

# Installation Instructions

## Endura<sup>®</sup> 15X

Model 9330-150-A01

Order Confirmation System Display



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## Table of Contents

- 1 INTRODUCTION..... 4**
- 2 WARNINGS..... 4**
- 3 ENDURA® 15X MODEL 9330-150-A01 SPECIFICATIONS..... 5**
- 4 SYSTEM OVERVIEW..... 6**
  - 4.1 FRONT OF DISPLAY .....6
  - 4.2 BACK OF DISPLAY .....6
- 5 SYSTEM CONNECTIONS ..... 7**
  - 5.1 DIRECT NETWORK CONNECTION TO POS .....7
  - 5.2 SERIAL SERVER CONNECTION TO POS .....8
  - 5.3 SERIAL SERVER CONNECTIVITY .....8
  - 5.4 VIDEO ENCODER CONNECTION TO POS VIDEO OUTPUT .....9
  - 5.5 SUPPLIED EQUIPMENT .....10
  - 5.6 DISPLAY MOUNTING OPTIONS .....10
- 6 INSTALLATION PROCEDURES..... 10**
  - 6.1 CAT5 CABLE TERMINATION AT THE DISPLAY .....10
  - 6.2 CONNECTING POWER AND DATA TO THE DISPLAY.....13
- 7 SYSTEM TEST..... 14**
- 8 TROUBLE SHOOTING ..... 14**
  - 8.1 VERIFY ETHERNET CABLE IS TERMINATED CORRECTLY.....14
  - 8.2 VERIFY NETWORK SWITCH CONFIGURATION .....14
  - 8.3 VERIFY POINT OF SALE IS CONFIGURED CORRECTLY .....14
  - 8.4 VERIFY SERIAL SERVER IS CONFIGURED CORRECTLY .....14
  - 8.5 VERIFY VIDEO ENCODER IS CONFIGURED CORRECTLY .....14
  - 8.6 VERIFY DISPLAY CONNECTIVITY WITH POS EMULATOR.....14
- 9 TECHNICAL SUPPORT..... 15**
- 10 DISPLAY DIMENSIONS ..... 15**
- 11 DOCUMENT REVISIONS ..... 16**

## Table of Figures

FIGURE 1 – FRONT OF DISPLAY .....	6
FIGURE 2 – BACK OF DISPLAY .....	6
FIGURE 3 – SYSTEM CONNECTIONS – DIRECT CONNECTION TO POS.....	7
FIGURE 4 – SYSTEM CONNECTIONS – SERIAL SERVER CONNECTION TO POS.....	8
FIGURE 5 – SERIAL SERVER (BOTH ENDS) .....	8
FIGURE 6 – SYSTEM CONNECTIONS – VIDEO ENCODER CONNECTION TO POS.....	9
FIGURE 7 - DETAIL OF WATERTIGHT FIELD CONNECTOR KIT .....	10
FIGURE 8 - DETAIL OF NON-SHIELDED VS. SHIELDED RJ45 CONNECTOR.....	11
FIGURE 9 - STANDARD 568B PINOUT DETAIL .....	11
FIGURE 10 – FIELD CONNECTOR ASSEMBLY STEP 1 .....	11
FIGURE 11 - FIELD CONNECTOR ASSEMBLY STEP 2 .....	12
FIGURE 12 - FIELD CONNECTOR ASSEMBLY STEP 3 .....	12
FIGURE 13 - FIELD CONNECTOR ASSEMBLY STEP 4 .....	13
FIGURE 14 – DISPLAY DATA AND POWER CONNECTIONS.....	13

## 1 Introduction

This document describes the installation procedures for the Endura® 15X Model 9330-150-A01 Order Confirmation System (OCS) display, including instructions on the connections, all cabling and any additional hardware required for installation.

## 2 Warnings

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

警告使用者：此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。



- ✓ **All installation, service and maintenance must be performed by qualified personnel.**
- ✓ **Turn off Power before installation or servicing the Order Confirmation System Display.**
- ✓ **All installation, service, and maintenance should be performed in compliance with applicable local codes.**
- ✓ **Always follow OSHA and local safety codes.**

### 3 Endura® 15X Model 9330-150-A01 Specifications

<b>Power Input</b>	
Voltage	15-24 VDC
Power	28 Watts Max (full brightness), 18 Watts Typical
<b>Display</b>	
Size	15"
Resolution	1024x768
Luminance (Brightness)	1600 cd/m <sup>2</sup> (nits)
<b>Processor</b>	
CPU	Intel Atom E3825 4-Core 1.91GHz
Memory	4GB DDR3 RAM
Flash Drive	32GB mSATA SSD
<b>Interfaces</b>	
Connectors	100 BaseT Ethernet, USB, +12VDC Power
Wireless	BLE, lbeacon
<b>Enclosure</b>	
Rating	IP66 (IEC 60529)
Construction	Aluminum & Steel
Weight	11.6 lbs.
Glass	Optically bonded w/ UV & IR blocking, Anti-Glare (AG)
Dimensions (in.)	14.75w x 12.25h x 2.80d
<b>Reliability</b>	
System	60,000 hours (MTBF)
LED Backlight	100,000 hours (MTTH)
<b>Certifications</b>	
Compliance	RoHS, WEEE
Emissions	FCC Part 15B, ICES-003, VCCI-CISPR 32:2016, EN 300328 / EN 301489-1/3, CNS 13438:2006 Class A, K32/K35, K301489, TRA (UAE), SABSCoC, ICASA, SDPP
Safety	UL/cUL 62368-1, IEC/EN 62368-1, UL50, CAN/CSA C22.2, EN 55032/55024, CNS 14336-1, ECAS (UAE), NRCS-LoA, SIRIM, SNI
International	US, Canada, EU, Taiwan, India, Australia, New Zealand, Japan, Kuwait, Saudi Arabia, UAE, South Africa, Malaysia, Indonesia, Vietnam
<b>Warranty</b>	
Standard Warranty	5 Years
Services Included (Domestic Only)	Advance Exchange
<b>Environmental</b>	
Operating Temperature	-40°F to +122°F (-40°C to +50°C) ambient
Storage Temperature	0°F to +95°F (-18°C to +35°C) ambient

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## 4 System Overview

The model 9330-150-A01 OCS display is 15" diagonal sunlight readable, ruggedized outdoor fully sealed full color display system with an embedded processor and environmental management system. The system is designed to be connected directly to the local area network (LAN) via a CAT5 cable connection on the rear of the unit. An IP67 rated outdoor external 120-220VAC DC power supply is provided to supply +15VDC to the display via a power input connector on the rear of the unit.

### 4.1 Front of Display

The front of the display is shown in the figure below. The light sensor is located in the lower left-hand corner of the display.



Figure 1 - Front of Display

### 4.2 Back of Display

The back of the display is shown in the figure below.

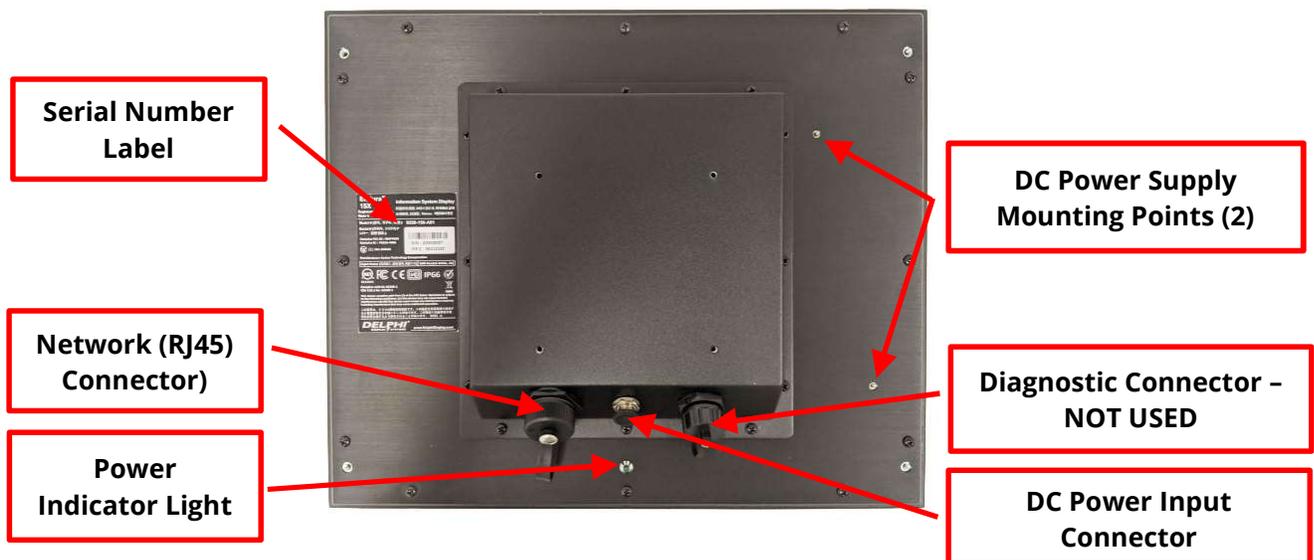


Figure 2 - Back of Display

## 5 System Connections

The Endura 15X model 9320-150-A01 OCS display utilizes an external +15VDC power supply that is connected to a 120-220VAC power provided at the point of installation. The display is connected to an available port on the store network switch using the supplied CAT5 cable as shown in the figures below.

For the connection to the Point of Sale (POS) system, the Endura 15X model 9320-150-A01 OCS supports three different configurations depending on the POS system capabilities.

### 5.1 Direct Network Connection to POS

For this configuration, the OCS display is connected directly to the store network switch that is on the same network as the POS system as shown below.

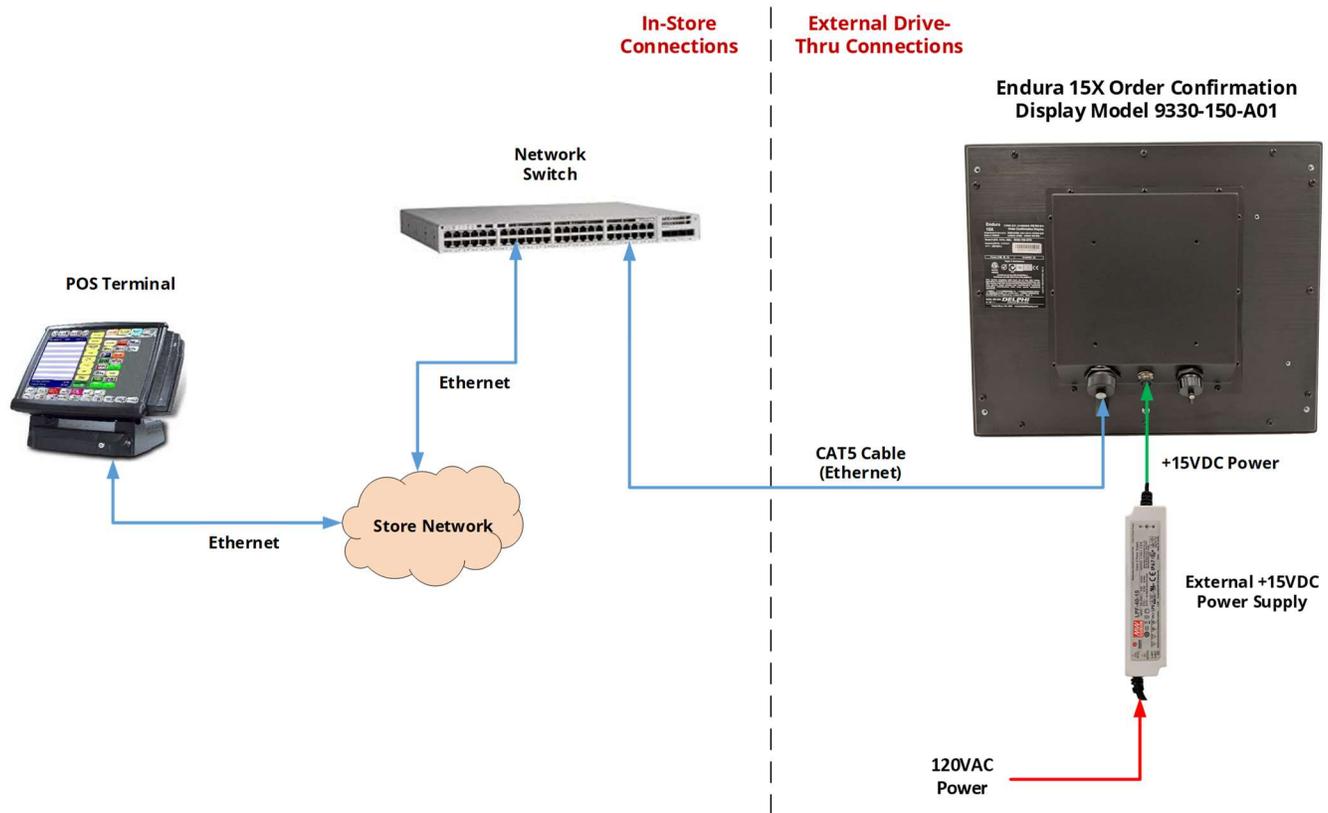


Figure 3 – System Connections – Direct Connection to POS

### 5.2 Serial Server Connection to POS

For POS systems that require direct connectivity to the order taking register RS-232 serial port, then a Serial Server device is required to convert the serial data to TCP/IP Ethernet. The output of the serial server is then connected to the store network switch as shown below.

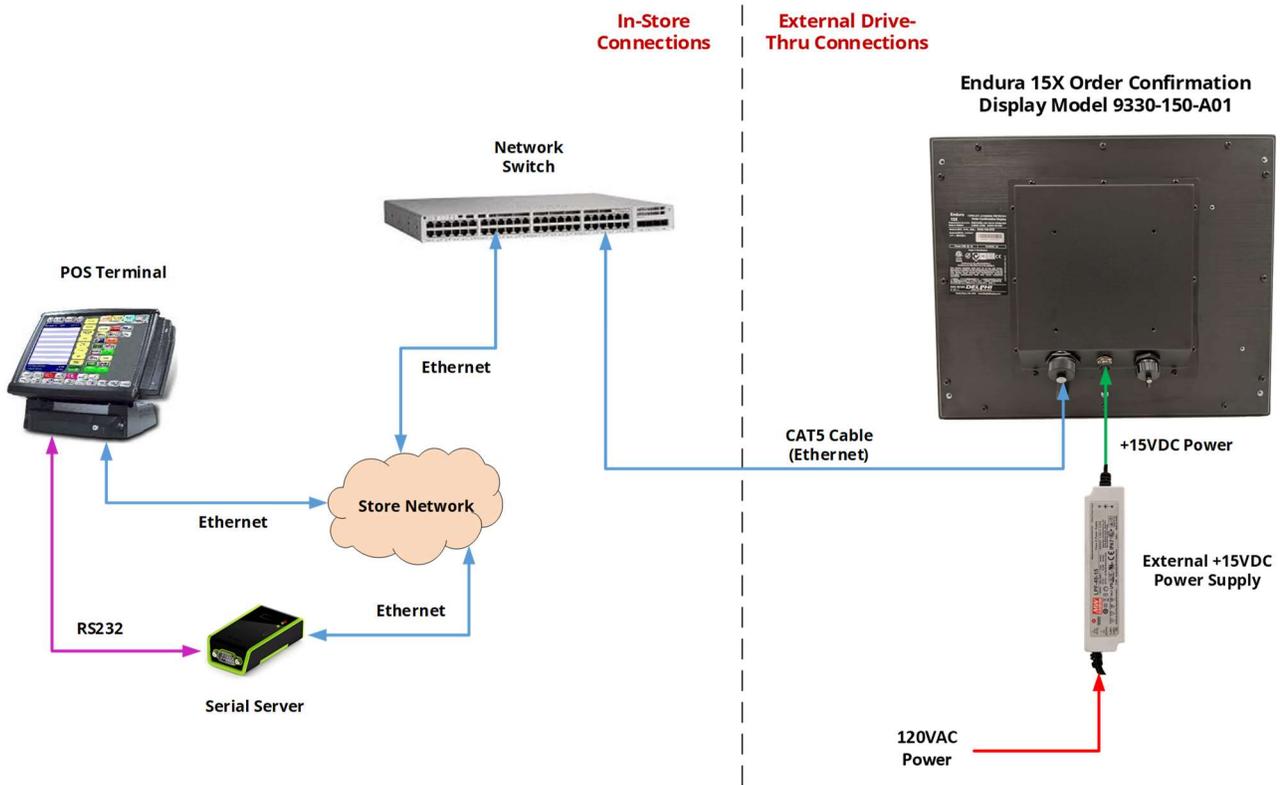


Figure 4 – System Connections – Serial Server Connection to POS

### 5.3 Serial Server Connectivity

If the POS system relies on connectivity directly to the order taking register, then the Serial Server device will need to be installed within a few feet of the POS register. Run a Cat5 cable from the Store’s Network Switch to the area where the Serial Server will be installed and ensure there is enough slack in the cable to allow for at least a 2’ service loop on each end, then terminate both ends with RJ45 connectors. If the connection to the POS system is on a server in the office rather than the order taking register, use the supplied 14’ pre-terminated cat5 cable to connect the Serial Server to the Switch.



Figure 5 – Serial Server (Both Ends)

The Serial Server will come with a DB9 Null Modem Cable. It is **IMPERATIVE** that this cable be connected to the DB9 end of the Serial Server. From that cable, connect to the POS. If the POS requires anything other than the DB9 female end of the Null Modem Cable, the proper adapters/patch cables will be supplied. **DO NOT**, under any circumstances deviate from this spec. Plug the power cable into the power connection of the Serial Server. The Serial Server should be placed in close proximity to the POS and must be accessible for maintenance. Use the supplied screws / anchors to secure to a wall or flat surface. Refer to the appropriate configuration manual (if applicable) to ensure the POS system is ready to communicate.

### 5.4 Video Encoder Connection to POS Video Output

For applications where the POS system renders the video content for the OCS display directly, the video source can be streamed directly to the OCS using a digital video encoder as shown below. The encoder converts the HDMI video signal to H.264 streaming video for transmission to the OCS display where it is decoded in real time. For this streaming video configuration, the video decoding software application will be installed on the OCS by Delphi prior to shipment.

#### 5.4.1 VGA Connection

If the POS system video out supports only VGA, then a VGA to HDMI converter can be installed between the POS VGA output and the Digital Video Encoder HDMI video input as shown below.

#### 5.4.2 Display Port Connection

If the POS system video out supports only Display Port (DP), then a DP to HDMI cable can be used as long as the POS DP output supports Dual Mode operation (HDMI compatibility mode). Dual mode DP may be labeled as DisplayPort++ or DP++.

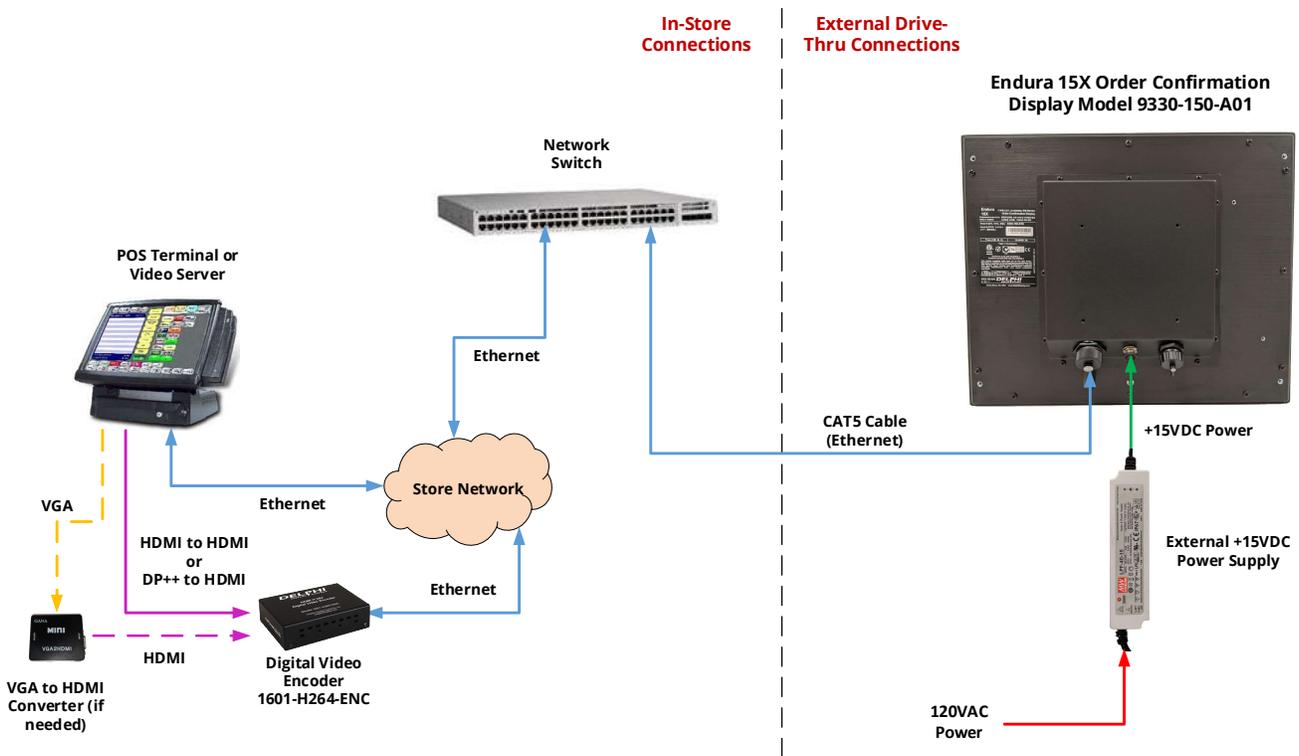


Figure 6 – System Connections – Video Encoder Connection to POS



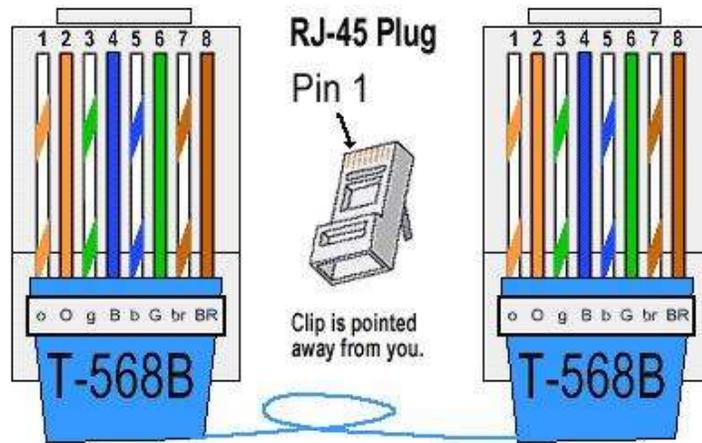
**Very Important**

The Field Connector Kit contains a **SHIELDED** RJ45 connector as shown on the right below. This connector **MUST** be used on the back of the display. Use of any other type of connector on the back of the display will result in a loose connection, and will void the customer’s warranty. Although the shielded connector is necessary, it is not actually used as a shield, so shield wires will **not** be connected to it.



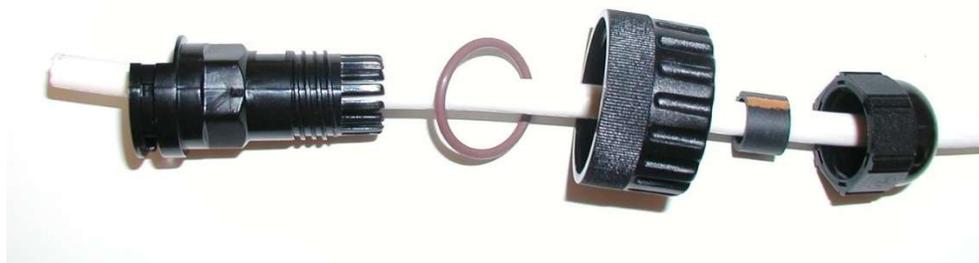
**Figure 8 - Detail of Non-Shielded vs. Shielded RJ45 Connector**

Terminate the CAT5E cable using the standard 568B wiring pin-out as shown in the figure below.



**Figure 9 - Standard 568B Pinout Detail**

To begin the process of assembling the Field Connector kit for connection to the back of the display; First, place the small compression nut, the grommet, the large compression nut, the O-ring and the housing on the cable as seen in the figure below.



**Figure 10 – Field Connector Assembly Step 1**

Next, strip the jacket from the end of the CAT5E cable, and put the parts together loosely (do not tighten) as shown below.



**Figure 11 - Field Connector Assembly Step 2**

Next, untwist the wires and place them into the correct order for **568B** termination. Cut the length of the wires down to approximately  $\frac{1}{2}$ " (13mm), then terminate the cable with the supplied shielded RJ45 connector as shown below.



**Figure 12 - Field Connector Assembly Step 3**

Slide the housing up the cable until the RJ45 connector is seated into the housing. Place one of the two supplied retainer clips (the other one is a spare) into the slot and ensure it is clipped into place as shown below.



Lastly, tighten the compression nut and the assembly is complete. The completed connector should look like the one pictured below.

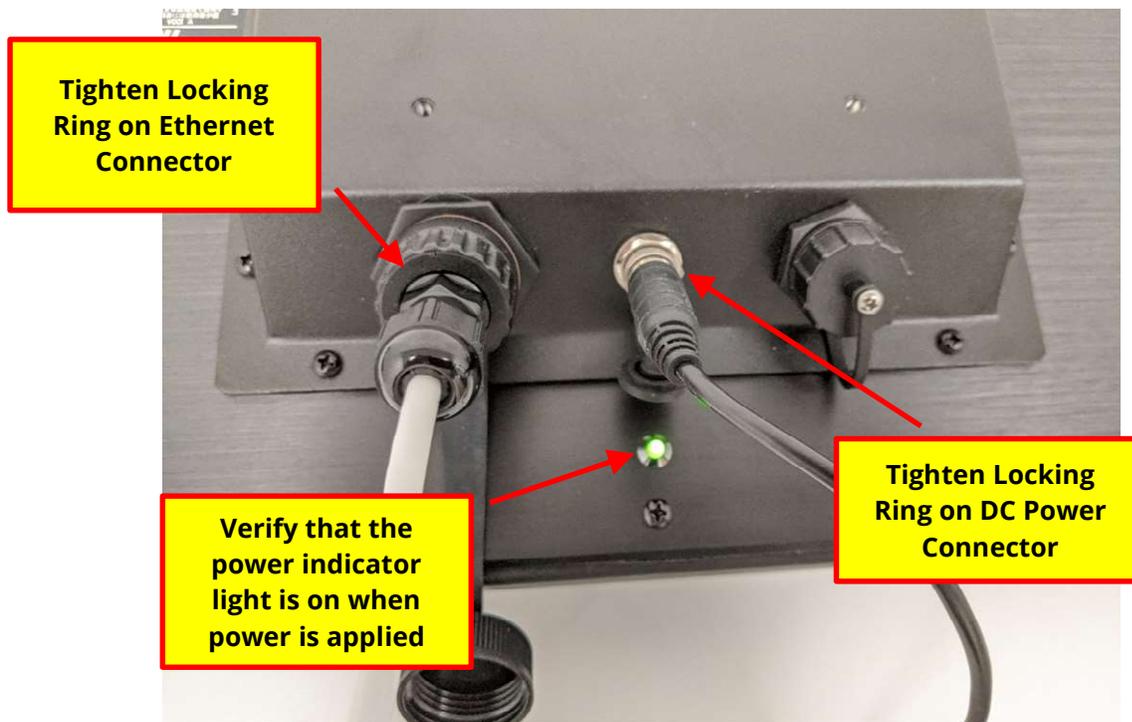


**Figure 13 - Field Connector Assembly Step 4**

**6.2 Connecting Power and Data to the Display**

The water-proof RJ45 connector is now ready for connection to the display. Plug the connector to the back of the display at the RJ45 receptacle. Once connected, screw the “Connector Nut” into the back of the display until it is tight.

Connect the +15V power supply output cable barrel connector to the power input connector on the back of the display as shown below. BE SURE to lock the connector in place using the locking ring so it will maintain a secure and watertight connection. Apply AC power and verify that the power indicator illuminates.



**Figure 14 - Display Data and Power Connections**

## 7 System Test

Once all connections are made and the system is powered up, test the system by having the store run a test order on the POS system. The POS system **MUST** be properly configured to do this. Contact the store's POS helpdesk if you need assistance with the POS configuration. If orders are displayed, the system test is complete. If not, please refer to the following troubleshooting steps.

## 8 Trouble Shooting

Refer to the following troubleshooting steps to diagnose and resolve any network communication issues.

### 8.1 *Verify Ethernet Cable is Terminated Correctly*

Using a Cat5 Cable Tester, verify that the RJ45 connectors on both ends of the CAT5 are terminated correctly. If the cable tests good, proceed to the next step.

### 8.2 *Verify Network Switch Configuration*

Using a test PC or laptop computer, connect to the switch and try to ping the display. Make sure to change the IP address on your PC or laptop to allow communications with the display. If you cannot ping the display, double check your connections including retesting the Cat5 cable.

### 8.3 *Verify Point of Sale is Configured Correctly*

If all tests pass, double check the POS settings and try another test order. If necessary, call the store's POS help desk or Delphi Technical Support for assistance.

### 8.4 *Verify Serial Server is Configured Correctly*

Verify that the Serial Server (if used) is set to the correct IP address settings and connected to the correct serial COM port on the POS system.

### 8.5 *Verify Video Encoder is Configured Correctly*

Verify that the Video Encoder (if used) is set to the correct IP address settings and connected to the correct HDMI or VGA port (converter required) on the POS system.

### 8.6 *Verify Display Connectivity with POS Emulator*

If the POS system is not running yet (new install) or is not capable of sending orders, the test must be conducted using Delphi's POS Emulator program. If orders do not show using this program, troubleshooting of the installation will be necessary to find the fault.

If you are unsure of how to perform these tests, refer to Delphi's web site at **DelphiDisplay.com** or contact Delphi Technical Support.

## 9 Technical Support

For technical assistance, please contact:

**Delphi Display Systems, Inc.**

**3550 Hyland Avenue**

**Costa Mesa, CA 92626**

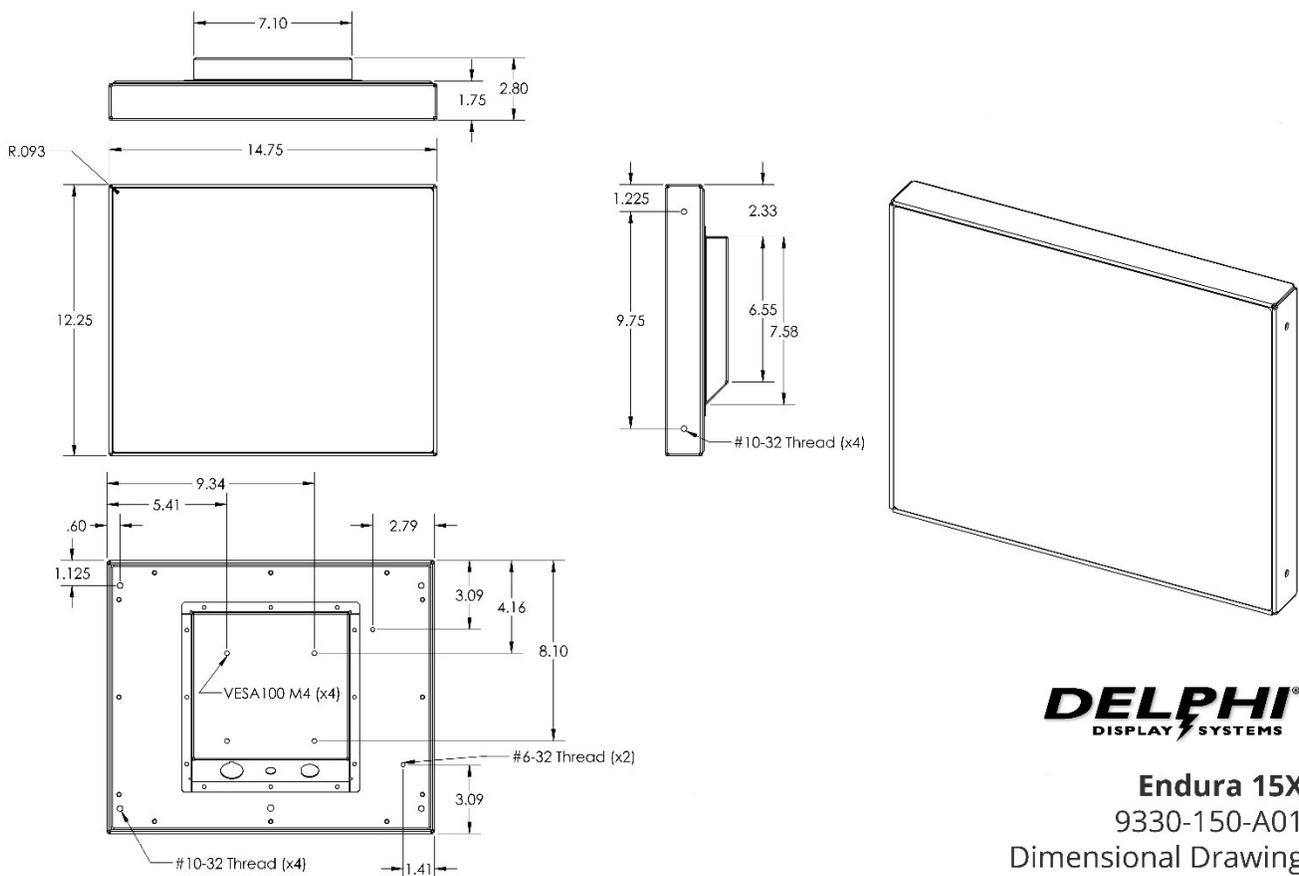
**In the US: 1-800-456-0060**

1. Select menu **Option 1** for technical support
2. Select **Option 9** for OCS installation support

**International: +1-714-825-3400**

**Email: [techsupport@delphidisplay.com](mailto:techsupport@delphidisplay.com)**

## 10 Display Dimensions



**DELPHI**  
DISPLAY SYSTEMS

**Endura 15X**  
9330-150-A01  
Dimensional Drawing

## 11 Document Revisions

Revision	Date	Notes	Author
A	7/20/20	Initial Release	KBN
B	4/5/21	Added Display Port connectivity information to Video Encoder configuration.	KBN
C	1/14/22	Added international power cord options to supplied equipment table along with usage note.	KBN