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Getting Started

The information in this chapter will enable you to:

- Verify that each component of your system has been delivered safely
- Become familiar with system components and their interrelationships
- Ensure that each component functions properly
- Configure the system properly

What You Should Have

You should inspect your Compumotor Plus shipment upon receipt for obvious damage to its shipping container. Report any such damage to the shipping company as soon as possible. Parker Compumotor cannot be held responsible for damage incurred in shipment. Carefully unpack and inspect your Compumotor Plus shipment. The items listed in the following tables should be present and in good condition.

Ship Kit Contents

The following table lists the components included in the ship kit for the low-power drive, the CPLX. *The CPLX-Drive can only be used with Compumotor CPLX57-120 and CPHX83-150 motors.*

Part Number	Low Power Ship Kit Description	Qty
47-007386-01	36VAC Transformer	1
71-007819-10	10-Foot Motor Cable (for 57-120/83-150 motors)	1
71-007811-10	Resolver Cable	1
52-006007-01	Mounting Bracket	1
88-007488-02	User Guide	1

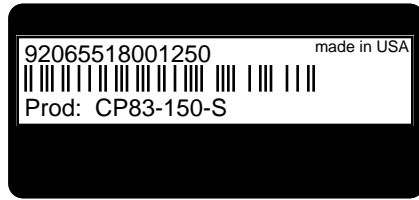
The following table lists the components included in the ship kit for the high-power drive, the CPHX. *The CPHX can only be used with Compumotor CPH83-150 and CPH106-220 motors.*

Part Number	High Power Ship Kit Description	Qty
71-007547-01	AC Cable (high-power only)	1
71-007817-10	Motor Cable (for 106-220)	1
71-007811-10	Resolver Cable (for all models)	1
52-006007-01	Mounting Bracket	1
88-007488-02	User Guide	1

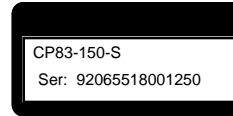
Drive/Motor Configuration

Compumotor configures the Compumotor Plus system according to the motor that you order. There are three motors that can be configured with the Compumotor Plus (57-120, 83-150, and 106-220). You can determine which motor you have by checking the Product label.

Drive Label



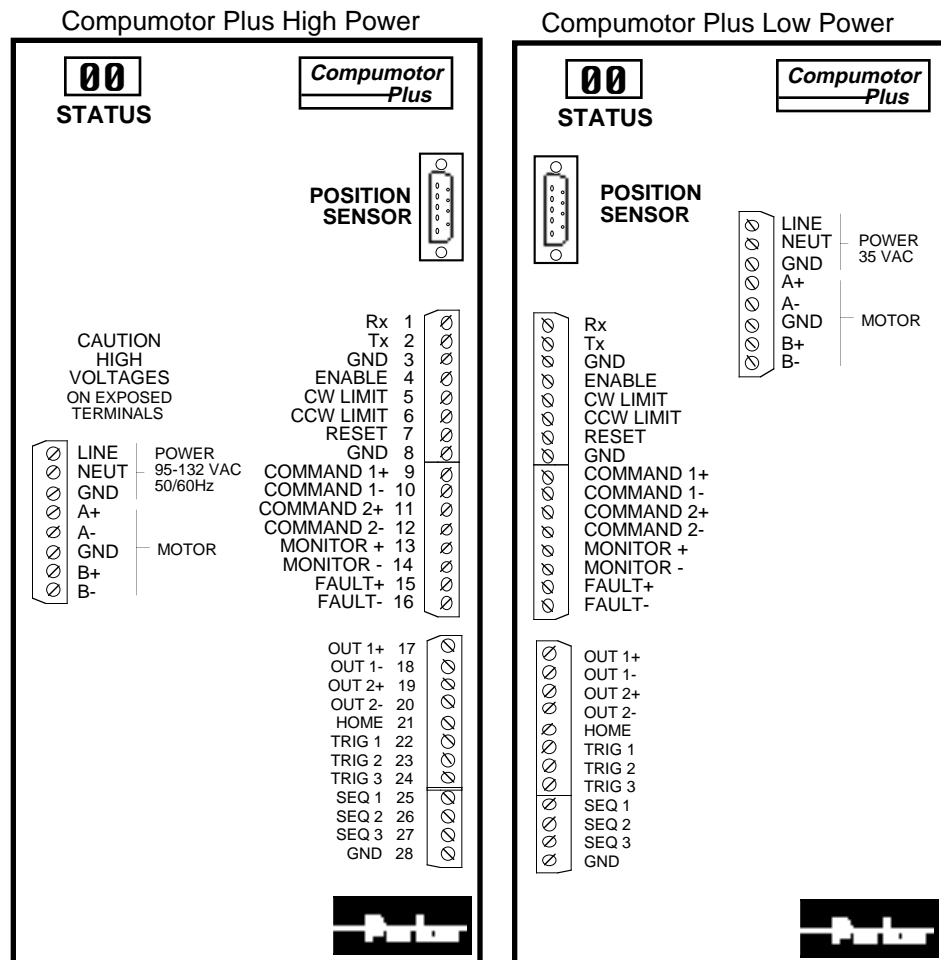
Motor Label



Serial #'s must match

Front Panel Description

The front panels for the Compumotor Plus low and high power are different.



Check-Out Procedure

This section provides a basic **bench test** of the Compumotor Plus. Compumotor recommends that you complete the steps in this chapter before you permanently install the Compumotor Plus and connect the motor to its intended load. The above figure illustrates the location of these connections.

Connect Power

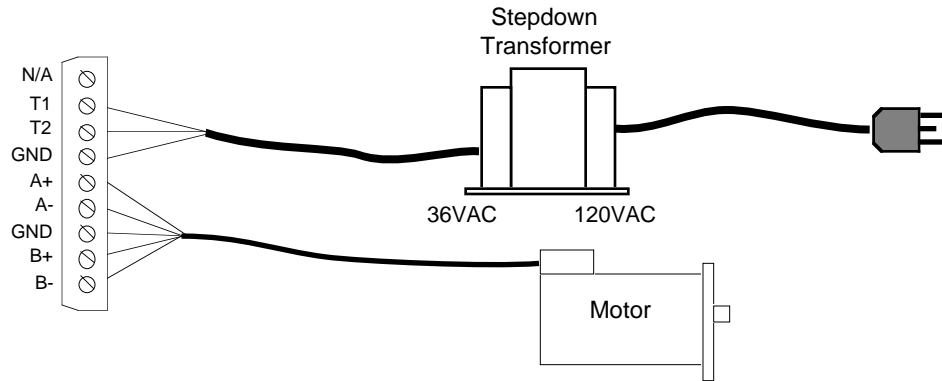
Connect the power cable to the Compumotor Plus and verify that the color codes are correct.

The CPLX57-120 and CPLX83-150 are provided with an input step-down transformer and the CPHX106-120 is provided with an AC power cord and no transformer.

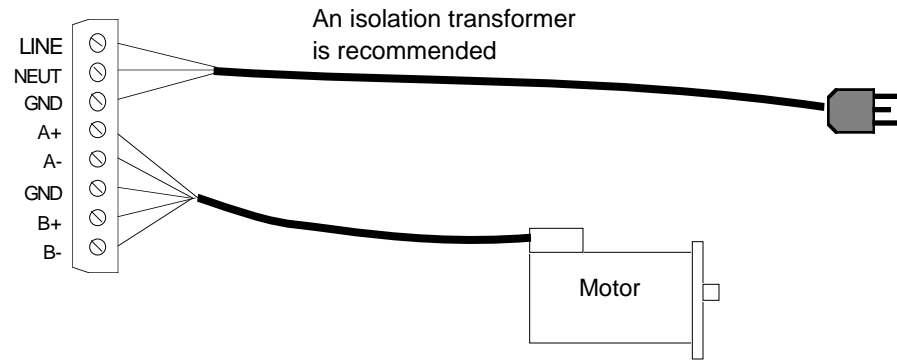
Compumotor Plus power connections are listed in the table below.

Pin #	CPL Function	Wire Color	CPH Function	Wire Color
1	N/A	No Connection	N/A	No Connection
2	T1	Brown	LINE	Black
3	T2	Blue	NEUT	White
4	GND	Green	GND	Green

The drawing below illustrates the power connections for the CPL (low-power) drive.



The drawing below illustrates the power connections for the CPH (high-power) drive.



Establish Communications

RS-232C Connections

To communicate with the Compumotor Plus system, your computer or terminal must have an RS-232C serial port. If it does not, you can purchase one from your local computer dealer.

The RS-232C connections are made via screw terminals. The Compumotor Plus Drive has a three-wire implementation of this interface and provides Receive Data (Rx), Transmit Data (Tx), and Ground (GND) signals on the connector. Refer *Chapter 3, Installation* for more information.

The communication parameters default to 9,600 baud, 8 data bits, 1 stop bit, and no parity (full-duplex).

Issuing Commands

The Compumotor Plus requires that commands be issued over the RS-232C connection with the following syntax. Refer to *Chapter 5, Software Reference* for more information.

`<address>COMMAND<parameter><delimiter>`

- ❑ The address is optional for all commands except those which require a response. You will not need to include an address for most of the examples in this section. Where an address is required, it will be provided with the command.
- ❑ The command itself is a sequence of one or several uppercase letters.
- ❑ A numeric parameter is sometimes required. It will be listed with the command in the examples in this section.
- ❑ A delimiter is always required to end the command. A delimiter is a space or carriage return.

Turning the System On

To familiarize yourself with the operation of the system, you may wish to go through these start-up procedures before final installation of the motor to your load. If so, you should first attach the motor, resolver, and RS-232C cables before applying AC power. Remember, the CPL drive (low-power) uses 36VAC and requires an isolated step-down transformer (the required transformer is supplied with the low-power systems). The CPH (high power) does not require a transformer to operate from 120VAC, but an isolation transformer is recommended. For more information, refer to *Chapter 3, Installation*.

CAUTION

Be careful to keep the motor shaft away from any cables or other loose objects that could get tangled when the shaft rotates. The motor should be firmly mounted to prevent it from moving while it is running.

Do not grab the motor shaft while it is turning. There may be sharp surfaces on the shaft. Also be sure to remove the shaft key (if there is one). The key may fly off when the motor is rotating.

Verify that all cables and wires are properly connected, and that the motor shaft is free from obstructions before applying power to the system. If the system has been wired properly and the drive is enabled, the diagnostic display will read zero.

If there is a fault, the LED display will flash a diagnostic code, refer to *Chapter 7, Maintenance & Troubleshooting* for an explanation of those codes.

Connection Overview

Operation of the Compumotor Plus requires a minimum of four sets of electrical connections.

- ❑ The motor and resolver
- ❑ Interface to an RS-232C serial communication device (which may be removed after programming)
- ❑ AC power to the drive
- ❑ Other optional connections include CW and CCW end-of-travel limit inputs, a home position limit input, trigger and sequence inputs, and programmable and fault outputs

Setting Motor Configuration

The Compumotor Plus Drive has been configured to its motor for you at the factory, if they were ordered together as a system.

If you are using a motor other than the one that was ordered with the system, you will need to re-configure the Compumotor Plus for that size motor. The Configure Motor (CMTR) command should be used for this purpose (refer to *Chapter 5, Software Reference*).

Follow the steps listed below to configure your Compumotor Plus motor.

Step ① Connect the motor to the drive. Connect the power cables (supplied). Connect an RS-232C terminal or terminal emulator. Refer to *Chapter 3, Installation* for the appropriate wiring diagrams. Apply power to the Compumotor Plus.

Step ② Refer to the table below to select the appropriate CMTR command for your motor. This command selects the proper current values and factory defaults.

Issue the following commands to the Compumotor Plus to configure it for your motor. Be sure to type a space or carriage return after each command. Type only the commands in the left hand column, not the description in the right hand column.

Example

Command	Description
OFF	Turn off the current to the motor.
CMTRx	Select the appropriate CMTR command from the table below.
ON	Check the motor for stability. If it appears to have torque and no error messages are sent to the terminal, proceed to the next step.
SAVE	Save the configuration.

You must issue an OFF command prior to configuring the motor. You must issue a SAVE command after issuing a CMTR command. The configuration is not saved automatically.

The possible configurations are:

Command	Description
1CMTR	Reports the present set up as *MOTOR_TYPE=CPn, where n=1, 2, or 3
1CMTR1	Sets the drive up for the 57-120 motor
1CMTR2L	Sets the drive up for the 83-150 motor (with Low power amplifier)
1CMTR2H	Sets the drive up for the 83-150 motor (with high power amplifier)
1CMTR3	Sets the drive up for the 106-220 motor

Setting Drive Current

The drive current is set at the factory and normally does not need to be changed. If your application requires a different current the Configure Current Average (CCA) and Configure Maximum Current Peak (CCP) commands allow you to change the current settings (Refer to *Chapter 5, Software Reference*).