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Icon Health & Fitness 319019, 399615, MC1648DLS

Motor Controller Board User Manual

For Icon Health & Fitness Models 319019, 399615, MC1648DLS

PRODUCT OVERVIEW

This document provides essential information for the installation, operation, and maintenance of the Icon Health & Fitness Motor Controller Board. This board is an upgraded OEM (Original Equipment Manufacturer) component designed to replace older versions, ensuring optimal performance for compatible fitness equipment.

The motor controller board is a critical component in treadmills, responsible for regulating the speed and power delivered to the drive motor, which in turn controls the movement of the treadmill belt. Proper functioning of this board is essential for safe and effective operation of your fitness machine.

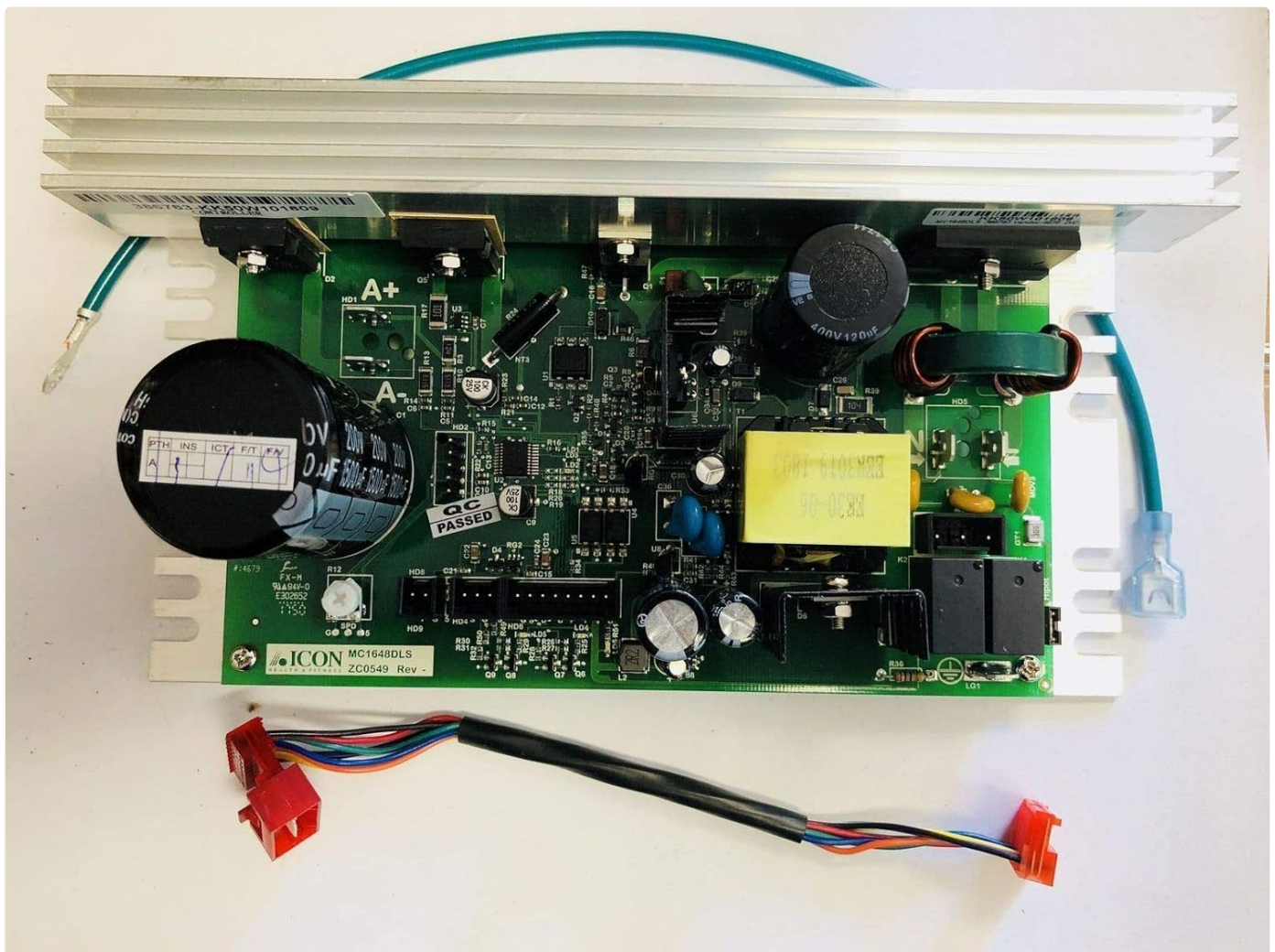


Figure 1: Top view of the Motor Controller Board (Part #399615 / MC1648DLS). This image displays the main circuit board with its heat sink, capacitors, and various integrated circuits, along with the included retrofit cables.

COMPATIBILITY

This upgraded motor controller board (Part #399615, Model #MC1648DLS) is a direct replacement for older boards (Old Part #: 319019, Old Model #: MC2100LTS-50W). It comes with the necessary cables for retrofit installation.

The board is compatible with the following fitness equipment models:

- **Epic:** TL 2710 - EPTL142110
- **NordicTrack:**
 - 1750 - NTL141150
 - 1750 - NTL141151
- **Proform:** Trail Runner 4.0 - PFTL160102
- **Hydra Fitness Exchange (Icon):**
 - 1410 - RBTL140130
 - 1410 - RBTL140131
 - 1910 - RBTL190130

Always verify your equipment's model name and serial number against the compatibility list before purchasing or installing replacement parts. For Icon models, the model name and number are typically sufficient. For other manufacturers, the first 2-5 characters of the serial number may be required for identification.

INSTALLATION AND SETUP

Important Safety Notice: Installation of this motor controller board involves working with electrical components and high voltage. It is strongly recommended that installation be performed by a qualified fitness technician or an individual with extensive experience in electrical repairs and treadmill maintenance. Failure to do so may result in serious injury or damage to the equipment.

General Installation Steps (Consult your treadmill's specific service manual for detailed instructions):

1. **Disconnect Power:** Before beginning any work, ensure the treadmill is completely unplugged from the power outlet. Wait several minutes for any residual charge in capacitors to dissipate.
2. **Access the Motor Compartment:** Locate and remove the motor hood or cover of your treadmill. This usually involves unscrewing several fasteners.
3. **Identify the Old Board:** Locate the existing motor controller board. Note the routing of all wires and their connections. Taking photographs before disconnection can be extremely helpful.
4. **Disconnect Wires:** Carefully disconnect all wires from the old board. Pay attention to the labeling and color-coding of each wire.
5. **Remove Old Board:** Unscrew and remove the old motor controller board from its mounting.
6. **Install New Board:** Mount the new motor controller board in the same location. Ensure it is securely fastened.
7. **Connect Wires:** Connect all wires to the new board according to your photographs and the board's labeling. Use the provided retrofit cables if necessary. Double-check all connections for tightness and correct placement.
8. **Secure Compartment:** Replace the motor hood or cover, ensuring all fasteners are tightened.
9. **Test Operation:** Plug the treadmill back into the power outlet. Perform a low-speed test run to ensure the motor and belt operate smoothly and respond correctly to speed adjustments. Gradually increase speed to confirm full functionality.



Figure 2: Bottom view of the Motor Controller Board, displaying the manufacturer's label. This label confirms the model MC1648DLS and indicates manufacturing by Xinyi (China) Co., Ltd. for Icon Health & Fitness, Inc.

OPERATION

The motor controller board functions as the brain of your treadmill's drive system. Once correctly installed, its operation is integrated with the treadmill's console and motor. Users interact with the treadmill's console to control speed, incline (if applicable), and program settings, and the motor controller board translates these commands into precise motor movements.

There are no direct user-operable controls on the motor controller board itself. Its proper function is indicated by the smooth and consistent operation of the treadmill belt at various speeds, and the absence of error codes related to motor or speed control.

MAINTENANCE

While the motor controller board itself requires minimal direct maintenance, ensuring the overall cleanliness and proper environment within the treadmill's motor compartment is crucial for its longevity.

- **Keep Clean:** Periodically (e.g., every 3-6 months, depending on usage) unplug the treadmill and remove the motor hood. Use a vacuum cleaner with a brush attachment or compressed air to gently remove dust, lint, and debris from around the motor, motor controller board, and other electronic components. Accumulation of dust can lead to overheating and component failure.
- **Ensure Ventilation:** Make sure the ventilation openings on the motor hood are not obstructed. Proper airflow is essential for dissipating heat generated by the motor and controller board.
- **Avoid Moisture:** Keep the treadmill in a dry environment. Moisture can cause corrosion and short circuits on

electronic components.

- **Check Connections:** During cleaning, visually inspect all wire connections to the motor controller board to ensure they are secure and free from corrosion. Do not overtighten or pull on wires.

TROUBLESHOOTING

If your treadmill experiences issues related to motor function or speed control after installing this board, consider the following troubleshooting steps. **Always unplug the treadmill before inspecting internal components.**

- **No Power to Motor / Treadmill Not Starting:**

- Check the main power cord and outlet.
- Verify the treadmill's circuit breaker or safety key is correctly engaged.
- Inspect all connections to the motor controller board for looseness or incorrect wiring.
- If the board has a fuse, check if it is blown. Replace only with a fuse of the same rating.

- **Inconsistent Speed / Surging:**

- Ensure the treadmill belt and deck are properly lubricated. Lack of lubrication can put excessive strain on the motor and controller.
- Check for any obstructions or excessive friction in the belt or rollers.
- Verify the motor's brushes (if applicable) are not worn.

- **Error Codes:**

- Refer to your treadmill's specific user manual for the meaning of any displayed error codes. Many codes relate to motor or controller issues.

- **Burning Smell or Smoke:**

- Immediately unplug the treadmill. This indicates a serious electrical fault. Do not attempt to operate the machine.

Professional Assistance: Diagnosing and repairing complex electronic components like motor controller boards can be challenging. If you are uncomfortable with diagnosing and treating your machine with the correct replacement parts, it is highly recommended to consult a qualified fitness equipment technician. They can accurately diagnose the issue and ensure proper installation and calibration.

SPECIFICATIONS

Feature	Detail
Brand	Icon Health & Fitness
Part Numbers	319019 (Old), 399615 (Upgraded)
Model Numbers	MC2100LTS-50W (Old), MC1648DLS (Upgraded)
Item Dimensions (LxWxH)	6 x 8 x 1 inches
Item Weight	1 Pound
Horsepower Rating	50 Watts (referring to the board's capacity, not motor HP)

Feature	Detail
Manufacturer	Icon Health & Fitness
UPC	081224152034
ASIN	B07GC5NZYL

SUPPORT

For further assistance, technical support, or to locate a qualified fitness technician in your area, please refer to the support resources provided by Icon Health & Fitness or the original manufacturer of your treadmill. When contacting support, have your treadmill's model and serial number, as well as the part number of this motor controller board (399615 or MC1648DLS), readily available.

While this manual provides general guidance, specific issues may require professional diagnosis and repair. Do not attempt repairs beyond your skill level, especially those involving electrical components.



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This manual is for informational purposes only. Always prioritize safety and consult a professional for complex repairs.