

Detailed Error Message Descriptions & Test Modes

Models – ProPlus II, ProSelect, ProElite, and ProClub LT

PaceMaster treadmills have built in diagnostics that test various parts of the electronic system every time the treadmill is powered up and also during operation. When the computer determines a problem, the treadmill automatically shuts down and an error code is displayed on the control panel. The following section explains each one of these error codes and the steps that should be taken to correct the problem. It is important that you follow the steps in the order that they are listed to properly determine and correct the problem.

The error message is as follows:

<i>Error Code</i> ^	<i>Error message</i> ^	<i>Definition of Error message</i> ^
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Err Code 21 – (Bad Relay) - Indicates malfunction of safety power relay on the power supply.

1. Steps to follow to determine and correct the problem.
2.

Err Code 01 through 18 – (Button Error) Indicates the keyboard membrane has a stuck key. Do not hold down any key for more than 5 seconds or this error will appear.

1. Insert the magnetic key back into the control panel and do not touch any keys, if the error occurs, replace the keyboard membrane.
2. In very rare cases, a defective upper circuit board can cause this error and the circuit board will need to be replaced.

Recommended Parts:

Err Code 20 – (Belt Error) This error will occur if the tread belt is moving while the magnetic key is inserted into the control panel to power up the treadmill. This error will occur if the microprocessor resets during operation.

1. The magnetic key was inserted before the tread belt stopped from a previous operation. Wait for the tread belt to come to a complete stop before inserting the magnetic key to restart. Advise user of proper operation of the treadmill. Do not remove the key to end the workout program. Use the STOP key or let the time countdown to 0.
2. User is pushing the tread belt when the magnetic key is inserted into control panel. Advise user of proper operation of treadmill.
3. Very rare: A power brownout during operation. Restart, this will be self-correcting.
4. Bypass the wire harness between the control panel circuit board and the power supply circuit board. If the error is corrected, install the spare harness. If the error still occurs –

5. Replace the circuit breaker. If the error still occurs --
6. Replace the control panel circuit board, the reed switch is not functioning. If the error still occurs --
7. Replace the power supply circuit board. If the error still occurs—
8. Replace the power cord.

Err Code 21 – (Bad Relay) Indicates malfunction of the safety power relay on the power supply.

1. Replace the power supply. In some cases, the wire harness can cause the error code.
2. Bypass the wire harness between the control panel circuit board and the power supply circuit board with a spare wire harness. If the error is corrected, install the spare wire harness.

Err Code 22 - (Bad Scr) Indicates malfunction of the circuitry that controls motor speed.

1. Bypass the wire harness between the control panel circuit board and the power supply circuit board with a spare wire harness. If the error is corrected, install the spare wire harness. If the error still occurs –
2. Replace the power supply circuit board. In the unlikely event that this does not correct the error –
3. Replace the drive motor.

Err Code 24 – (Hi Acceleration Error) Indicates that the control panel is receiving erratic motor speed signals or too high an acceleration rate. This error code can occur at start up or during the workout.

1. In some cases, a “power brownout” (the treadmill is not getting enough current from the wall outlet) can cause this error code. Restart the treadmill, if the error still occurs –
2. External electrical noise (AC line noise) can interfere with the (RPM) signal between the power supply and the control panel. Make sure the treadmill is plugged into a 20 AMP DEDICATED CIRCUIT. Check to see if the error is concurrent with the operation of other electrical or electronic devices such as: air conditioners, garage door openers, refrigerators, freezers or home security devices. Do not use a power strip. If an extension cord is needed, it must be a heavy-duty 14-gauge, grounded three-wire cord no longer than 12 feet. If this does not correct the error, follow steps 3 through 7 as described below.
3. Check the strobe disc holes for dust accumulation, if there is a build up of dust, clean out the holes. Also, check to see that the disc is not bent or wobbly and that it is not making contact with the optical sensor.
4. Check the connection where the optical sensor plugs into the power supply board. A loose connection on the power supply will cause this error code. Also, check the two wires on the optical sensor for any sign of damage, if the wires are damaged, replace the optical sensor.
5. Bypass the wire harness between the control panel circuit board and the power supply circuit board. If the error is corrected, install the spare harness. If the error still occurs –
6. Replace the power supply. If the error still occurs –
7. Replace the control panel.

8. Replace the drive motor.

Err Code 26 - (High Speed Error) Indicates that the control panel is receiving erratic motor speed signals or too high an acceleration rate.

Note: The steps outlined below assume that the error occurs within the first minute or two after startup. If the error occurs well into the program and does not occur each time the treadmill is used, skip to step 4.

1. Bypass the wire harness between the control panel circuit board and the power supply circuit board. If the error is corrected, install the spare harness. If the error still occurs –
2. Replace the power supply circuit board. In the unlikely event that this does not correct the error –
3. Replace the control panel circuit board.
4. External electrical noise (AC line noise) can interfere with the (RPM) signal between the power supply and the control panel. Make sure the treadmill is plugged into a 20 AMP DEDICATED CIRCUIT. Check to see if the error is concurrent with the operation of other electrical or electronic devices such as: air conditioners, garage door openers, refrigerators, freezers or home security devices. Do not use a power strip. If an extension cord is needed, it must be a heavy-duty 14-gauge, grounded three-wire cord no longer than 12 feet. If this does not correct the error, follow steps 1 through 3 as described above.

Err Code 30 - (Gone Sensor) During operation, if the control panel loses the speed sensor signal, this error will occur. It is usually followed by a dead sensor message when trying to restart.

1. Check the speed sensor and strobe disc for damage (check the speed sensor and its connections).
2. Bypass the wire harness between the control panel circuit board and the power supply circuit board. If the error is corrected, install the spare harness. If the error still occurs –
3. Replace the power supply circuit board. In the unlikely event that this does not correct the error –
4. Replace the control panel circuit board.

Err Code 31 - (Dead Sensor) Indicates that the control panel is not sensing movement of the drive motor. This indication will appear between five to eight seconds after the start button is pressed.

1. **IF THERE IS MOTOR MOVEMENT**, check the optical sensor assembly and wiring for damage and for proper connection to the power supply. Replace as needed. In most cases, replacing the optical sensor assembly will correct the problem.
2. Check the wire harness for continuity, shorts or damage. Replace as needed.
3. In rare cases, the power supply or control panel may need to be replaced.

1. **IF THERE IS NO MOTOR MOVEMENT**, check the wiring between the power supply circuit board and the drive motor for good connection shorts to ground and continuity.
2. Check the drive motor for continuity and shorts to ground. Replace if needed.
3. Bypass the wire harness between the control panel circuit board and the power supply circuit board with a spare wire harness. If the error is corrected, install the spare wire harness. If the error still occurs –
4. Replace the power supply circuit board. In the unlikely event that this does not correct the error –
5. Replace the control panel circuit board.

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Err Code 40 – (Trap Error) – Upper circuit board problems.

1. Retest. If the error still occurs:
2. Remove the 2 Isolator spacers and the 8 insulator bushings between the handlebar and the frame (See the ProSelect/ProElite owners manual page 5).
3. Install the ground wire kit (See Ground Wire Installation Sheet)
4. If the error still occurs replace the control panel circuit board with updated software chip.
5. Replace Membrane

In some cases the wire harness can cause the error code.

Err Code 41 – (Bad Configuration) - Upper circuit board problems.

1. Retest.
2. If the error still occurs replace the control panel circuit board.

In some cases the wire harness can cause the error code.

Err Code 42 - (EE Error) – Upper circuit board problems.

1. Retest.
2. If the error still occurs replace the control panel circuit board.
3. In some cases the wire harness can cause the error code.

Err Code 43 and 44 – Replace the control panel circuit board.

Error Code 50 – Elevation Error is out of range. See Elevation Test Mode and follow steps 1-7 to clear the error code. Update the software chip.

Error Code 51 – No elevation movement/Slow movement

This error will occur if the control panel has not received an elevation signal – either no change in elevation or a slow change in elevation. This may happen because the elevation motor is not running, the elevation potentiometer has failed or the elevation motor internal gears that drive the elevation potentiometer have stripped.

Check the elevation fuse on the power supply. If the fuse is blown, replace fuse and disconnect the elevation motor wire from power supply. Power up the treadmill and touch the incline up button.

If the elevation fuse blows, the power supply is shorted and will need to be replaced.

If the elevation fuse does not blow, re-connect the elevation motor, power up the treadmill and touch the incline up button. If elevation does not raise up, check the elevation fuse, if it blew, the elevation motor is shorted and will need to be replaced. Also, check the wire harness for shorts and/or damage. If the elevation does not raise up and the elevation fuse did not blow, touch the incline up button and listen for a click noise from the power supply. If there is no click noise from the power supply, the elevation relay(s) are not functioning. You can check the for AC voltage output on the power supply. Disconnect the elevation motor from the power supply. Hook up the probes from a volt meter to the middle pin and the top pin on the jack. Have someone touch the up incline button, there should be a Voltage reading. If there is, the problem is in the elevation motor, wiring, or a bad connection between the power supply and elevation motor. If there is no voltage seen, the wire harness or the upper control panel circuit board is defective and will Need to be replaced.

Error Code 52 – Elevation signal too fast

This error occurs if the elevation signal to the control panel changes at too rapid a rate when requesting an elevation change. This may happen because the elevation potentiometer wire harness has lost continuity or the elevation potentiometer itself has failed. Alternatively, the main wire harness connection may be intermittent.

The most likely problem is a broken connection in the elevation potentiometer harness or a loose connector.

Error Code 53 – Elevation Error 34 Second time out.

This error can occur if the elevation motor continues to run after 34 seconds.

This is usually caused by a stuck elevation relay on the power supply board or a damaged or shorted wire harness.

Replace the power supply. If the error still occurs-

Replace the wiring harness.

Treadmill remains on when Magnetic Key is Removed – This occurs when the reed switch (a component on the upper circuit board) fails. This problem is corrected by replacing the upper circuit board.

“ERR” in Incline Window/1.0 in Speed Window after pressing “ENTER”.

This error can occur if the control panel receives a signal that the elevation is below zero.

The error can be corrected by putting the control panel into the elevation test mode and raising the elevation above “0”.

Elevation Test Mode

1. Insert the magnetic key, the software will be displayed in the Data Window.
2. After 2 seconds the Set Weight LED will begin to blink.
3. Press and hold simultaneously the + and – buttons in the Time Window for 3 seconds then release. The Time Window will display the raw potentiometer data, the Incline Window will display % elevation. The Data Window will display oFF. The Distance Window will display Pr-L (production limited mode).
4. Press the Pause/Enter button. The Distance Window will display Pr-F (production full mode).

5. Press the Incline UP button to raise the elevation up to 2 or 3 % elevation. NOTE: in this mode, there is nothing to prevent the elevation nut from jamming at either the top or bottom. The beeper will sound continuously if the raw potentiometer data is greater than 244 or less than 48. The beeper will turn off 4 seconds after the raw potentiometer data is within the 48 to 244 range.
6. Remove the magnetic key. Re-insert the magnetic key. Touch the pause/enter button to access the quick start mode. Touch start. The treadmill will start to run and the time in the Time Window will begin to count up from 0.00. Touch the incline down button to bring the elevation back down to zero percent.
7. Remove the magnetic key. Re-insert the magnetic key and resume normal operation.

ProPlus2/ProSelect/ProElite/ProClub LT Test Modes

Button Test Mode

1. Insert magnetic key, software version will display in Data window.
2. After 2 seconds Set Weight LED will begin to blink.
3. Press and hold simultaneously Calories and Aerobic Points buttons (for the ProClub use the Level+ & Level- Buttons) until unit beeps. This is the button test mode. Pressing any key will display its number in the Distance window. NOTE: pressing two buttons simultaneously will display both numbers.
4. Remove the magnetic key. Re-insert the magnetic key to resume normal operation.

PWM Test Mode

This mode allows you to vary the power going to the drive motor between 1% and 100%. Insert magnetic key, the software version will display in Data window.

1. After 2 seconds Set Weight LED will begin to blink.
2. Press and hold simultaneously + and - buttons in Time window (for the ProClub use the Level+ & Level- Buttons) for 3 sec then release. Time window will display raw potentiometer data; Incline window will display % elevation; Data window will display oFF. Distance window will display Pr-L (production limited mode).
3. Pressing Start/Stop will cause motor to run at 12% power – 12.0 will be displayed in the DATA window. At 12% power, the number in the speed window should be between 1.8 and 2.0. You can fine-tune the torque setting by following the procedure below.

Torque Pot Setting Procedure

Caution: An insulated screwdriver MUST be used when adjusting the torque pot setting on the power supply.

On the power supply (see figure 2, part number 14) insert the screwdriver into the pot and gently turn the torque pot all the way counter clock wise, then very slowly turn clockwise until the motor begins to run rough. Slowly turn the pot counter clock wise until the motor runs smoothly – the speed window should now read between 2.0 and 2.2. Remove the magnetic key. Re-insert the magnetic key to resume normal operation

Elevation Test Mode

1. Insert magnetic key, version will display in Data window.
2. After 2 seconds Set Weight LED will begin to blink.

3. Press and hold simultaneously + and - buttons in Time window (for the ProClub use the Level+ & Level- Buttons) for 3 sec then release. Time window will display raw potentiometer data; Incline window will display % elevation; Data window will display oFF. Distance window will display Pr-L (production limited mode).
4. Pressing Incline up button causes elevation to automatically run to 15%; pressing Incline down button causes elevation to automatically run to 0%.
5. Press Enter (for the ProClub use the Select Button) button. Distance window will display Pr-F (production full mode).
6. Pressing Incline up or down buttons will move unit up or down. NOTE: in this mode, there is nothing to prevent the jamming of the nut at either end. The beeper will sound continuously if the raw data is greater than 244 or less than 48. The beeper will turn off 4 seconds after the raw data is within the 48 to 244 range.
7. Remove the magnetic key. Re-insert the magnetic key to resume normal operation.

LED Test Mode

1. Insert magnetic key, version will display in Data window.
2. After 2 seconds Set Weight LED will begin to blink.
3. Press and hold simultaneously + and - buttons in Time window (for the ProClub use the Level+ & Level- Buttons) for 3 sec then release. Time window will display raw potentiometer data; Incline window will display % elevation; Data window will display oFF. Distance window will display Pr-L (production limited mode).
4. Pressing and holding the Calories button (for the ProClub use Pace Button) will cause all LED's to light and continuously sound the beeper. Releasing the button will resume the preceding display and stop the beeper.
5. Remove the magnetic key. Re-insert the magnetic key to resume normal operation.

Obtaining Hours and Miles - ProPlus2/ProSelect/ProElite

1. Insert magnetic key, version will display in Data window.
After 2 seconds Set Weight LED will begin to blink.
2. Hold down the custom button – total hours will be displayed in the Time Window, total miles in the Distance Window.

Obtaining Hours and Miles – ProClub LT

The total hours will be displayed in the Time Window, total miles in the Distance Window every time you insert the magnetic key. This information is displayed for 1-2 seconds.