

C1XP02-115AC Instruction Guide

Specifications

Line Voltage	115 VAC, $\pm 10\%$; single phase, 50/60 Hz
Horsepower Range	1/20 – 1/8 Hp
Armature Voltage Range	0 – 130 VDC
Maximum Armature Current (continuous)	2 ADC
Acceleration Time (no load)	1 second
Deceleration Time (no load)	4 seconds
Speed Regulation (at base speed)	1%
Line Fuse	5 A (fast-acting)
Weight	0.68 lb
Dimensions	5.50 in. x 3.50 in. x 3.20 in.
Ambient Temperature Range	10°C – 40°C

Safety Warnings

- Have a qualified electrical maintenance technician install, adjust, and service this equipment. Follow the National Electrical Code and all other applicable electrical and safety codes, including the provisions of the Occupational Safety and Health Act (OSHA) when installing equipment.
- Reduce the chance of an electrical fire, shock, or explosion by proper grounding, over current protection, thermal protection, and enclosure. Follow sound maintenance procedures.
- Although the drive includes protective circuitry to prevent damage in the event of an accidental short circuit of the armature, it is not fail-safe. It is possible for a drive to run at full speed as a result of a component failure. Install a master switch in the drive's AC line for stopping the drive in an emergency.
- This drive is not isolated from earth ground. Circuit potentials are at 115 VAC above earth ground. Avoid direct contact with the printed circuit board or with circuit elements to prevent the risk of serious injury or fatality. Use a non-metallic screwdriver for adjusting the calibration trimpots.

Mounting

Mount C1XP drives vertically or horizontally using the two mounting keyholes on the back of the case (Figure 1). The keyholes are 2.5 inches apart. For access to the keyholes from the inside of the case, remove the four case cover screws and lift the case cover straight out. Leave the case cover removed to wire the AC line and motor to the drive.

Wiring

The C1XP case has two conduit holes on the bottom of the case, and one conduit hole on the back of the case (Figure 1). Connect external wiring through any of these conduit holes. Avoid using the same conduit hole for the AC line wires and the motor wires.

See Figure 2 for AC line and motor connections. Be sure that all connections are made before operating the drive.

Operation

1. Push the speed adjust potentiometer knob to turn the power on. The POWER ON LED lights when the power is on.
2. Rotate the speed adjust potentiometer knob clockwise until the desired speed is reached.
3. Push the speed adjust potentiometer knob in to turn the power off. The POWER ON LED shuts off when the power is off.

Calibration

Each drive is factory calibrated to its maximum horsepower rating. Readjust the calibration trimpot setting to accommodate lower horsepower motors.

All adjustments increase with clockwise (CW) rotation, and decrease with counterclockwise (CCW) rotation. Use a non-metallic screwdriver for calibration. Each trimpot is identified on the printed circuit board.

MAX The MAX trimpot sets the maximum speed. Turn the 10K Ω speed adjust potentiometer full CW before calibrating the MAX trimpot. Adjust the MAX trimpot until the desired maximum motor speed is reached.

MIN The MIN trimpot sets the minimum speed. Turn the 10K Ω speed adjust potentiometer full CCW before calibrating the MIN trimpot. Adjust the MIN trimpot until the motor rotates at the desired minimum speed.

IR COMP The IR COMP trimpot sets the voltage gain needed to maintain the set speed of a motor under load. If the motor does not maintain set speed as the load changes, gradually rotate the IR COMP trimpot CW. If the motor oscillates (overcompensation), the IR COMP trimpot may be set too high. Turn the IR COMP trimpot CCW to stabilize the motor. See Figure 3 for typical IR COMP settings.

CURR. LIMIT The CURR. LIMIT trimpot sets the drive's maximum armature current limit. See Figure 3 for typical CURR. LIMIT settings, or calibrate as follows:

1. With the AC line voltage disconnected from the drive, connect a DC ammeter in series with the armature.
2. Set the CURR. LIMIT trimpot to minimum (full CCW).
3. Connect AC line voltage to the drive.
4. Turn the power on, and set the speed adjust potentiometer to maximum speed (full CW).
5. Lock the motor armature. Be sure that the motor is firmly mounted.
6. Adjust the CURR. LIMIT trimpot CW slowly until the armature current is 120% of motor rated current.
7. Set the speed adjust potentiometer to minimum speed and remove the stall from the motor.

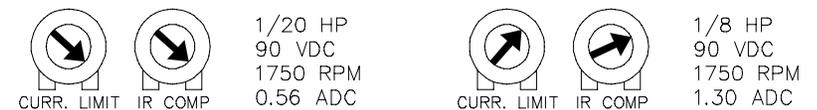


Figure 3. CURR. LIMIT and IR COMP Settings

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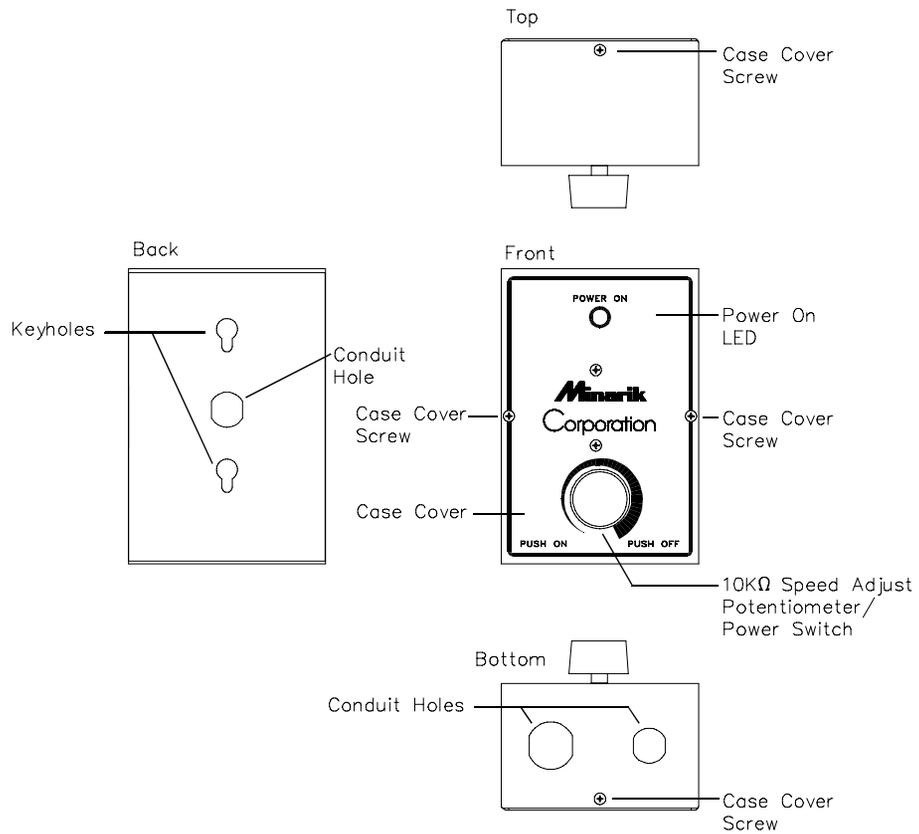


Figure 1. C1XP Layout

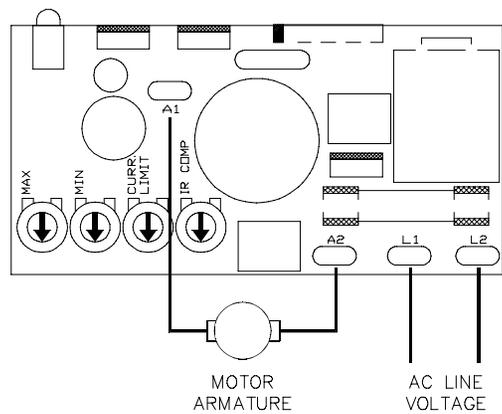


Figure 2. C1XP Connections