMS previously interrupted power to the RV. This is only displayed if an error actually occurs and is erased from memory when power is disconnected.

**Weather Resistant:** Can be exposed to elements but may not be submerged.

**Microprocessor Controlled:** The computer is driven by state of the art microprocessors that are programmed with software to drive the entire EMS.

**Built in Lock Bracket:** This bracket allows the user to secure the EMS to the power source to help prevent theft.

**Portable** – One Year Warranty - 5"W x 8½"H (plus 8" cord/total 16½"H) x 3½"D

**VIP Enterprises & Progressive Industries** are committed to making your RV experience easier and safer.

## Operating Instructions

1. Plug into source power.
2. The digital display will read 888 for two seconds then begin scrolling the voltage, amps, line frequency, and error code. In addition the time delay light will flash (dot in the bottom right corner). If the dot does not flash a line fault condition is present check error code (see below or your supplied code card).
3. You may notice when first plugging in that the display may read E-9, don't worry about this, it only means that the display has not gotten data from the computer yet. By the next cycle through it should read E-0 if the source power is normal.
4. The meter will give you a three digit number that is your line voltage. Then it will read 0A, which are line amps (current). Amps will read zero until the time delay is complete. Afterward you will notice a current (amps) reading between 0 and 35. That number indicates how many amps the RV is drawing. Following, you will notice a number 60H, which is your line frequency. That number should remain fairly consistent, however it may read +/- one or two. Last, you will notice the E code, E0 is normal, only if E0 is present will the time delay light flash and the EMS bring power to the RV.
5. Verify that error code E0 is displayed and set up is complete.

**Note:** If the wiring reads anything different than correct the EMS will not turn on and we recommend moving to a different source or use generator power. Also if power is below 104 volts or above 132 volts the EMS will not turn on. We recommend using generator power.

**Important:** The display reads voltages between 78 and 260 volts. Below displays LLL above displays HHH.

### Error Code Chart

- E-0 -- Normal condition
- E-1 -- Reverse polarity condition (hot and neutral wires reversed)
- E-2 -- Open Ground (no ground wire connection)
- E-3 -- Line 1 Voltage High (line 1 voltage above 132)
- E-4 -- Line 1 Voltage Low (line 1 voltage below 104)
- E-5 -- Line 2 Voltage High (line 2 voltage above 132)
- E-6 -- Line 2 Voltage Low (line 2 voltage below 104)
- E-7 -- Line Frequency High (line frequency above 69 cycles per second)
- E-8 -- Line Frequency Low (line frequency below 51 cycles per second)
- E-9 -- Data Link Down (remote display not getting information)
- E-10 Replace the surge protector module

**Note:** *An open neutral will cause there to be **no** reading on the display*

Note: If the EMS cuts the power to the RV it will show a PE (previous error) code following the E code. This denotes the previous error or why the EMS shut down power. Example: The EMS cut power for low voltage on line 1 then power comes back up and is restored. The error code reads E0 (good electricity now) but the PE code reads PE4, that tells the user low voltage line 1 was the reason the EMS previously cut power.

When power is first applied to the RV you may notice a large current draw on the amp meter even though little or nothing in the RV is turned on. This is caused by the battery charger built into the RV. Less current will be drawn as the batteries become charged. However this may take some time depending on how low the battery voltage was.

## **Progressive Industries Warranty**

Progressive warrants its products are free from defects in materials and workmanship for a period of one year. This is in lieu of all other warranties, obligations, or liabilities expressed by the company. In the event that a properly installed EMS proves defective under normal use, Progressive will repair or replace the device at its discretion.

For technical support call 919-462-8280.

Once technical support has properly diagnosed the problem, if any, they will send you a replacement.

When you receive your replacement, inside the box will be a return address label with RGA number, simply use the same box, and return label to ship back the damaged part.

The address below is strictly a mailing address. Please do not try, or attempt to visit our facility during business hours. The company is not properly staffed or equipped to handle on site repair work. All returns must go through technical support.

**Progressive Industries  
1381 Kildaire Farm Rd PMB 281  
Cary, North Carolina 27511**

**The unit should be properly packaged, with the postage paid and the following information:**

1. Date of purchase
2. A detailed explanation of the defect.

Progressive cannot assume responsibility for acts of God, alterations, shipping handling or any other factors not under the control of Progressive Industries.

Progressive has no responsibility for installation, personal injury, property damage, incidental, contingent, or consequential damages of any kind resulting from defects or failure of the unit to function.

The remedy for breach of this warranty is limited to the repair or replacement of the defective product at Progressives option. In no case shall the liability prescribed by law exceed the purchase price. Some states do not allow exclusion or limitation of incidental or consequential damages or allow disclaimer, modifications, or limitations on how long a warranty last, therefore the above warranties may not apply to you. This warranty gives you certain legal rights, and you may have other rights, which may vary from state to state.