

# Technical Bulletin #25

Revision 1

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Subject ED400 ED700 Motor Resistance

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Explanation of Bulletin When replacing any ED400 or ED700 control, before connecting the control to the motor, it is recommended that you check the motor for problems.

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Caution Make sure to perform the following before conducting the motor test.  
Turn off the 110VAC supply to the door. With the door in the closed position, unplug the motor from the control.

1. When performing the test, the motor is disconnected from the control and has no closing speed control, so maintain control of the door at all times during the testing process to prevent the door from slamming.
2. When you are moving the door, it is recommended that you disconnect your meter from the motor to prevent damage to your meter. DC voltage is generated as the door is moved.
3. When testing the motor for isolation to ground, test both the red and black leads separately to ground (the motor's housing) there should be no continuity between the red or black lead from the motor and the motor's housing at any point in the motor's rotation.

Solution

The expected resistance on the motor (across the red and black wire) should read between 19 and 30 ohms. Acceptable limit are 16 and 30 ohms. Also, check the isolation of the windings to ground. That is from red to the motor housing and black to the motor housing, In both cases, there should be no connection or continuity indicated. All of these measurements must be taken with motor stationary. Even a slow movement of the door can cause wildly inaccurate readings and possibly damage your meter. The check should be done at several different motor positions (minimum of 4) including the open and closed position of the door to check for dead spots on the commutator. If any of the readings are outside of the acceptable limits, the motor is out of tolerance, and may damage the new control if power is applied to the control while it is connected to the motor.