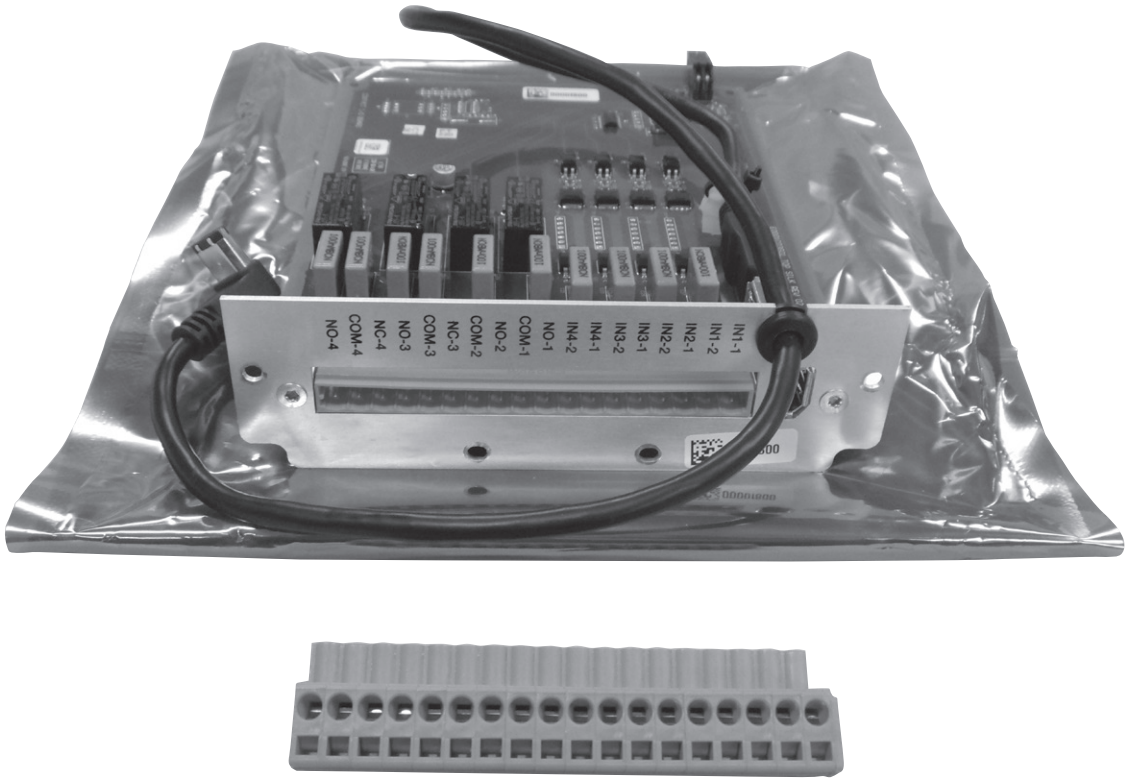
Input/Output (I/O) module installation instructions



Powering Business Worldwide

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Contents

Safety for life

Eaton's Cooper Power series products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment, and support our "Safety For Life" mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high- and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result In death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in equipment damage only.

Safety Instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

DANGER

Hazardous voltage. Contact with high voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply may result in death, severe personal injury and equipment damage.

WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

Product information

Introduction

Service Information *MN225067EN* contains instructions for installation of auxiliary input/output contact modules. The CL-7 control comes standard with three input contact points. If additional contact points are required, an auxiliary contact module can be installed which contains four (4) input and four (4) output contact points. A second module can be installed to double that number to eight (8) input and eight (8) output contact points.

⚠ Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment.

Additional information

These instructions cannot cover all details or variations in the equipment, procedures, or processes described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, contact your Eaton representative.

Acceptance and initial inspection

Each input/output module is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the input/output module and inspect it thoroughly for damage incurred during shipment. If damaged is discovered, file a claim with the carrier immediately.

Handling and storage

Be careful during handling and storage of the input/output module to minimize the possibility of damage. If the module is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Standards

ISO 9001 Certified Quality Management System

Description

The input/output (I/O) module kit provides the hardware needed to install an I/O module to a CL-7 voltage regulator control.

Table 1. Kit Part Identification

Item	Description	Qty
1	Input/Output Module	1
2	18-Position Connector (Installed)	1

Installation procedures

1. Remove the control from the control box. To do this, the Control Function switch should be set to OFF, the control Power switch should be set to OFF, the V1 switches (and V6 switches if present) on the back panel should be opened and the C switches should be closed. Unplug the wiring harness and disconnect the green ground wire. Remove the control from the hinge pins.

2. There are three possible locations for the I/O module depending upon the control configuration and installed accessories. In each case, remove the accessory slot cover from the side of the control box by removing the four screws and retain the screws. See Figures 1, 2 and 3. In the case of Figure 3, it may be necessary to add the auxiliary accessories extrusion to the back of the control to accommodate the I/O module.

3. Slide the I/O module circuit board into the groves in the accessory slot. Figure 4 shows installation of the I/O module in a multi-phase control. Note that an external interface cable is included on the board in this installation. For I/O modules installed in the lower accessories slot in the main control, the power is connected internally and a power cord is not required.

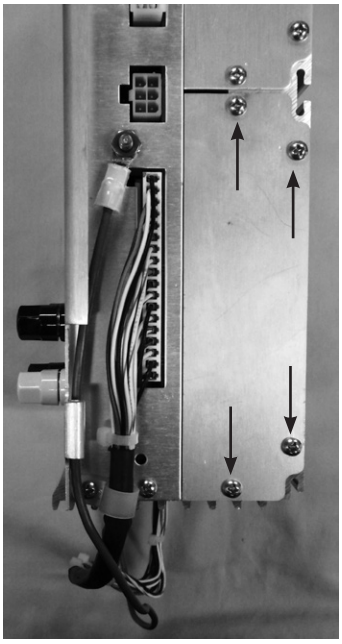


Figure 1. Accessory slot on main control.

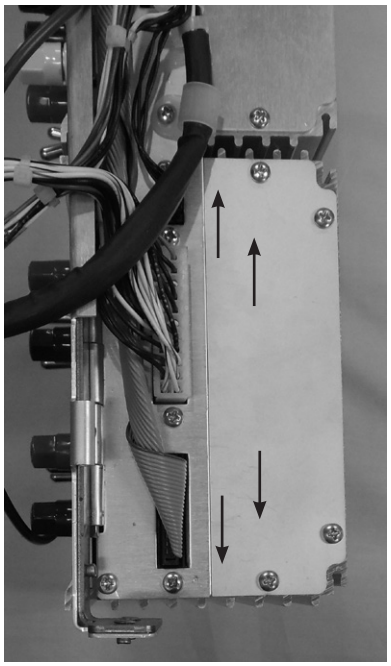


Figure 2. Accessory slot in the case of a multi-phase control.

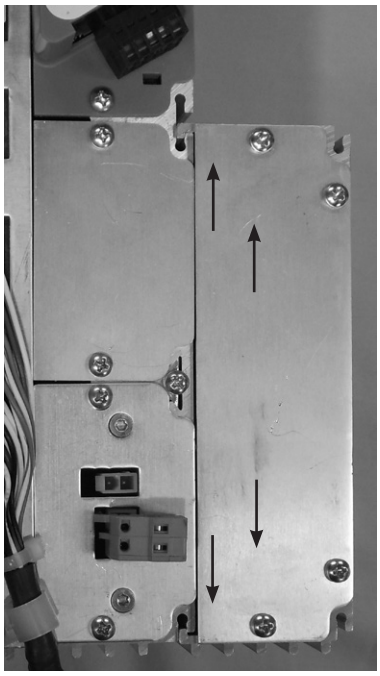


Figure 3. Auxiliary accessory extrusion attached to back of main control. The extrusion may be installed in any one of three locations on the back of a control.

Figure 4. Inserting the I/O module into the accessories slot in a multi-phase control.

4. Fully seat the I/O Module into the slot and secure with the four screws retained in step 2. See Figure 5.

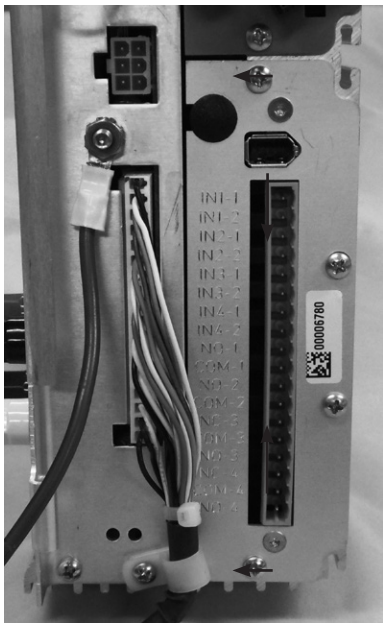


Figure 5. Securing the I/O module with screws into the accessories slot of the main control panel. Note that in this installation, the power cord is not required.

5. For I/O modules installed in the multi-phase module or an auxiliary accessory extrusion, the interface cable must be plugged in. Locate the connection port for the I/O module and install the interface cable connection into the port. See Figures 6 and 7. If a second I/O module is installed, the interface cable from one module must be plugged into the port of the other module. It does not matter which module plugs into which module.

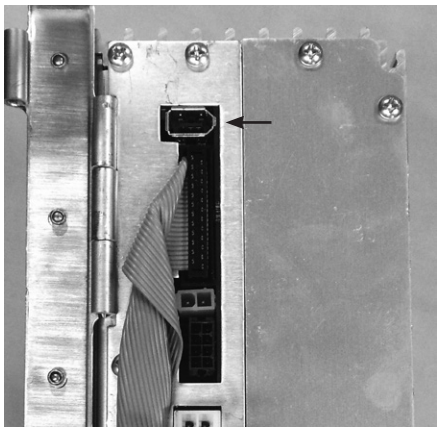


Figure 6. I/O module connection port.

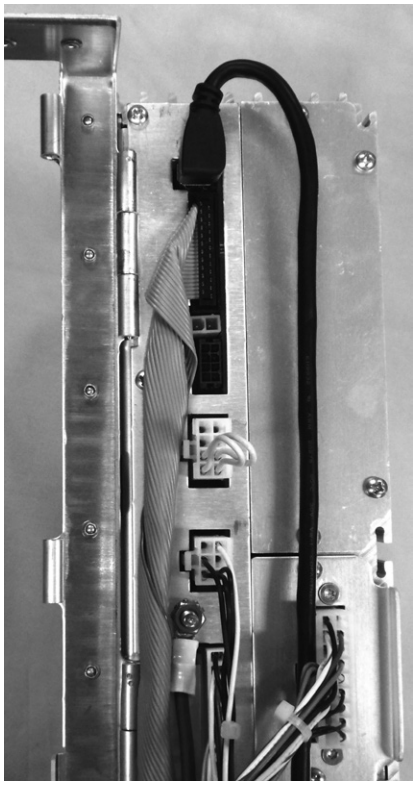


Figure 7. I/O module cord plugged into port in side of control.

6. Install the orange terminal connector into the I/O Module, see Figure 8. Connections can be made by pressing the black tool provide inside the control box into the small rectangular holes on the front of the connector while inserting a wire into the round holes in the side.

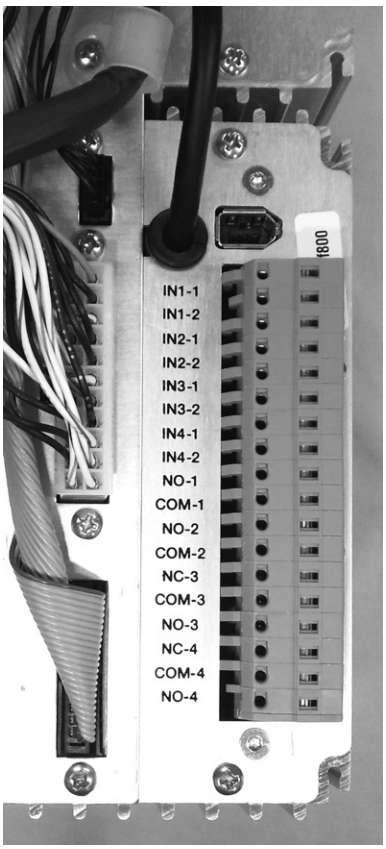


Figure 8. Orange connector install into the I/O module.

7. Install the control back into the control box by reversing the process in step 1.

Programming the Control

8. The control must be programmed to recognize the I/O module. Establish communications with the CL-7 control using ProView™ NXG software. The software is available at www.CooperPowerCentral.com (registration is required). Instructions on how to connect and establish communications can be found in the document *MN225015EN, CL-7 Regulator Control ProView NXG Software Programming Guide*, which can also be found on the site.

9. Once communications have been established, enter the software menu Manage > Device > Auxiliary I/O Module Mapping… See Figure 9.

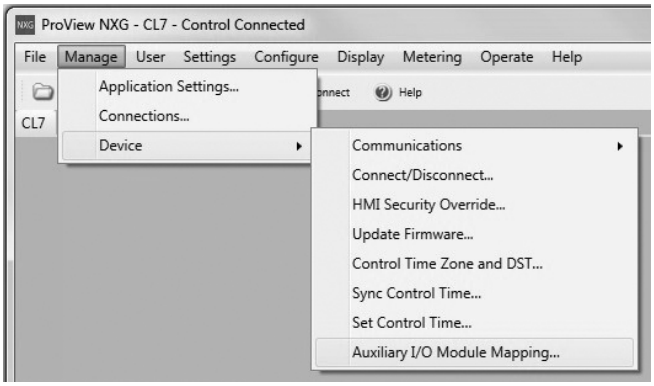


Figure 9. ProView NXG application menu location for I/O module mapping.

10. In the Auxiliary I/O Module Mapping dialog box, select the ID of the module from the drop-down list for Auxiliary I/O Module 1. The number selected will correspond to the number on a tag on the outside of the module. If you are installing two modules, do the same for Auxiliary I/O Module 2. See Figure 10.

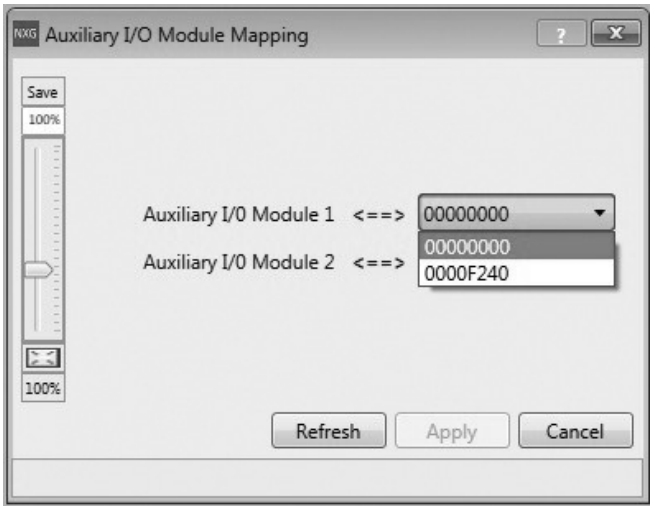
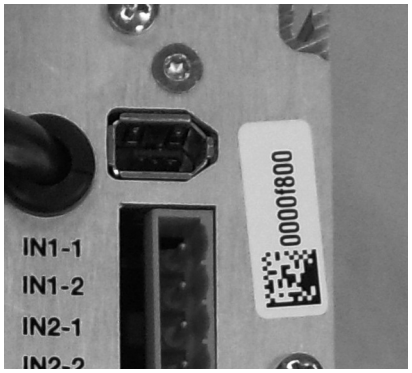


Figure 10. Selecting the module ID.

11. Information on connecting to the module and the contact points can be found in the document *MN225003EN, CL-7 Voltage Regulator Control Installation, Operation and Maintenance Instructions* in the section **Auxiliary Input and Output**. For further assistance call the Voltage Regulator Support line at 866-975-7347 or by email at RES-VRSupport@Eaton.com.



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