



## Model 4561E & 4581E Open Frame (Panel Mount) Motor Controller Instructions

### DESCRIPTION

The 4500E Series Controllers are designed for permanent magnet motors. An adjustable full wave output is provided by a solid state circuit. A combination of counter-EMF and IR feedback is used to stabilize motor speed. Electronic current-limiting reduces motor starting current, thereby prolonging motor and semiconductor life.

Model Number	Input Voltage (AC RMS)	Motor Fuse (Amps)	Line Fuse (Amps)	Maximum Motor HP
4561E	120V	8	10	¾
4581E	240V	5	5 (two required)	

**Note:** All fuses are type ABC.

### OPERATION

**SPEED RANGE ADJUST** – Turn the power switch ON and adjust the unit to the desired speed with the control knob. The MIN and MAX motor speed trimmers are factory set for operation from zero to full motor speed. If a different speed range is desired, adjust as follows:

**MAX SPEED** – Turn the main speed control to full speed (maximum clockwise direction). Adjust the MAX trimpot to obtain the new top speed.

**MIN SPEED** – Turn the main speed control to the lowest speed (maximum counterclockwise direction). Adjust the MIN trimpot to obtain the new low speed.

The following trimmer adjustments are preset at the factory to provide the most efficient and trouble-free operation of this controller, when used with the motor supplied:

**IR** – controls load regulation (typical setting is 25% of clockwise rotation).

**CL** – protects against overloads (typical setting is 75% of clockwise rotation).

**ACCEL** – provides a slow, smooth start-up (typical setting is 50% of clockwise rotation).

**CAUTION: NEVER TURN FULLY COUNTERCLOCKWISE**

**TORQUE** – This controller is factory adjusted for ¼ through ¾ horsepower motors. If a different horsepower motor is required, consult the factory for information.

### INSTALLATION

The controller should be mounted in an area free of excessive heat, vibration, metallic dust and moisture. The safety of all personnel should be a part of the selection process.

### WIRING

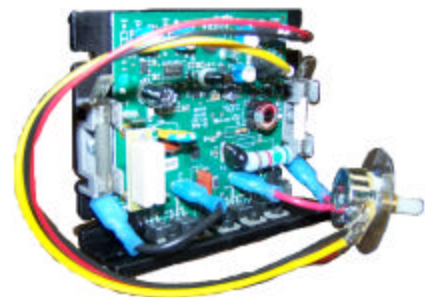
ALL WIRING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

**WARNING: Inspect all connections for accuracy and tightness prior to applying power. Incorrect connections will damage the circuit.**

**MOTOR CONNECTION** – The armature is connected to terminals labeled A- and A+. Reverse the armature leads if the motor is turning the wrong way.

**FUSING** – A fuse, in the series with the 120V input line to L1, is provided. (On 240V systems, the input lines to L1 and L2 are both fused.) A second fuse, installed in series with motor armature, provides protection against motor overloads. Refer to the above chart for replacement values.

**CONTROLLER REPAIRS** – We suggest that all controllers be returned to Automation Devices for repair.



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