

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 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)

E10 replace surge protector module

NOTE: IF the EMS cuts the Power to the RV it will the show a PE code following the E code this denotes the previous error or why the EMS shut down. Example: say the EMS cuts power for low Voltage on line 1 then power is restored. The error code reads EO but the PE code Reads PE4 that tells the user low Voltage was the reason for the EMS cutting Power previously.

Accidental 220 Volt protection: Should this condition occur the remote display will read the 220V condition, display the appropriate error code message and will shut down instantly. **Do not under any circumstances bypass the EMS; otherwise severe damage to the RV will result.**

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.

Technical support: 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

414B Airport Blvd.

Morrisville, North Carolina 27560

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. (rev D)

EMS

Electrical Management System

**The complete operating and
installation guide for:**

**EMS-PT50C
Rated at 240V/50A**

Manufactured by:

**Progressive Industries
Incorporated
Morrisville, North Carolina
919-462-8280**

www.progressiveindustries.net

Features:

High low voltage protection: Whenever source power fall below 104 Volts, or rise above 132 volts the EMS automatically shut down power to the RV. Once the AC source rises above 104-volts, or below the 132-volt level the time delay indicator flashes for the preset time and then automatically restores power to 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.

4-Mode surge protection: This feature provides full surge protection L-N, L-N, L-G, L-G, L-L and N-G. Joule rating is 3560, response time of <1 nano second.

Surge Indicator: If ever a power surge damages the surge protector circuit within the EMS L-N, or L-G Digital display error code will read E-10. This is your indication that it needs to be replaced.

Reverse polarity protection: If source 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 the source 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 deviants +/- 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 goes away when power is disconnected to the EMS.

Whether resistant: Can be exposed to elements, 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. Should ever this software be changed EMS, owners can receive a free upgrade processor with the return of the old.

Built in Lock Bracket: Allows the user to secure 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 fire hazard.

Warnings

- 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 could result into a possible melting of RV power plug.
- When running extension cords from the RV to a power source always use a 6-gauge cable for your 240 volt 50 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 a will result in a voltage loss, plus it may result in an electrical fire.
- Whenever servicing or installing the EMS or any other AC powered device make source power is disconnected from the source.
- 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, where as 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 fire hazard.

Operation instructions

1. Plug into source power,
2. Digital display will read 888 for 1-seconds then begin scrolling the voltage, amps, line frequency, and error code. In addition the time delay light will flash.
3. The meter will read L-1 then give you a 3-digit number that 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. Then display will read L-2 and read the voltage and amps on line two. Then it will read 60H that number should remain fairly consistent, however it may read +/- one or two. Last you will notice the E code, E-0 is normal, only if E-0 is present will the delay light flash and ultimately bring power to the RV. Refer to your error code chart card that was provided or see below for details.
4. Verify that error code E0 is displayed
5. Set up is complete.

Important: The display will only read voltages between 78 volts and 255 volts. If the display drops below 78 the display will read LLL and if the display goes above 255 the display will read HHH.

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, and we recommend using generator power.

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