Progressive Industries, Inc.
Electrical Management System

Operating Instructions for:
Model EMS-PT30C
Rated at 120V/30A

Manufactured by:
Progressive Industries, Inc.
414B Airport Boulevard
Morrisville, NC 27560
(919) 462-8280

www.progressiveindustries.net



Proudly manufactured in the U.S.A.

Features

High/Low Voltage Protection

Whenever AC power falls below 104 volts, or rises above 132 volts, the EMS automatically shuts down power to the RV. The EMS will monitor the power and once the AC power rises above 104 volts, or drops 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

If AC power is interrupted, or the EMS detects a fault condition, the built in time delay is activated. There is a 136-second (02:16) time delay.

3-Mode Surge Protection

This feature provides full surge protection L-N, L-G, and N-G. Total Joule rating is 1790, 44,000A Surge Current. Response time of <1 nano second.

Surge Indicator

In the event of a power surge and the surge protector circuit is damaged within the EMS, L-N, or L-G, the digital display error code will read E-10. This indicates the EMS needs to be serviced.

Reverse Polarity Protection

If AC power is a reverse polarity condition, the EMS will not allow power to the RV and the error code will read E1.

Open Neutral Protection

If AC power has an open neutral condition, the display will not light, and the EMS will not allow power to the RV.

Open Ground Protection

If AC 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 AC power frequency deviates plus/minus 9 hertz from 60 cycles per second, the EMS will shut down AC power. An Error Code of E7 will be displayed when the frequency is high; and an Error Code of E8 will be displayed when frequency is low.

Accidental 240V Protection

If 240 volts is detected when plugging into AC 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 E-3 for the error. ***(NEVER BYPASS THE EMS WHEN THIS OCCURS.)***

Display

Continuously scrolls all of the AC power information, including voltage, current, frequency, error codes, and previous errors. Each reading is displayed for two (2) seconds.

Previous Error Code

This feature tells the user what the previous error was and why power was interrupted to the RV. To read a Previous Error Code, put a "P" in front of the "E" code. This is only displayed if an actual error occurs. The error is deleted when the power is disconnected from the EMS.

Weather Resistant

Can be exposed to elements, however, may not be submerged.

Microprocessor controlled

The computer is driven by a state-of-the-art microprocessor that is programmed with software to drive the entire EMS.

Built-in Lock Bracket

Allows the user to secure the EMS to power source to prevent theft.

Warnings

- Do not exceed the rating on the EMS for any reason, however these devices are 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 possible shock, and/or a fire hazard.

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

- When running extension cords from the RV to AC power, always use a 10-gauge cable for your 120 volt, 30 Amp system. Make sure that the cable is rated for outdoor use to reduce the risk of electric shock. Small gauge cable will have a higher resistance and will result in voltage loss, plus it may result in an electrical fire.

- Whenever servicing or installing the EMS, or any other AC powered device, make sure AC power is disconnected.

- RV wiring is different than the wiring found in homes; the neutral and ground conductors are isolated in the RV, unlike in a home where they are tied together at the service panel. The reason is: homes have a bonded ground system, whereas RV's do not. Therefore, never bond the neutral and ground together for any reason. This will create a ground fault condition, and may result in electric shock and/or a fire hazard.

- **Never** plug the EMS into an inverter.

Operating Instructions

1. Plug into AC power.
2. Digital display will read 888 for one second then begin scrolling the voltage, amps, line frequency, and error code(s). In addition, the time delay light will flash in the bottom right corner of the display.
3. The EMS will read a 3-digit number which is your line voltage. Next, it will give you a "0A" reading. This is the amp reading; however, it will read zero until the time delay is complete. Then you will notice a number between 0 and 30. That number indicates how many amps the RV is drawing. Next, you will notice a number of 60 H which is your line frequency. That number should remain fairly consistent, however it may read plus/minus one or two. Lastly, you will notice the E code; E-0 is normal. Only when E-0 and E10 is present will the delay light flash and ultimately bring power to the RV. Refer to your Error Code Chart that was provided or see the next page for details.
4. Verify that Error Code E0 is displayed.
5. Set up is complete.
6. The EMS has a 136-second time delay before you will receive power into your RV.

***Important*:** The display will only read voltages between 78 volts and 255 volts.

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

Error Code Chart

E-0	Normal Condition
E-1	Reverse Polarity Condition (hot and neutral wires reversed)
E-2	Open Ground (means no ground wire connection)
E-3	Line Voltage High (line voltage above 132)
E-4	Line Voltage Low (line 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)
E10	Replace surge protector module

NOTE: If the EMS cuts the power to the RV, it will show a PE code following the E code. This denotes the previous error or why the EMS shut down. Example: The EMS cuts power for low voltage and then the power is restored. The error code reads EO but the PE code reads PE4 which tells the user low voltage was the reason for the EMS previously cutting power. This PE error code will be deleted when power is disconnected from the EMS.

Accidental 240 Volt protection

Should this condition occur, the display will read 240 volts instead of displaying the voltage and the error code message will read E-3. AC power will shut down instantly. **DO NOT UNDER ANY CIRCUMSTANCES BYPASS THE EMS; OTHERWISE, THIS WILL RESULT IN SEVERE DAMAGE TO THE RV.**

Troubleshooting Guide

In order for the on-call Technician to troubleshoot the problem(s) you are experiencing and render the best possible solution, it is necessary that you be at your RV when you place your call.

1. If the display is illuminated and scrolling information, note the Error Code. If there is an Error Code of 1-8, the device will interrupt the power. See Error Chart for definition of AC power problem. The device being off when an Error Code is present indicates the product is working properly and protecting your coach.

2. If the display is illuminated and reading Error Code E0, and yet no power is present in the coach, please contact Technical Support. You must wait 136 seconds for the time delay light to stop flashing.

3. If the display is not illuminated and there is power is in the coach, there is a connection issue between the display and the main control box. Contact Technical Support.

Technical Support can only help if the above information is provided, therefore, please do not call until this information is obtained. Again, it is necessary for you to be at the RV when you place your call.

Progressive Industries Warranty

Progressive Industries warrants its products are free from defects in materials and workmanship for a period of one (1) 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 Industries will repair or replace the device at its discretion.

For Technical support call: (919) 462-8280. In order for the on-call Technician to troubleshoot the problem(s) you are experiencing and to receive the best possible solution, it is necessary that you be at your RV when you place your call.

Once Technical Support has properly diagnosed the problem, if any, arrangements will be made to repair the unit.

Considering the PT-30C is exposed to the elements, it is necessary that the unit be returned to the factory for any required repairs in order that the unit be sealed to maintain weatherproofing.

The address below is strictly a mailing address. Please do not attempt to visit this facility during business hours as the company is not staffed, nor equipped to handle on-site repair work. All returns must go through Technical Support.

Progressive Industries, Inc.
414B Airport Boulevard
Morrisville, North Carolina 27560

The unit being returned must be properly packaged with the postage paid and the following information.

1. Date of purchase
2. A detailed explanation of the problem/defect.
3. Your name
4. Return address and phone number

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

Progressive Industries 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 Progressive Industries' 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 disclaimers, modifications, or limitations on how long a warranty lasts; 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.

(***Revision E***)