



2XX-IP

ETHERNET INTERFACE OPTION

**For 200 Series Indicators
(205/210, 212G/212GX and 225)**

INSTALLATION MANUAL



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INTRODUCTION

Thank you for purchasing the 2XX-IP Ethernet Interface Option. This option card for the Cardinal 200 Series Indicators (205/210, 212G/212GX and 225) was built with quality and reliability.

The 2XX-IP has been designed for the environment where interfacing through an Ethernet network is desired. It is based on a Lantronix XPort® - Embedded Ethernet Device Server module and resides in the indicator main enclosure.

The purpose of this manual is to provide you with a guide through installation of the 2XX-IP Ethernet Interface Option. Please read it thoroughly before attempting to install the option card in your indicator and keep it handy for future reference.

For more information on the Lantronix XPort® - Embedded Ethernet Device Server module, visit the Lantronix Website at, www.lantronix.com.

SPECIFICATIONS

| | |
|----------------------|--------------------------------|
| Temperature Range: | 14 to 104° F (-10 to +40° C) |
| Network Connections: | (1) RJ-45 connector |
| Diagnostics: | On board LED's LINK and MASTER |

FCC COMPLIANCE STATEMENT

This equipment generates uses, can radiate radio frequency, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user will be responsible to take whatever measures necessary to correct the interference.

You may find the booklet "How to Identify and Resolve Radio TV Interference Problems" prepared by the Federal Communications Commission helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402, stock No. 001-000-00315-4.

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DISCLAIMER

While every precaution has been taken in the preparation of this manual, the Seller assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from use of the information contained herein. All instructions and diagrams have been checked for accuracy and ease of application; however, success and safety in working with tools depend to a great extent upon the individual accuracy, skill and caution. For this reason, the Seller is not able to guarantee the result of any procedure contained herein. Nor can they assume responsibility for any damage to property or injury to persons occasioned from the procedures. Persons engaging the procedures do so entirely at their own risk.

INSTALLATION

Mounting the 2XX-IP Board

NOTE: Should your indicator come with the 2XX-IP board already installed, the following information describing the mounting of the board does not apply. Proceed to the RIO Link Cable Installation section.

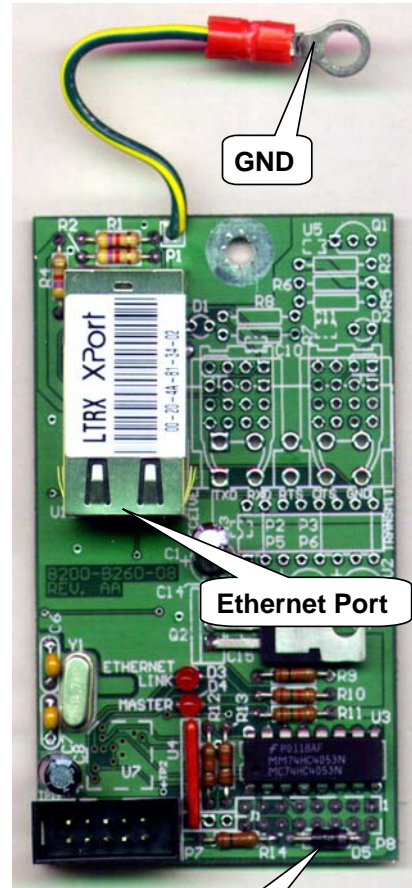


CAUTION! This board contains static sensitive components. Improper handling can result in damage to or destruction of the components or board. Such actual and/or consequential damage IS NOT covered under warranty.

1. Make sure the power to the indicator is OFF. Unplug the AC power cord.
2. Loosen the gland connectors where the AC power cord and any other cables enter the indicator.
3. Remove the rear panel on the 205/210 and 225 or the front panel on the 212G/212GX.
 - On the 205/210, remove the 12 acorn nuts securing the rear panel to the front housing.
 - On the 225, remove the 14 acorn nuts securing the rear panel to the front housing.
 - On the 212G/212GX, remove the 12 mounting screws securing the front panel to the rear housing.
4. Separate the rear panel from the front housing on the 205/210 and 225 or the front panel from the rear housing on the 212G/212GX.
5. Lift the panel from the main housing, taking care not to stretch the cable and wires between the panel and main housing. Lay the panel on the workbench next to the indicator.
6. Referring to the illustrations on page 4, locate the threaded stand-off and the OPTION BOARD connector on the indicator main board.

- 205/210/212G/212GX – The threaded stand-off is below P3 and the OPTION BOARD connector is P10.
- 225 – The threaded stand-off is near P9 and the OPTION BOARD connector is P15.

7. To install the 2XX-IP card, carefully align the connector P7 (pins on bottom side of 2XX-IP board) with connector P10 on the 205/210/212G/212GX or P15 on the 225 main board and then apply even downward pressure to the end of the 2XX-IP board (with P7 pins on bottom side).
8. Align the hole in the 2XX-IP board with the threaded stand-off on the indicator main board and using the lock washer and screw supplied with the 2XX-IP board, secure the 2XX-IP to the indicator main board.

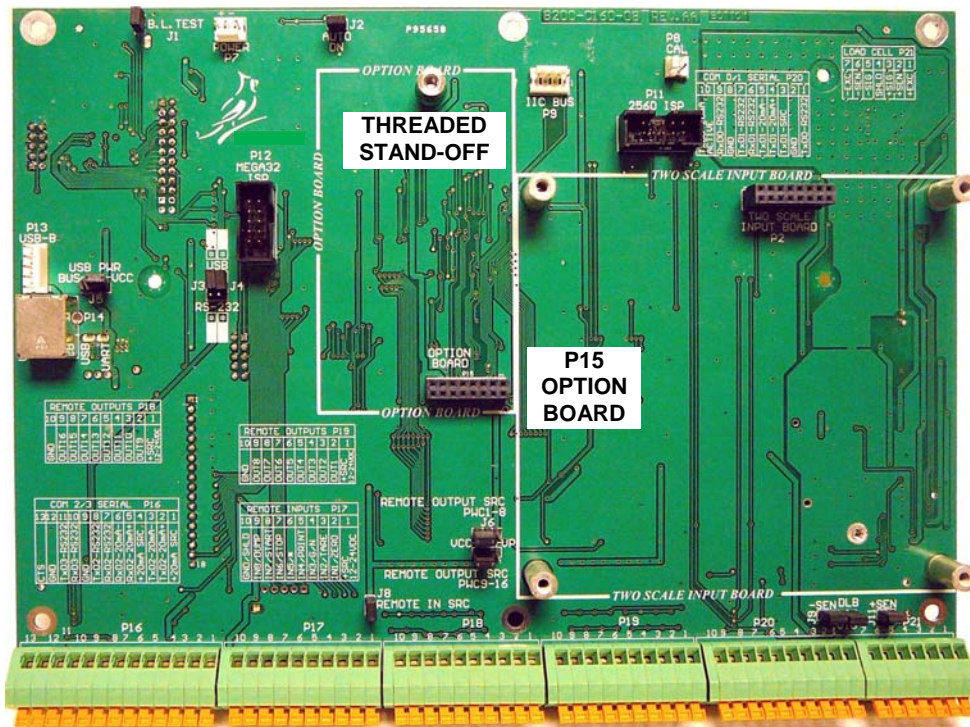
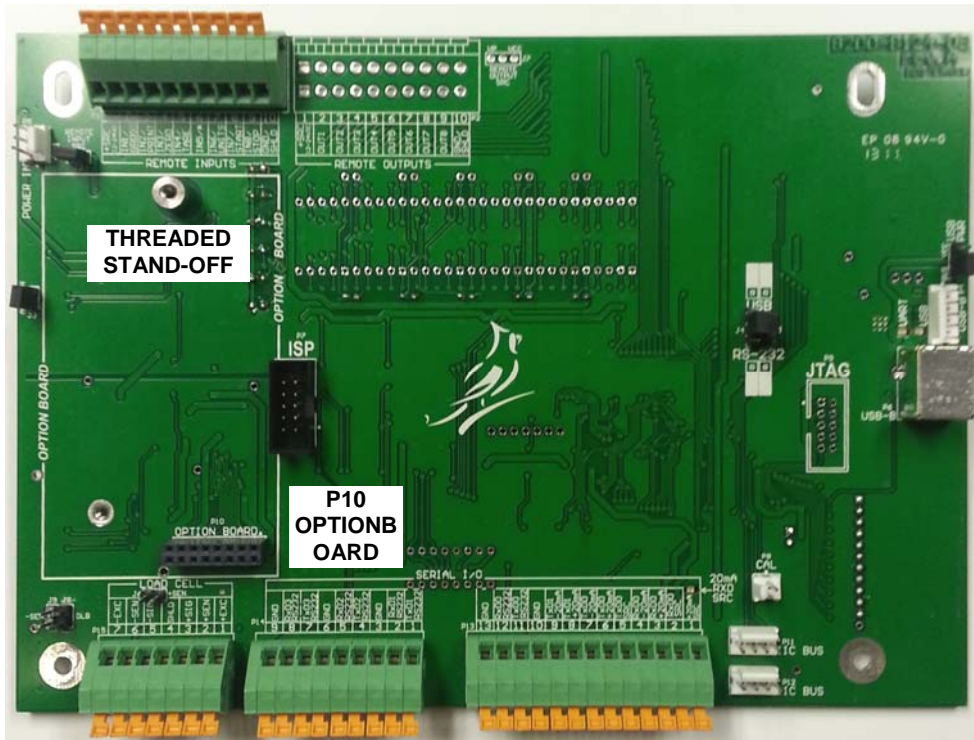


P1 (Pins on trace side of board)

INSTALLATION, CONT.

Mounting the 2XX-IP Option Card, Cont. 205/210/212G/212GX Main PCB

NOTE: 205 Main PCB shown. The 210/212G/212GX Main PCB will have connector P2, REMOTE OUTPUTS and J7, REMOTE OUTPUT SRC jumper installed.



225 Main PCB

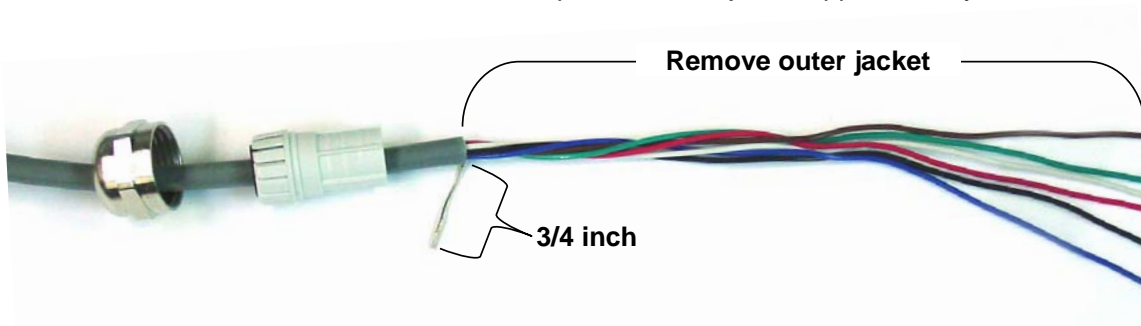
INSTALLATION, Cont.

Ethernet Cable Installation

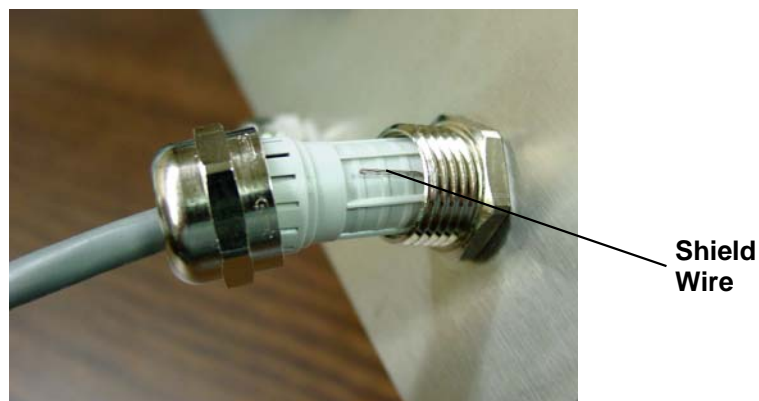


NOTE: The Ethernet cable must be routed through the provided special metallic gland connector (CPN 6610-1506) and the shield wire must be connected to this gland connector for grounding and to eliminate RFI.

1. Remove the acorn nuts securing the back panel to main housing.
2. Locate and remove an unused cable gland connector for the cable.
3. Install the provided special metallic gland connector.
4. Loosen and remove the metal gland connector nut and remove the plastic insert.
5. Route the Ethernet cable (CAT 5 or equivalent) through the nut and plastic insert and into the enclosure.
6. With the Ethernet cable routed into the enclosure, refer to the figure below and remove the cable outer insulating jacket exposing the internal wires. Allow an adequate length of exposed wires to reach the 2XX-IP Ethernet port (without being tight) after it has been terminated.
7. Next, cut the shield wire so that it extends past the outer jacket approximately 3/4 inch.



8. Referring to the figure below, fold the shield wire back over the plastic insert and then insert the plastic insert (with the shield wire) into the gland connector.



INSTALLATION, Cont.

Ethernet Cable Installation, Cont.

9. The shield wire is secured when tightening the gland connector nut. See figure below.



10. Do not over-tighten the connector but make certain it is snug.
11. Consult your network administrator for the proper procedure to terminate the cable.
12. After the cable has been terminated, plug the cable into the Ethernet port on the 2XX-IP.

Re-Installing the 205/210 and 225 Rear Panel

After all terminations have been made;

1. Remove the excess cable from the instrument enclosure and securely tighten each of the cable gland connectors.
 - Do not over-tighten these connectors but make certain they are snug.
 - **DO NOT USE TOOLS!** Finger-tighten only!
 - Insure any unused gland connectors are plugged.
2. Make certain no cables or wires are exposed between the main housing and rear panel
3. Place the rear panel onto the main housing.
4. Secure with the acorn nuts removed earlier.
5. Follow a diagonal pattern when tightening the screws.

Re-Installing the 212G/212GX Front panel

After all terminations have been made;

1. Remove the excess cable from the instrument enclosure and securely tighten each of the cable gland connectors.
 - Do not over-tighten these connectors but make certain they are snug.
 - **DO NOT USE TOOLS!** Finger-tighten only!
 - Insure any unused gland connectors are plugged.
2. Make certain no cables or wires are exposed between the main housing and front panel
3. Place the front panel onto the main housing.
4. Secure with the mounting screws removed earlier.
5. Follow a diagonal pattern when tightening the screws.

205/210/212G/212GX INDICATOR SETUP

A new section has been added to the SETUP menu for the 2XX-IP board. The new sub menu *OPT ion* (Option) has been placed after *LoCoUt* (Key Lock Out Function). The *OPT ion* sub menu contains the setup required to establish communications.

NOTE: The prompt will display as *OPT ion* when using the CAL switch and *OPT ?* when using the **ENTER** key to advance through the setup prompts.

Cont 4: (Continuous Output Serial Port 4)

Press the **ENTER** key to show the current value. If the setting displayed is acceptable, press the **ENTER** key again to save it. Otherwise, use the numeric keys **0/NO** or **1/YES** (or the arrow keys on the 205) to select a new setting and then press the **ENTER** key to save it.

Cont 4: YES
Continuous Output

Cont 4: no
No Continuous Output

If *Cont 4: YES* (Continuous Output) is selected, an additional prompt, *TYPE 4:* will be displayed.

If *Cont 4: no* (No Continuous Output) is selected, the indicator will operate in the Weight on Demand mode (only output data in respond to a weight request, ENQ).

TYPE 4: (Continuous Output Format)

Press the **ENTER** key to show the current value. If the displayed setting is acceptable, press the **ENTER** key again to save it. Otherwise, using the numeric keys (or the arrow keys on the 205) enter the new setting, then press the **ENTER** key to save it. Allowable values are:

| | | |
|--------------------------|-----------------------|------------------------------|
| 0 = SMA | 1 = SB-400 | 2 = SB-200 |
| 3 = Rice Lake IQ355 | 4 = AnDFV | 5 = W1110 |
| 6 = Number Only | 7 = Toledo Long/Short | 8 = SB500 with Traffic Light |
| 9 = Ranger 5000 Format A | | |

For a complete description of the Continuous Output and the Weight on Demand formats, refer to the *5.0* Serial Input/Output section in manual 8200-M129-O1 for the 205, in manual 8200-M585-O1 for the 210 and in manual 8200-M694-O1 for the 212G/212GX.

225 INDICATOR SETUP

With the indicator ON, hold the **SHIFT** key down and press the Navigation **ENTER** key (red square key in center of the Navigation arrows). The display will change to show the SETUP/REVIEW MENU.

```
SETUP/REVIEW MENU
1. ENTER CALIBRATION AND SETUP
2. VIEW AUDIT TRAIL COUNTERS
3. CALIBRATE SCALE 1
9. DEL CUSTOM TICKET
10. PRINT SETUP
Enter Selection: 1  [F4]EXIT
```

Press the **ENTER** key, then press the **NEXT** Navigation arrow until SETUP MENU #3 is displayed.

```
SETUP MENU #3
1. G/N ACCUMS=XXX    6. KEY LOCKOUT
2. BACK LITE= X      7. LRPort=COM3
3. PASSWORD
4. 2XX-IP
5. BADGE RDR
Enter Selection: 0  [F4]PREV [F5]EXIT
```

Press the **4** key and then the **ENTER** key, the 2XX-IP SETUP MENU will be displayed.

```
2XX-IP SETUP MENU
1. CONT=XXX
2. TYPE=X XXXXXXXXXXXX
3. SCALE = 0
Enter Selection: 0  [F4]EXIT
```

1. CONT=XXX

To turn the continuous data output **ON** or **OFF**, press the **1** key and then the **ENTER** key.

```
2XX-IP SETUP MENU

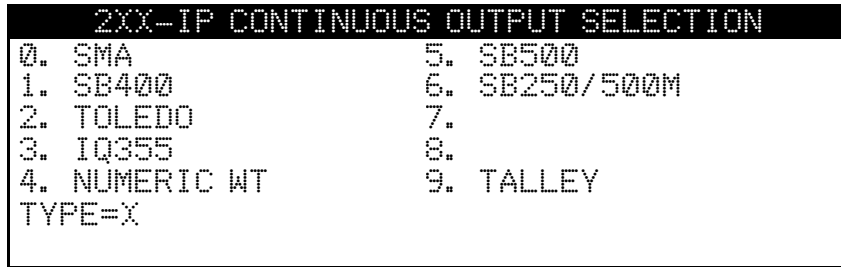
CONT=XXX
YES                                     NO
```

Press the **YES** and **ENTER** keys to turn continuous data output **ON** or press the **NO** and **ENTER** keys to turn it off.

225 INDICATOR SETUP, CONT.

2. TYPE=X

To select the format of the data transmitted from the 2XX-IP card, press the **2** key and then the **ENTER** key.



Enter the 1-digit value for the desired format and press the **ENTER** key.

For a complete description of the Continuous Output and the Weight On Demand formats, refer to the CONTINUOUS OUTPUT FORMATS section in the 225 Weight Indicator Installation and Technical Manual (8200-M698-O1).

7. SCALE=X

In a multi scale configuration the scale to be tracked by the 2XX-IP card can be selected. Press the **7** key and then the **ENTER** key.



Allowable values are 0 through 5. **NOTE:** Scale 1 is the default setting. Also note, 4 is the Scale Totalizer.

- 0 = Current Scale (Note that current selected scale is in reverse video mode)
- 1 = Scale 1
- 2 = Scale 2
- 3 = Scale 3
- 4 = Total
- 5 = All Scales (TYPE = 5 = SB500 or 6 = SB250/500M)

2XX-IP Setup Completed

The 2XX-IP setup has been completed, press **EXIT** (Navigation Keys Δ UP Arrow) until the indicator returns to the weight display mode (normal operations).

2XX-IP CARD SETUP

Before operation may begin the Ethernet Device Server must have an IP Address. To facilitate control over Cardinal indicators on a network, we have included the DeviceInstaller by Lantronix. See the DeviceInstaller manual on the DeviceInstaller for Cardinal IP Devices CD (8200-M504-O1) for details.

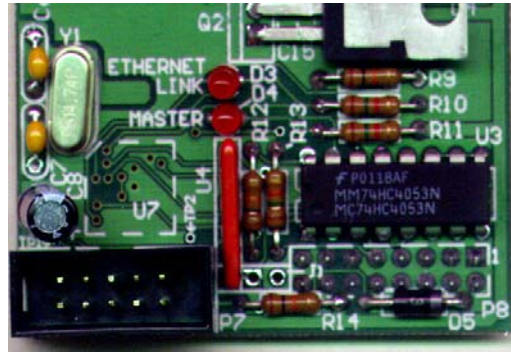
TROUBLESHOOTING

Status LED's

The 2XX-IP contains two LED's to indicate the communication status of the 10/100BaseT Ethernet TCP/IP connection.

ETHERNET LINK (D3) - This LED will illuminate when the 2XX-IP has been successfully connected to a network and flicker when data is being transmitted or received over the network.

MASTER (D4) - This LED will flash with every communication between the 2XX-IP and the indicator. If the MASTER LED is not flashing, then communications between the 2XX-IP and the indicator has failed.



XPORT Status LED's

LED's are provided on the edge of the XPORT connector for diagnostics. Their status and meaning are listed below.

| <u>LEFT LED</u> | <u>RIGHT LED</u> | <u>MEANING</u> |
|-----------------|------------------|---------------------------------|
| Off | Off | No Link |
| Off | Solid Amber | 100BASE-T Half Duplex Link |
| Off | Blinking Amber | 100BASE-T Half Duplex; Activity |
| Off | Solid Green | 100BASE-T Full Duplex Link |
| Off | Blinking Green | 100BASE-T Full Duplex; Activity |
| Solid Amber | Off | 10BASE-T Half Duplex Link |
| Blinking Amber | Off | 10BASE-T Half Duplex; Activity |
| Solid Green | Off | 10BASE-T Full Duplex Link |
| Blinking Green | Off | 10BASE-T Full Duplex; Activity |

