

USER MANUAL



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User's Manual Pub. 0300289-07 Rev. D1

InView Communications Module

Catalog Numbers:

2706-PENETK2-SC, 2706-PENETM2-SC,
2706-PENETP2-SC, 2706-PENETM2C2-SC

Important Notes

Please read all the information in this manual before installing the product. The information in the manual applies through and beyond InView Messaging Software Version 2.*nn* where *nn* is the release build number. This manual assumes that you have a full working knowledge of the relevant equipment.

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Read this introduction to become familiar with the rest of the manual. This preface covers the following topics:

- Who should use this manual.
- How to use this manual.
- Technical support.
- Conventions used in this manual.

Who Should Use This Manual

Use this manual if you are responsible for installing and running an InView Comms Module using v1.05.*nn* where *nn* is the software build.

How to Use This Manual

This manual provides step-by-step instructions for installing and running an InView Message Display using InView software.

Technical Support

For technical support, please contact your local distributor or contact Spectrum Controls, Inc. at: (425) 746-9481 from 8:00 am to 4:00 pm Pacific Time or send an email to support@spectrumcontrols.com

Conventions Used in This Manual

The following conventions are used throughout this manual:

- Bulleted lists (like this one) provide information not procedural steps.
- Numbered lists provide sequential steps or hierarchical information.
- *Italic* type is used for emphasis.
- **Bold** type identifies headings and sub-headings.

WARNING



- Are used to identify critical information to the reader.

Chapter 1

InView Messaging Overview

This manual provides comprehensive information about installing, configuring, and using your InView Message Display and embedded GUI Software.

You use the InView Comms Module Graphic User Interface to configure and interact with one or more InView Message Displays.

Section 1.1 Start Here

Your InView Comms Module ships with an easy-to-use Quick Start Guide. Instructions for using the embedded graphical user interface are provided in the InView Software's online help.

When running the InView Software, to access context-sensitive online help from each of the main InView screens, click the following button on the upper right-hand side of the InView menu bar:



Section 1.2 InView Overview

Refer to the listed chapter for the following information:

- Chapter 2, Installing the InView Comms Module
- Chapter 3, Using the InView Messaging Software Interface
- Chapter 4, Technical Reference
- Index

Chapter 2

Installing InView Comms Module

The help topics listed here provide technical information that is useful when you install your InView Comms Module and InView Message Displays. The Quick Start Guide shipped with your InView Comms Module shows you how to physically install the InView Comms Module and InView Message Display. You may also access this manual online from www.spectrumcontrols.com.

The Spectrum Controls, Inc. InView Comms Modules, catalog numbers 2706-PENETK2-SC, 2706-PENETM2-SC, 2706-PENETM2C2-SC, and 2706-PENETP2-SC, are designed to work with InView displays.

InView Comms Modules replace previous versions as follows:

Replacement Comms Module Model	Legacy Comms Module Model
2706-PENETK2-SC	2706-PENETK-SC/2706-PENET1-SC
2706-PENETM2-SC, 2706-PENETM2C2-SC	2706-PENETM-SC/2706-PENET1-SC
2706-PENETP2-SC	2706-PENETP-SC/2706-PENET1-SC

Replacement InView Communications Modules work with the following new, multi-color InView Displays:

Multi-Color InView Display Model	Tri-Color InView Display Model
2706-P92C2-SC/2706-P92C2X-SC	2706-P92C-SC
2706-P94C2-SC/2706-P94C2X-SC	2706-P94C-SC
2706-P42C2	2706-P42C/2706-P42R
2706-P44C2	2706-P44C/2706-P44R

InView Cables are provided as follows:

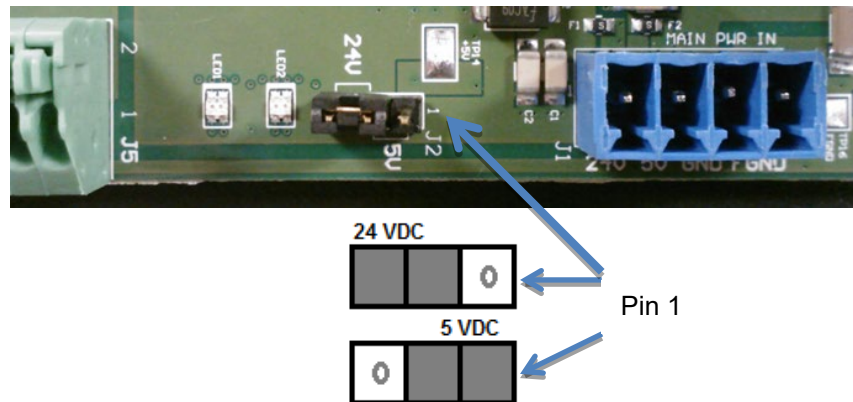
Cable PN	Use with
6010105- <i>nn</i> , InView Display, 0.254 Meter (10-inch)	Used when installing Comms Modules in drawer of 2706-P9xC2-SC displays.
6010104- <i>nn</i> , InView Display, 3 Meter	Used on 2705-PENETK2-SC and 2706-PENETM2-SC
6010100- <i>nn</i> , InView Display, 5 Meter, shielded	2706-PENETP2-SC only

Communication to the display itself from the ICM occurs over either an RS-232 or RS-485 serial interface following the InView communications protocol.


The InView displays are powered from an external AC source (except for 2706-P22R, which uses 24 VDC). Larger displays generate their own regulated supply and output a regulated +5 VDC at 1 Ampere to the InView Comms Module. Smaller displays do not have a power supply with the capacity to power an ICM. In this case the ICM is powered by an external DC supply. The module ships with a jumper that sets whether the board uses 24 VDC or 5 VDC. You must check to ensure the jumper is correctly set for your usage.


The InView Comms Module input power summary is as follows:

- 5 VDC (4.97-5.25 VDC) at 1.0 Ampere maximum from the InView display.
- External voltage. The external supply voltage can range from +9.6 VDC to +28.8 VDC at 10 W (maximum).
- Inrush current is less than 1.75 A.
- Jumper J2 settings are shown as labeled on the board and in 24 VDC or 5 VDC positions:




Section 2.1 About the InView Comms Module®


<p>NOTE</p> 	<p>You may use the Passthrough (TCP/IP) option to connect a host personal computer running the InView Comms Module software application to an InView message display. The Passthrough (TCP/IP) software option implements full 2706-PENET1 functionality and replaces the PENET1 hardware. You can also use your third-party PC-based application to communicate with the InView display via TCP Port 3001 on the InView Comms Module installed with your InView display.</p>
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<p>NOTE</p> 	<p>The Spectrum Controls, Inc. InView Comms Module may also be used to manually trigger messages, manually manage the message queue, and manually update variables on the display for systems that do not contain PLCs.</p>
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The supported protocols are EtherNet/IP, TCP/IP Passthrough, and Modbus TCP. The InView Comms Module provides Ethernet access to a message server PLC or Passthrough access to a message display. The PLCs use ladder logic that includes InView tags and/or InView Add-On instructions that are queried by the Comms Module. You interact with the Spectrum Controls, Inc. InView Comms Module via an embedded webpage that provides configuration and management access, or via third-party access that uses Passthrough on the Comms Module to access the display directly from a PC-based message server application.


<p>NOTE</p> 	<p>Refer to Rockwell publication 2706-UM016 for information regarding the InView Protocol which is required to interface to an InView display using the Passthrough feature.</p>
--	--

The web page opens and runs in an Internet browser. (The legacy InView Messaging Software functions only on Windows XP and requires a separate host PC application. You cannot use this software to configure the Spectrum Controls InView Comms Module.)

<p>NOTE</p> 	<p>To physically install the InView Comms Module Series 2 hardware, which is drop-in compatible with the existing 2706-PENET (P/M/K) Ethernet/IP Comms Modules and the 2706-PENET1 TCP/IP Passthrough option, refer to the document provided with your InView Comms Module when it shipped. Additional documentation is available from the Spectrum Controls website.</p>
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To help transition to the new interface, the new user interface software allows you to import existing InView Project .ivp, .ivl, and .csv files generated by the legacy InView Messaging software. The legacy software extracts current settings and message tables for display in the user interface. This allows you to remain compatible with existing Allen-Bradley 2706-Pxxxx Comms Modules.

You configure the new InView Comms Module using an embedded web page. The InView Comms Module makes it possible for either PLC ladder logic or a host PC message server application to display information on the different types of InView display. Example: The InView Comms Module retrieves updates from a PLC message server via EtherNet/IP.

<p>NOTE</p> 	<p>The images that appear are dependent on your choice of browser and browser version. If you are using a different operating system, your windows may appear different.</p>
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Section 2.2 Hardware Specifications

Spectrum Controls, Inc. InView specifications replace previous versions as follows:

Specification	Description
Fault Detection	Expansion Memory
Input Protection	30 VDC
Connectors	<ul style="list-style-type: none"> • Power: 4-pin plug and socket power connector. • Ethernet: 2 RJ-45 connectors. Eth1 is the recommended default. • Terminal Block: 10-pin RS-232/485 connector to the InView display.
RTC	Inaccuracy: 1 minute per month maximum. Keep-alive time on power OFF is 3 days minimum.
Isolation	<p>Power supply, Ethernet:</p> <ul style="list-style-type: none"> • 250 VAC, continuous, Class 1 • 1500 VAC, one minute • 2100 VDC, one minute <p>RS-232/RS-485</p> <ul style="list-style-type: none"> • 120 VAC, continuous, Class 1 • 1000 VAC, one minute • 1410 VDC, one minute
Number of Inputs/Outputs	<ul style="list-style-type: none"> • 1 Power • 2 Ethernet • 1 RS-232/RS-485
Power Requirements	<ul style="list-style-type: none"> • 24 V nominal input • Ranges from 9.6 VDC at 0.625 mA maximum to 28.8 VDC at 210 mA maximum • 5 V nominal input • 5 VDC $\pm 2\%$ at 1.0 ADC maximum

Specification	Description
Power Dissipation within Module	Less than, or equal to 6 W
Dimensions	Circuit board no larger than 13.70 by 13.34 cm (5 by 5.625 inches) with a minimum of 4 mounting hole locations with grounded standoffs.
Weight (unpacked)	0.20 Kg (0.45 lbs.) PCB and cable
Weight (packaged)	<ul style="list-style-type: none"> • 0.36 Kg (0.80 lbs.) PCB, cable, and cardboard box • 0.82 Kg (1.80 lbs.) PCB, cable, enclosure (plastic DIN clips), and cardboard box • 1.38 Kg (3.05 lbs.) PCB, cable, enclosure (metal DIN clips), and cardboard box

Section 2.3 Environmental and EMC Specifications

The following table lists the environmental specifications for the InView Comms Modules:

Environmental Test Description


Attribute	Standard	Class/Limit
Mechanical		
Vibration of Unpackaged Products	IEC 60068-2-6 FC	Channel Mount: 10 Hz < f < 57 Hz 0.012 in. p-p displacement 57 Hz < f 500 Hz 1.0 g DIN Rail Mount: 10 Hz < f < 57 Hz 0.012 in
Shock of Unpackaged Products, Operating	IEC 60068-2-27; Ea	15 g peak acceleration 11(±1) mS pulse width, half-sine
Shock of Unpackaged Products, Non-Operating	IEC 60068-2-27; Ea	30 g peak acceleration 11(±1) mS pulse width, half-sine
Vibration of Packaged Products		NIST 1A; ASTM D999-75(81)
Shock of Packaged Products	IEC 60068-2-32, Ed Procedure 1	Packaged drop at 122 cm (48 in.), all sides, 3 edges, 1 corner (Not applicable for phase 1 development)
Temperature / Humidity		
Operating Temperature Cycling	IEC 60068-2-3	0 °C to +55 °C (32 °F to 131 °F)
Non-Operational Storage Temperature	IEC 60068-2-3	-25 °C to +70 °C (-13 °F to 158 °F)
Humidity	IEC 60068-2-3	5 to 95% non-condensing at 60 °C


Section 2.4 Certifications for InView Comms Modules


Certification	2706-PENETK2-SC, 2706-PENETM2-SC, PENET-M2C2-SC, 2706-PENETP2-SC
UL Safety	UL 61010-2-201 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-201: Particular Requirements for Control Equipment (NRAQ, NRAQ7) cUL CAN/CSA C22.2 No. 61010-1-12 (Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements)
UL Hazardous Locations	ULH ANSI/ISA–12.12.01–2007 Nonincendive Electrical Equipment for Use in Class I, Division 2 Hazardous (Classified) Locations (NRAG) cULH CSA C22.2 No. 213-M1987 - Non-incendive Electrical Equipment for use in Class I Division 2 Hazardous Locations - March 1987 (NRAG7)
CE EMC directive	EN 61131-2 Programmable Controllers: Third Edition 2007-02, Clause 8 EN 61000-6-2: Generic Industrial Immunity EN 61000-6-4: Generic Industrial Emissions EN 55032 EN 55035 EN 61000-3-3 (2103) EN 61000-3-2 (2014)
CMIM	NM EN 55022 NM EN 55024
FCC	47 CFR Part 15 Class A
UKCA EMC	BS EN 61131-2:2007; BS EN 61000-6-2:2005/AC:2005; BS EN 61000-6-4:2007 /A 1:2011; BS EN 55032:2015; BS EN 55035:2017; BS EN 61000-3-2:2014; BS EN 61000-3-3:2013


Section 2.5 Installing the InView Comms Module

The label supplied with your InView Comms Module contains important information you need, including the part number and certifications for the device:

WARNING 	Hazardous voltage. Contact with high voltage may cause death or serious injury. Always disconnect power to the InView display prior to servicing.
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WARNING 	Tension dangereuse. Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves. Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.
---	--

<p>WARNING</p> 	<p>EXPLOSION HAZARD</p> <ul style="list-style-type: none"> • Substitution of components may impair suitability for Class I, Division 2; Class II, Division 2; and Class III, Division 2. Do not replace components or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. • Do not connect or disconnect components unless power has been switched off or the area is known to be non-hazardous. • This product must be installed in an enclosure. • All wiring must comply with N.E.C. article 501-4(b), 502-4(b), or 503-3(b), as appropriate for Class I, Class II, and Class III equipment.
---	--

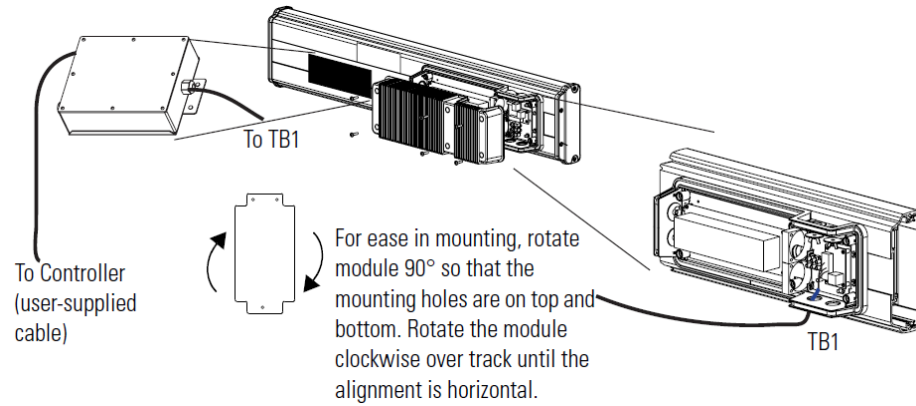
<p>WARNING</p> 	<p>DANGER D'EXPLOSION</p> <ul style="list-style-type: none"> • La substitution de composants peut rendre cet équipement impropre à une utilisation en environnement de Classe I, Division 2, de Classe II, Division 2 et de Classe III, Division 2. • Mettre l'appareil hors tension et vérifier que l'environnement est classé non dangereux avant de remplacer des composants ou de débrancher l'appareil. • Mettre l'appareil hors tension et vérifier que l'environnement est classé non dangereux avant de connecter ou de déconnecter des composants. • Ce produit doit être installé dans une armoire. • Le câblage doit être conforme à l'article 501-4(b), 502-4(b) ou 503-3(b) du Code national de l'électricité des Etats-Unis, selon que l'équipement est de Classe I, Classe II, ou Classe III.
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Power Supply Requirements

- The 2706-PENETM2-SC, 2706-PENETM2C2-SC, and 2706-PENETK2-SC modules are powered at 5 VDC (4.97-5.25 VDC) at 1.0 ADC maximum from the InView 2706-P4x-SC, 2706-P4xC2-SC, 2706-P7x-SC, 2706-P9x-SC, and 2706-P9xC2 displays.
- The 2706-PENETP2-SC module requires an external 24 V \pm 25%, 1 A DC power supply for use with the InView 2706-P22R-SC panel mount display. External supply voltage can range from +9.6 VDC to +28.8 VDC at 10 W (maximum). Inrush current must be less than 1.75 A.

2.5.1 Mount the Comms Module to the 2706-P42x-SC, and 2706-P44x-SC Displays

The InView Comms module, catalog number 2706-PENETM2-SC, is designed to mount to the track of the InView 2706-P42x-SC and 2706-P44x-SC displays. The back plate of the module has tabs for attaching to the track. Tighten mounting screws until they bottom out against the back plate.

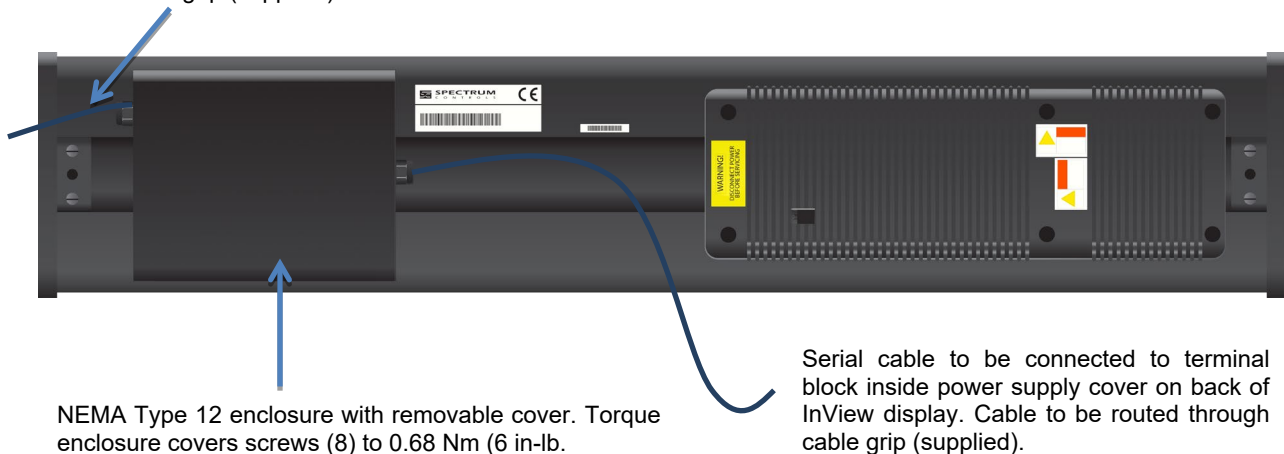


2.5.2 Wire the Comms Module to the 2706-P42x-SC, and 2706-P44x-SC Displays

Below is an illustration and description of the InView Comms module and its connectors with relation to an InView 2706-P4x-SC display.

User-supplied cable routed through NEMA-rated cable grip (supplied).

Back of InView Display (2706-42-SC and 2706-P44-SC)



NEMA Type 12 enclosure with removable cover. Torque enclosure covers screws (8) to 0.68 Nm (6 in-lb).

Serial cable to be connected to terminal block inside power supply cover on back of InView display. Cable to be routed through cable grip (supplied).

WARNING



Hazardous voltage.

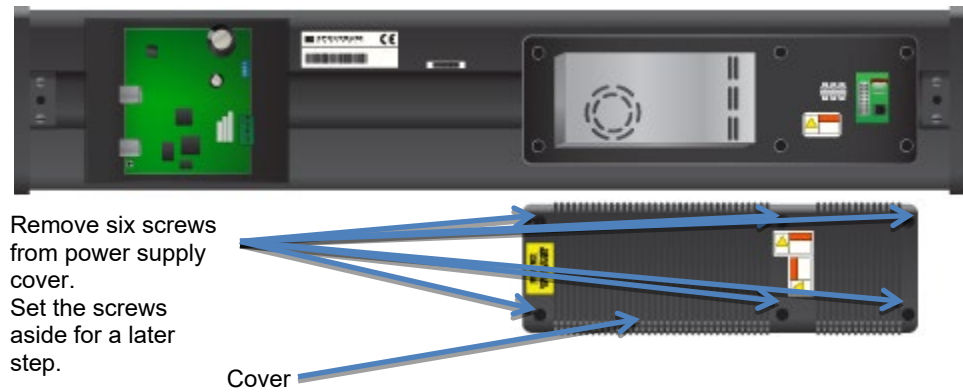
Contact with high voltage may cause death or serious injury.
Always disconnect power to the InView display prior to servicing.

WARNING

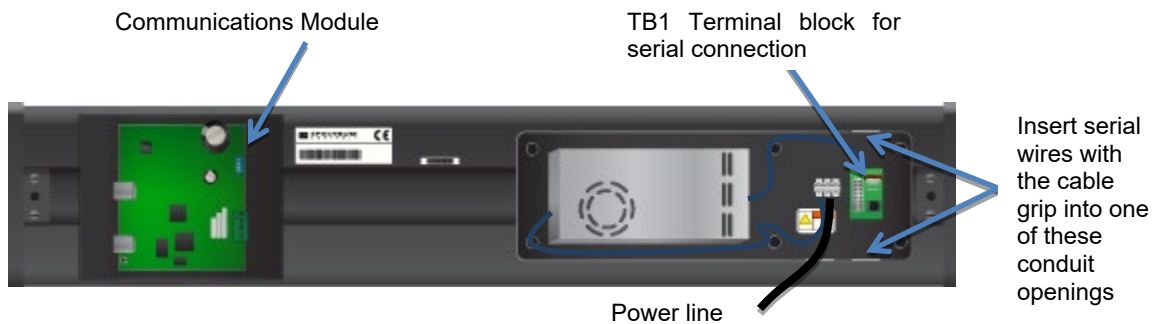


Tension dangereuse.


Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.
Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.




1. Mount the Comms module onto the mounting plate located on the outside of the display back to the left of the label as shown above.
2. Feed the serial cable through the cable grip (shipped with module).
3. Insert the serial wires through the conduit opening on either the top or the bottom of the InView display.

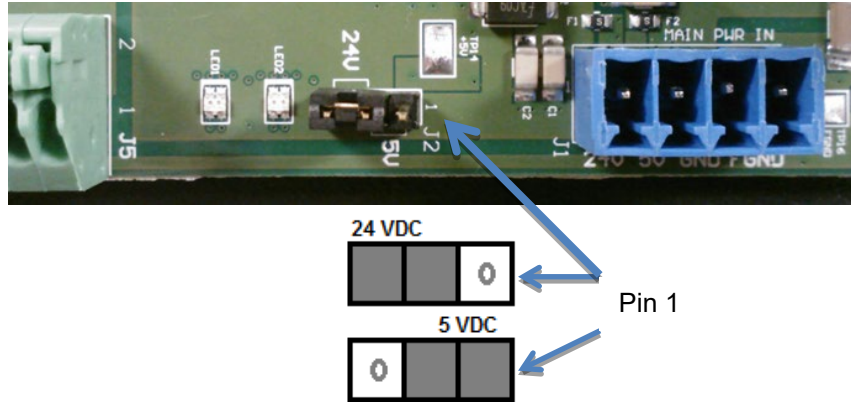


4. Mount the cable grip to the InView display housing, tighten the locknut finger-tight, and rotate an additional ½-turn.

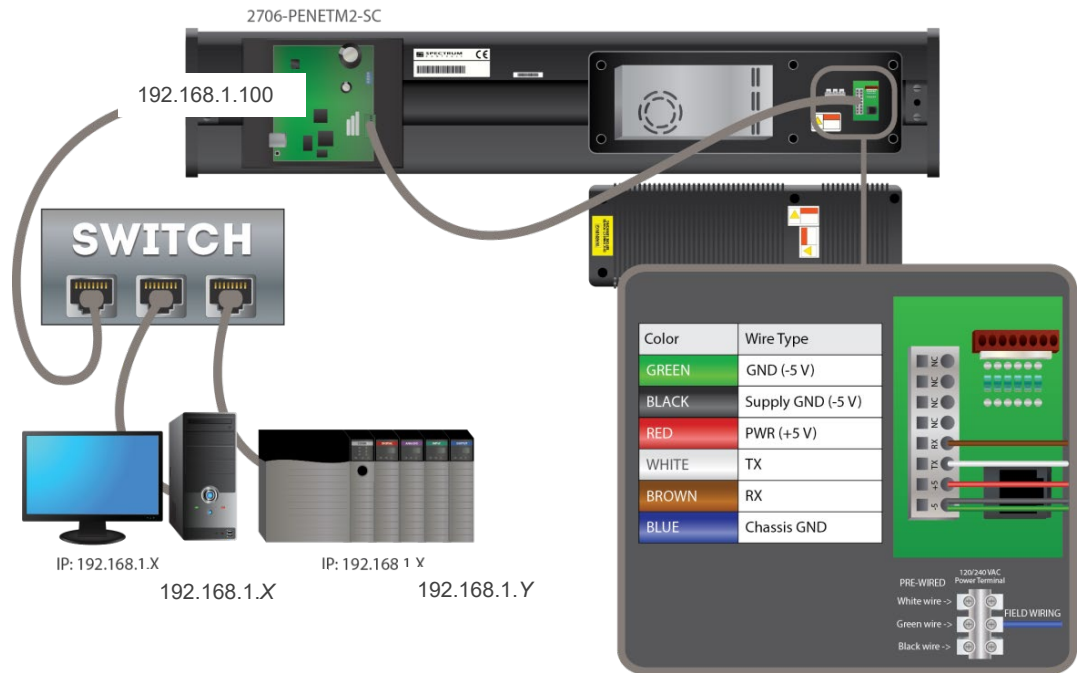
<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
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<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages à l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adéquat pour votre application.</p>
---	---

- Jumper J2 settings are shown as labeled on the board and in 24 VDC or 5 VDC positions. Check jumper J2 is correctly positioned for your application:



- Connect the display to the Comms module.
- Connect the display to the Comms module using the supplied cable.
- Wire the Comms module as shown in the wiring diagram below. Connect incoming power (Black and Red), serial (White and Brown), and GND (Green and Blue) wires from the Comms module to the **TB1** terminal block and to the power terminal block as shown.
- With a CAT5 cable, connect the Comms module to an unmanaged switch.
- Connect the unmanaged switch to both your PLC and PC with a CAT5 cable.



TB1 Connector (on Display) Pin	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module J5/J1
1: GND (Insert Two Ground wires in Pin 1)	GREEN: Isolated Signal GND BLACK: Supply GND (-5 V)	J5 Pin 5 J1 Pin 3
2: PWR (+ 5 V)	RED + 5 V Power	J1 Pin 2
4: RX	BROWN	J5 Pin 2
3: TX	WHITE	J5 Pin 3
Power Connection Terminal block (on Display Pin)	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module
GND	Blue Chassis Ground	J1 Pin 4


IMPORTANT

The 2706-Penet

Mx-SC Comms modules are provided with cable PN 6010104-nn, (3 meters long). The cable combines power and serial communications (connected as shown in diagram **TB1**). Power for the Comms module comes from display terminals #1 and #2. Serial communications are via RS-232 from the module to the display using terminals #3 and #4.

11. Torque the cable grip cap until the cable is securely fastened.
12. Replace the power supply back-cover with the six screws and torque the screws to 2.7 Nm (24 in-lb.).
13. Connect the power supply to a power source.

NOTE



After the module has fully booted up, if needed you can press the reset button for 5 seconds which will restart the module and display its network configuration, including the IP address, on the InView sign.

14. Write down the values. Example: **192.168.1.100**
15. Connect your PC to the other end of the Ethernet network cable installed on the Comms module and start an Internet browser.
16. In the Address field, type the IP address you obtained from the display to which the Comms Module is connected.
Example entry only. Your address may be different: **192.168.1.100**

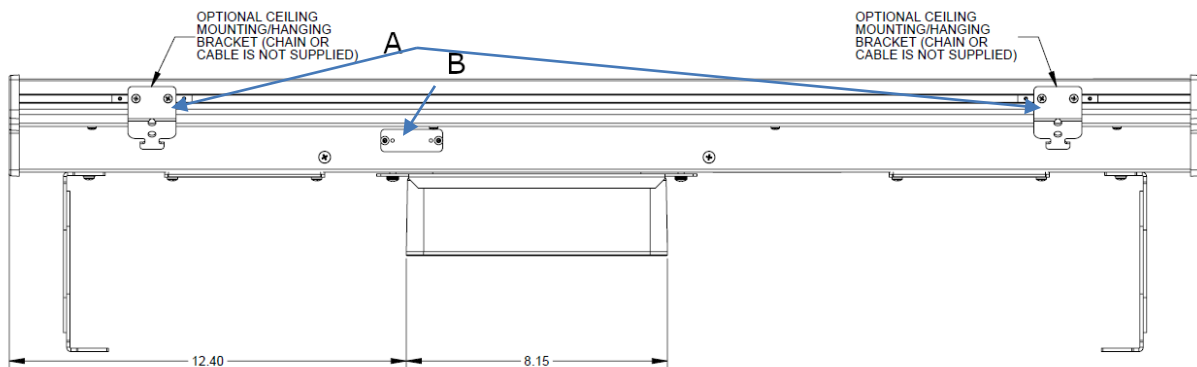
17. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
18. The main InView User Interface View window appears.
19. Use the online help or Chapter 3 to finish setting up your InView and display.
20. Follow directions. If needed, click **Help** button for specific instructions:



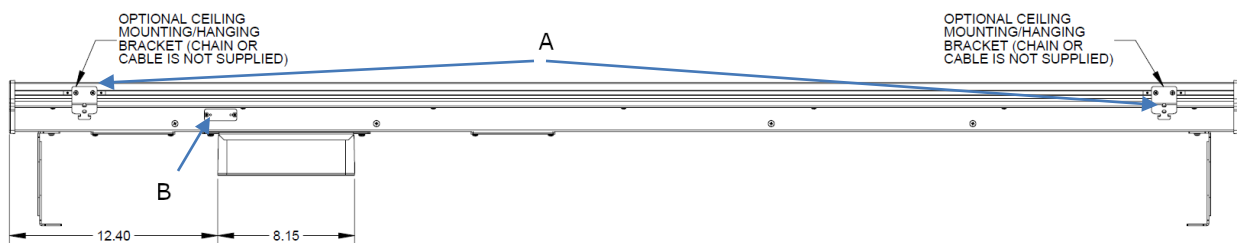
2.5.3 Mount the Comms Module to the 2706-P42C2-SC and 2706-P44C2-SC Displays

The InView Comms module, catalog number 2706-PENETM2C2-SC, is designed to mount on the back of the InView 2706-P42C2-SC and 2706-P44C2-SC displays.

2706-P42C2-SC Top View




2706-P44C2-SC Top View




A: Ceiling Mount

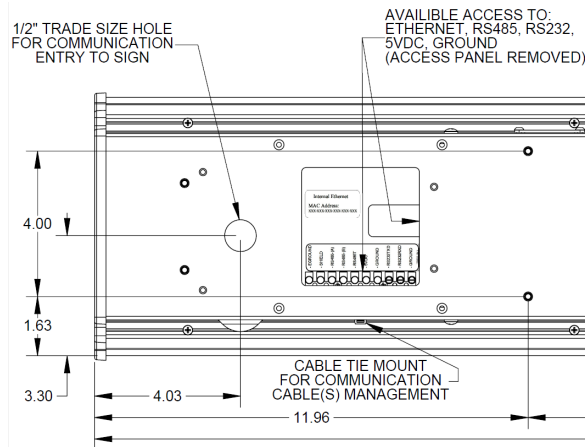
The back plate of the module has an adapter with tabs for attaching to the back of the display. Tighten the mounting screws to a maximum of 1.13 N-m (10.00 in-lb.).

To mount the communications module:

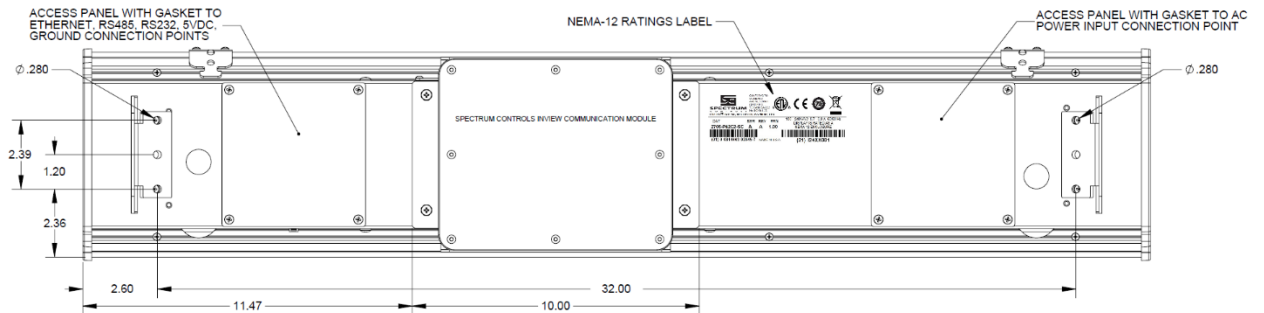
<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p>
---	---

<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.</p> <p>Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.</p>
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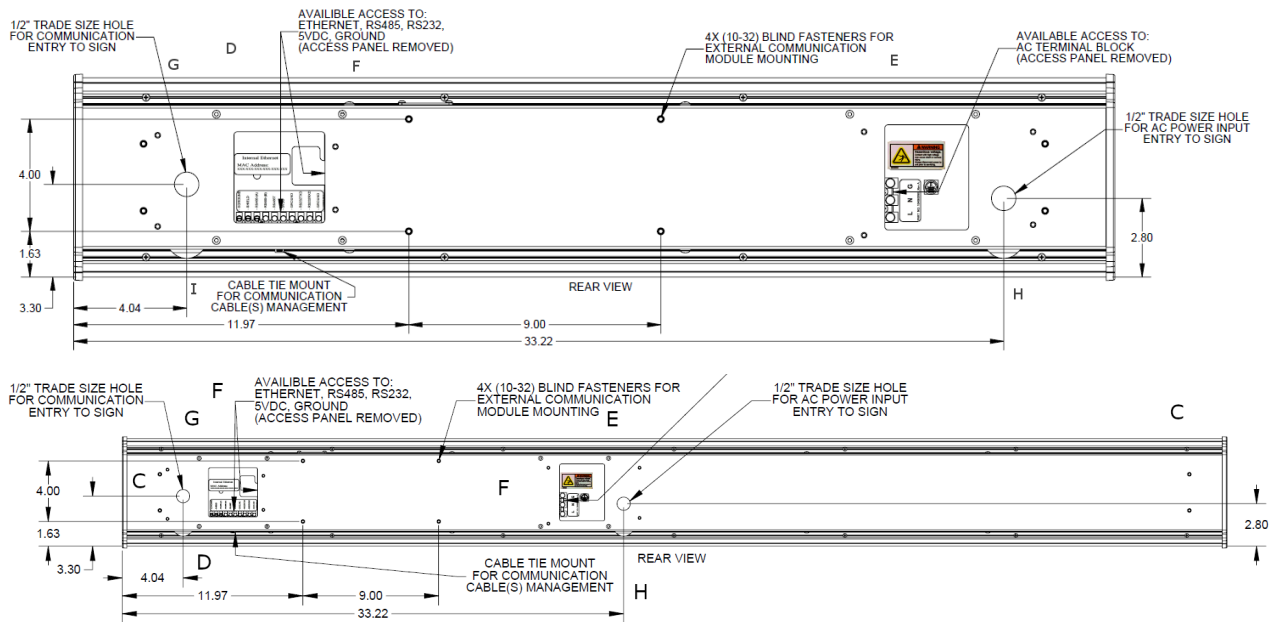
1. If needed, disconnect power to the InView display.
2. Remove the 4, 8-32 Phillips screws holding the display's rear communication access panel:



3. Retain the screws in a safe place.



4. Install the Comms module with its adapter on the rear of the display using the supplied screws:



5. Torque the screws to 0.68 Nm (0.5 ft-lbs.).

IMPORTANT

A label is included in the hardware kit that indicates the default IP address for the 2706-PENETM2C2-SC EtherNet/IP Comms module. The module is shipped with a default IP address of 192.168.1.100. Please consult with personnel who will be configuring communications for the most appropriate placement of the label.

2.5.4 Wire the Comms Module to the 2706-P42C2-SC and 2706-P44C2-SC

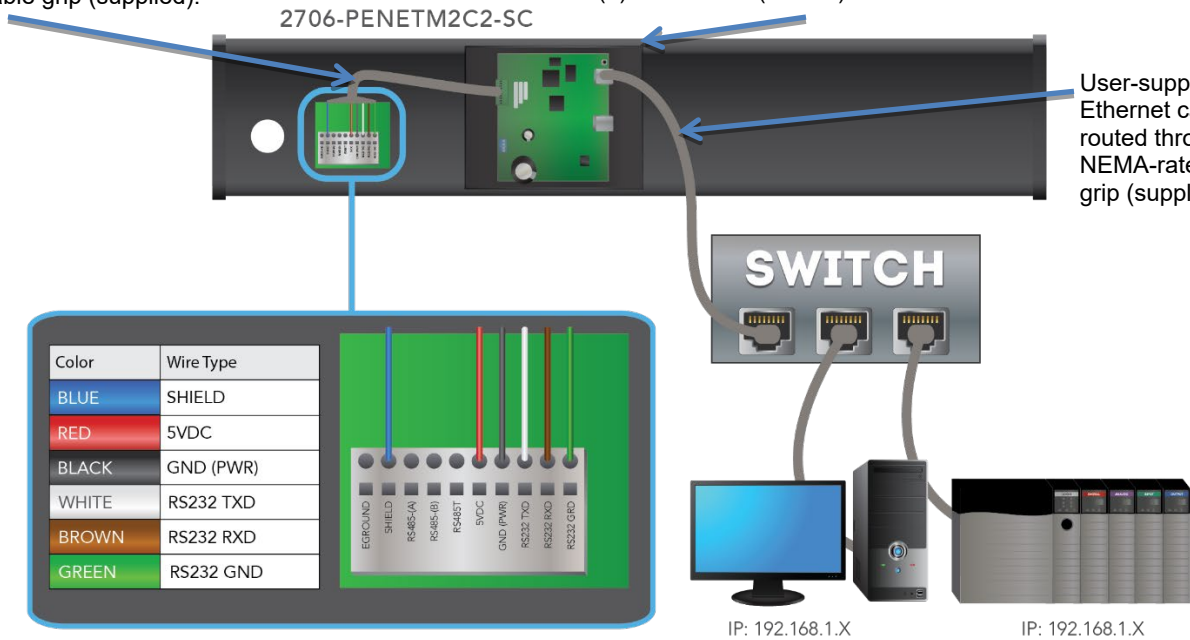
Below is an illustration and description of the InView Comms module and its connectors with relation to an InView 2706-P4x-SC display.

Back of InView Display (2706-42C2-SC)

Serial and power cable to be connected to terminal block inside rear access panel communications terminal block on back of InView display. Cable to be routed through cable grip (supplied).

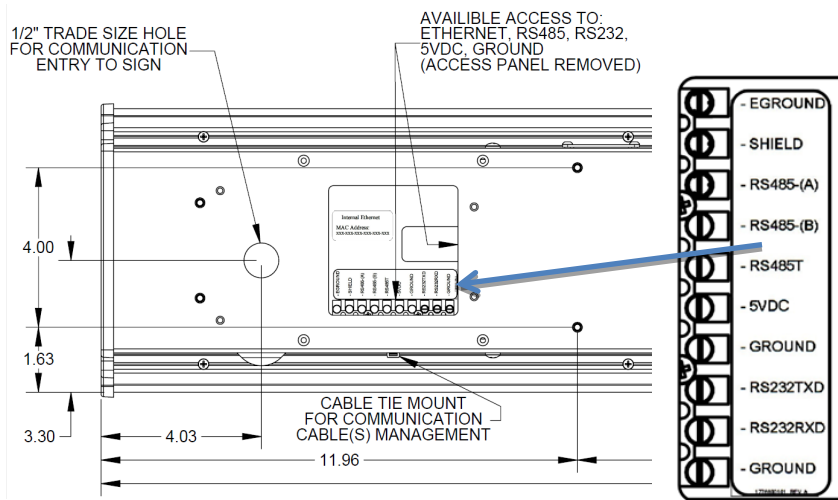
NEMA Type 12 enclosure with removable cover. Torque enclosure covers screws (8) to 0.68 Nm (6 in-lb.).

User-supplied, Ethernet cable routed through NEMA-rated cable grip (supplied).



Wire the Comms module power and communications into the displays as follows:

1. Remove the 4, 8-32 Phillips screws holding the rear communication access panel. Retain the screws in a safe place. An enlarged diagram of the terminal block is provided:



2. Choose the ½-inch trade hole to remove for your installation location. Two are provided.
3. Route wiring provided in the two-part cable installed inside the Comms module for power and communication through one of the cable glands provided on the Comms module, and through the trade hole in the display that provides the most convenient access to the communication terminal block.
4. If the bottom ½-inch trade hole is to be used, remove the watertight hole plug and reinstall it in to the rear ½-inch trade hole.

NOTE

Only connect one type of communication type to the display at a time.

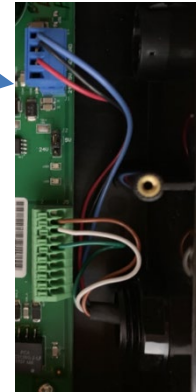
5. Connect the incoming communication wire(s) to the appropriate terminals or connection point within the Rear Access Panel Communications terminal compartment. Terminal connection points are shown below:

Pin	RS232	RS485
1	Reserved	Reserved
2	RS232TXD	RS485-Tx-(B)
3	RS232RXD	Reserved
4	NC	
5	GND	
6	+5 V	
7	Reserved	Reserved
8	Reserved	RS485-Tx-(A)
9	Reserved	Reserved
10	FGND	FGND

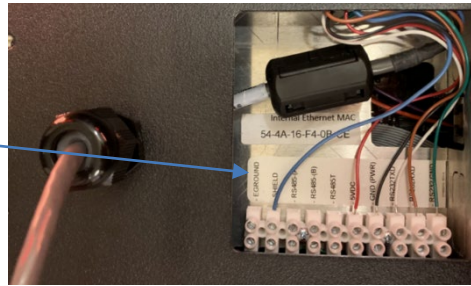
Terminal connection points for communication types are listed below:

RS-232 Communication:

Comms Module with power and RS-232 communications wiring



Display with power and RS-232 communications wiring from Comms Module (serial)



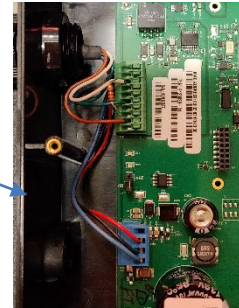
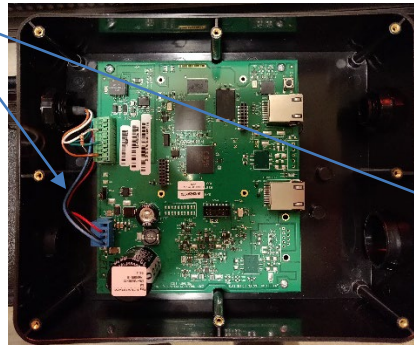
- Connect the incoming serial wires from the Comms module to the following terminal connection points:

Pin Number	Terminal Connection Point
2	BLUE: Shield
8	WHITE: RS232TXD
9	BROWN: RS232RXD
10	GREEN: RS232GND

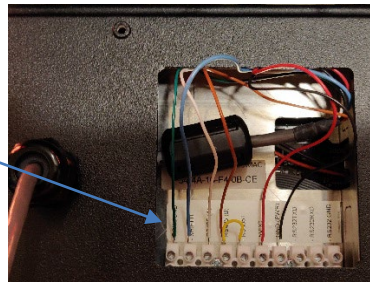
- For the RS-232 connection, a wire gage between 24 AWG (minimum) and 18 AWG (maximum) is required. Tighten the terminal connection points to a maximum of 0.56 N-m (5.00 in-lb.).
- To comply with Part 15 of the FCC rules, attach one of the provided ferrites around the incoming RS-232 wire(s), and secure with one of the provided tie wraps to the tie wrap anchor. The ferrite must be attached to the sign.

RS-485 Communication:

Comms Module with power and RS-485 communications wiring




Display with power and RS-485 communications wiring from Comms Module (serial)




9. Connect the incoming serial wires from the Comms module to the following terminal connection points:

Display Pin Number	Terminal Connection Point
1	GREEN: EGROUND
2	BLUE: SHIELD
3	WHITE: RS485-(A)
4	BROWN: RS485-(B)
Jumper between 4 and 5	YELLOW: RS485T/RS485-(B)

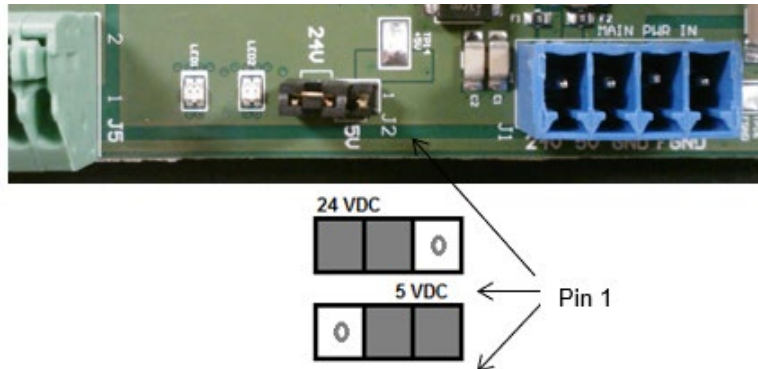
10. Shielded RS-485 cable is recommended. Connect the shield of the cable to the SHIELD terminal.
11. Terminate both ends of all RS-485 buses. The last sign in an RS-485 bus should be terminated by placing a jumper between the RS-485T and RS-485-(B) terminals. The jumper wire (yellow) is not included.
12. For the RS-485 connection, a wire gage between 24 AWG (minimum) and 18 AWG (maximum) is required. Tighten the terminal connection points to a maximum of 0.56 N-m (5.00 in-lb.).

<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
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<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages à l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adéquat pour votre application.</p>
---	---

Power Connections in Comms Module:


1. Jumper J2 settings are shown as labeled on the Comms Module board and in 24 VDC or 5 VDC positions.
2. Check jumper J2 is correctly positioned for your application:




3. Connect the incoming power (Black and Red), serial (White and Brown), and GND (Green) wires from the Comms module to the terminal block as shown:

Communications Connector (on Display) Pin	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module J1
6: 5VDC	RED + 5 V Power	J1 Pin 2
7: GND(PWR)	BLACK: Supply GND (-5 V)	J1 Pin 3
2: Shield	Blue Chassis Ground	J1 Pin 4

4. Mount the cable grip to the InView display housing, tighten the locknut finger-tight, and rotate an additional ½-turn.

<p>WARNING</p> 	<p>The 2706-PENETM2C2-SC communication modules are provided with cable PN 6010104-<i>nm</i>, (3 meters long). The cable combines power and serial communications. Power for the communications module comes from display terminals #6 and #7. Serial communications are via RS-232 from the module to the display using terminals #8 and #9.</p>
---	--

5. Tighten the cable grip cap until the cable is securely fastened.
6. Replace the rear panel power cover with the 4 screws and tighten the screws to 2.7 N-m (24 in-lb.).
7. Connect the power supply to a power source.

<p>NOTE</p> 	<p>After the module has fully booted up, if needed you can press the reset button for 5 seconds, which will restart the module and display its network configuration, including the IP address, on the InView sign.</p>
--	---


8. Write down the values. Example: **192.168.1.100**
9. Connect your PC to the other end of the Ethernet network cable installed in **ETH1** on the Comms module and start an Internet browser.
10. In the Address field, type in the IP address you obtained from the display to which the Comms Module is connected.
Example entry only. Your address may be different: **192.168.1.100**
11. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
The main InView User Interface View window appears.
12. Use the online help to finish setting up your InView and display.
13. Follow directions. If needed, click **Help** button for specific instructions:




2.5.5 Mount the Comms Module to the 2706-P72-SC and 2706-P74-SC Displays

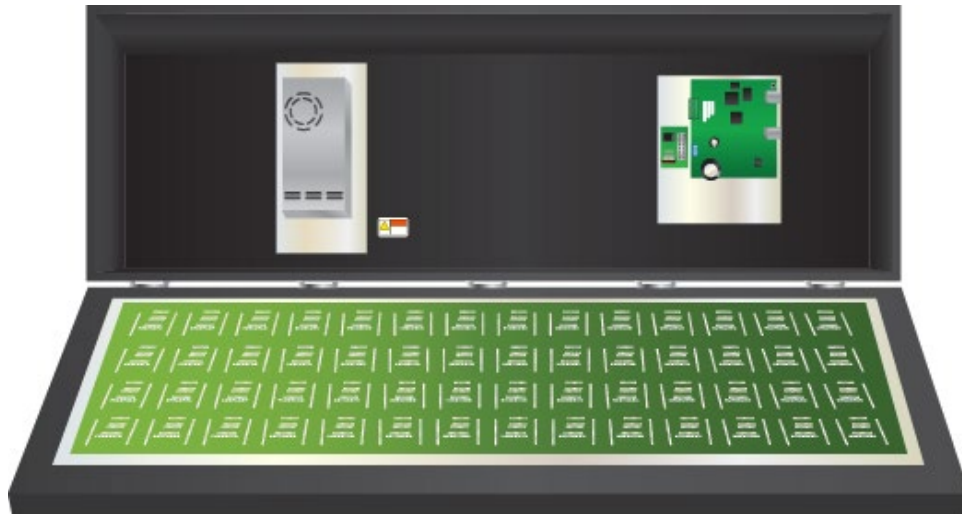
The 2706-P72-SC and 2706-P74-SC displays are equipped with a mounting plate inside the case for mounting the 2706-PENETK2-SC Communications kit.

To mount the communications kit:

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p>
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<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.</p> <p>Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.</p>
---	---

1. Disconnect power to the InView display.
2. Open the front of the InView display case by turning the latches counterclockwise, and carefully lowering (opening) the front of the case.
3. If necessary, remove the previous Comms module and set aside.
4. Install the Comms module to the mounting plate located near the **TB1** terminal block by using the supplied standoffs and screws (also see image later in this section).





5. Torque the screws to 0.68 Nm (6 in-lb.).

<p>IMPORTANT</p>	<p>A label is included in the hardware kit that indicates the default IP address for the 2706-PENETK2-SC EtherNet/IP Comms module. The module is shipped with a default IP address of 192.168.1.100. Please consult with personnel who will be configuring communications for the most appropriate placement of the label.</p>
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2.5.6 Wire the Comms Module to the 2706-P72-SC and 2706-P74-SC Displays

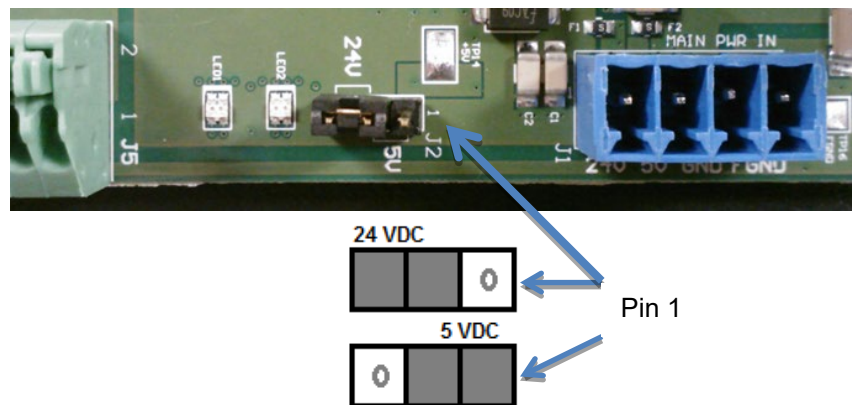
The power to the Comms module is provided by the InView display (series C).


<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
---	---

<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages à l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adéquat pour votre application.</p>
---	---

To wire the Comms module:

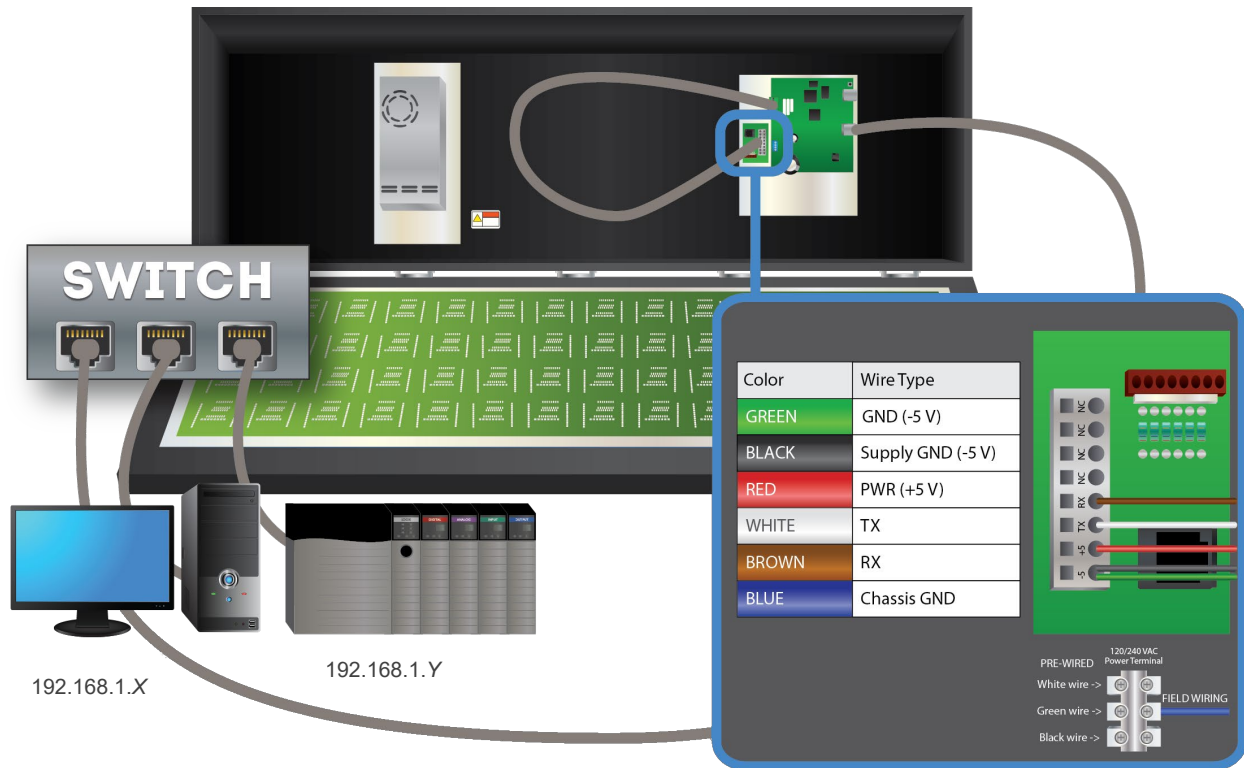
1. Jumper J2 settings are shown as labeled on the board and in 24 VDC or 5 VDC positions. Check jumper J2 is correctly positioned for your application:



<p>NOTE</p> 	<p>Personal computer and PLC must be in the 192.168.1.X subnet.</p>
--	---


2. Connect the display to the Comms Module using the supplied cable.

- Connect the incoming power (Black and Red) wires, serial (White and Brown), and GND (Green and Blue) wires from the Comms module to the **TB1** terminal block and to the power terminal block as shown:

**IMPORTANT**

The 2706-PENETK2-SC, 2706-PENETM2-SC, and 2706-PENETM2C2-SC Comms modules are provided with cable PN 6010104-*nn*, (3 meters long). The cables combine power and serial communications (connected as shown in diagram **TB1**). Power for the Comms module comes from display terminals #1 and #2. Serial communications are via RS-232 from the module to the display using terminals #3 and #4.

- Connect the user-supplied network cable to the Comms module and route the user-supplied network cable through the cable grip and locknut that is provided, to an unmanaged switch.
- Verify that there is adequate slack in the cable by making a loop of the cable inside the InView case.
- Mount the cable grip to the InView display housing, tighten the locknut finger-tight, and rotate an additional ½-turn.
- Torque the cable grip cap until the cable is securely fastened.
- Carefully close the InView case and tighten the latches by turning them clockwise.
- Connect the InView display to a power source.

NOTE 	<p>After the module has fully booted up, if needed you can press the reset button for 5 seconds, which will restart the module and display its network configuration, including the IP address, on the InView sign.</p>
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10. Write down the values. Example: **192.168.1.100**
11. Connect your PC and PLC to the unmanaged switch and start an Internet browser.
12. In the Address field, type the IP address you obtained from the display to which the Comms Module is connected.
Example entry only. Your address may be different: **192.168.1.100**
13. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
14. The main InView User Interface View window appears.
15. Use the online help or Chapter 3 to finish setting up your InView and display.
16. Follow directions. If needed, click **Help** button for specific instructions:





2.5.7 Mount the Comms Module to the 2706-P92x-SC and 2706-P94x - SC Displays

The 2706-P92x-SC and 2706-P94x-SC displays are equipped with a mounting plate inside the case for mounting the 2706-PENETK2-SC Comms module.

To mount the communications kit:

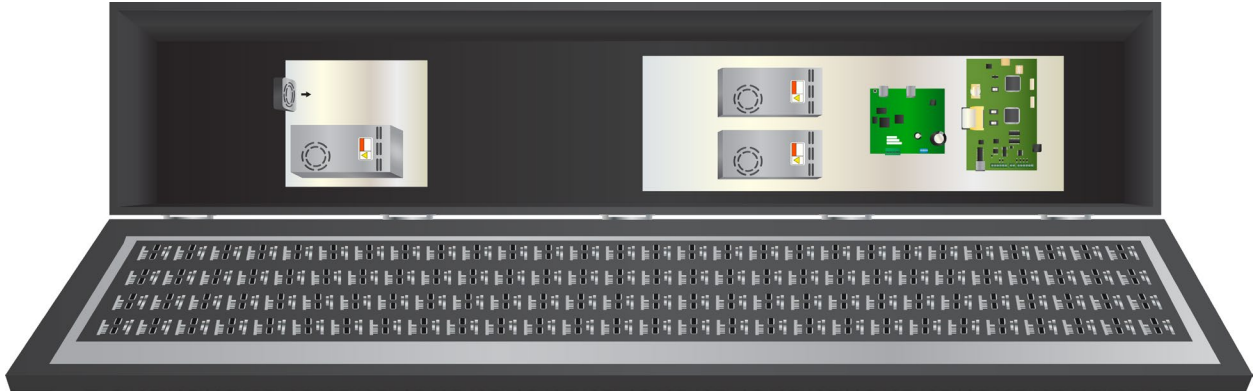
WARNING 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p>
---	---

WARNING 	<p>Tension dangereuse.</p> <p>Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.</p> <p>Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.</p>
---	---

NOTE 	<p>Personal computer and PLC must be in the 192.168.1.X subnet.</p>
--	---

1. Disconnect power to the InView display.

- Open the front of the InView display case by turning the latches counterclockwise and carefully lowering (opening) the front of the case.





- If necessary, remove the previous Comms Module and set aside.
- Install the Comms module to the mounting plate located near the **TBI** terminal block by using the supplied standoffs and screws.
- Torque the screws to 0.68 Nm (6 in-lb.).


IMPORTANT	A label is included in the hardware kit that indicates the default IP address for the 2706-PENETK2-SC EtherNet/IP Comms module. The module is shipped with a default IP address of 192.168.100. Please consult with personnel who will be configuring communications for the most appropriate placement of the label.
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2.5.8 Wire the Comms Module to the 2706-P92-SC and 2706-P94-SC Displays

The power to the Comms module is provided by the InView display.

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p> <p>Maintain separation of circuits. Route the incoming power directly to the power connections terminal block.</p> <p>Do not run the power wiring over the logic board.</p>
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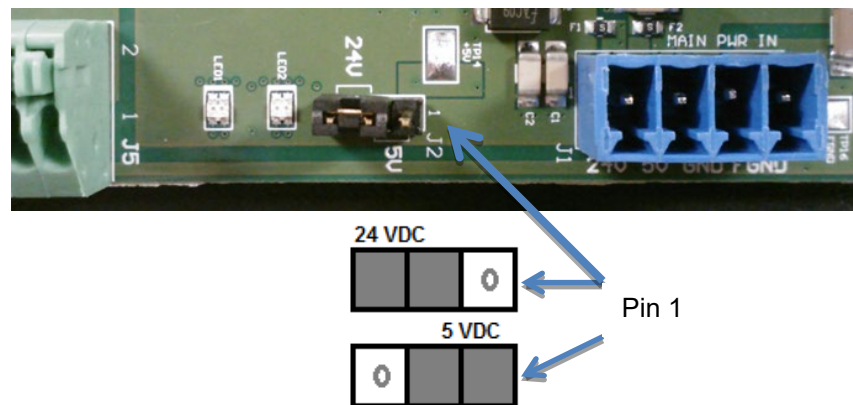
<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Toucher un câble a haute tension peut provoquer la mort ou des blessures graves.</p> <p>Sortir la prise d'alimentation de l'afficheur avant de le réparer.</p> <p>Maintenir la séparation des câbles.</p> <p>Brancher le câble d'alimentation directement au bornier d'alimentation électrique.</p> <p>Ne pas faire cheminer le câble d'alimentation le long de la carte.</p>
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<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
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<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages a l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adequat pour votre application.</p>
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To wire the Comms module:

1. Jumper J2 settings are shown as labeled on the board and in 24 VDC or 5 VDC positions. Check jumper J2 is correctly positioned for your application:



2. Route the user-supplied CAT5 network cable through the cable grip and locknut that is provided. Connect the CAT5 cable to the Comms module by plugging in the Ethernet cable to the **Ethernet1** RJ-45 connector as shown. Connect the other end of the cable to an unmanaged switch.
3. Connect the display to the comms module using the supplied cable. Connect the power and serial wires to the **TB2**, **TB3** terminal block in the InView display.



TB2 Connector (on Display) Pin	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module J5/J1
1: GND (Insert Two Ground wires in Pin 1)	GREEN: Isolated Signal GND BLACK: Supply GND (-5 V)	J5 Pin 5 J1 Pin 3
2: PWR (+ 5 V)	RED + 5 V Power	J1 Pin 2
TB3 Connector (On Display) Pin	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module J5/J1
4: RX	BROWN	J5 Pin 2
3: TX	WHITE	J5 Pin 3
Power Connection Terminal block (on Display Pin)	Stranded wire from Comms Module Cable 6010nn-nn	Connectors on InView Comms Module
GND	Blue Chassis Ground	J1 Pin 4

IMPORTANT	The 2706-PxK-SC Comms modules are powered through the serial cable by the display (series A).
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4. Verify that there is adequate slack in the cable by making a loop of cable inside the InView case.
5. Mount the cable grip to the InView display housing, tighten the locknut finger-tight, and rotate an additional ½-turn.
6. Torque the cable grip cap until the cable is securely fastened.
7. Carefully close the InView case and tighten the latches by turning them clockwise.
8. Connect the InView display to a power source.

NOTE

After the module has fully booted up, if needed you can press the reset button for 5 seconds which will restart the module and display its network configuration, including the IP address, on the InView sign.


9. Write down the values. Example: **192.168.1.100**
10. Connect your PC and PLC to the unmanaged switch with a CAT5 cable and start an Internet browser.
11. In the Address field, type the IP address you obtained from the display to which the Comms Module is connected.
Example entry only. Your address may be different: **192.168.1.100**
12. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
13. The main InView User Interface View window appears.
14. Use the online help to finish setting up your InView and display.
15. Follow directions. If needed, click **Help** button for specific instructions:





2.5.9 Mount the Comms Module to the 2706-P92C2-SC and 2706-P94C2-SC Displays

The 2706-P92C2-SC and 2706-P94C2-SC displays are equipped with a mounting plate inside the case for mounting the 2706-PENETK2-SC Comms module.

To mount the communications kit:

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p>
---	---

<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.</p> <p>Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.</p>
---	---





<p>NOTE</p> 	<p>Personal computer and PLC must be in the 192.168.1.X subnet.</p>
---	---

1. If needed, disconnect power to the InView display.
2. Unscrew the four screws on the front of the two drawers located on the bottom panel of the InView display. The padding on the inside of the drawer fronts may allow you to leave the screws in the drawer front.
3. Pull out both drawers to their fullest extent.
4. If necessary, remove the previous Comms module and set aside.
5. In the left-hand drawer (as you face the display), install the Comms module on the mounting stands located at the front of the drawer, using the supplied standoffs and screws.
6. Torque the screws to 0.68 Nm (6 in-lb.).

<p>IMPORTANT</p>	<p>A label is included in the hardware kit that indicates the default IP address for the 2706-PENETK2-SC EtherNet/IP Comms module. The module is shipped with a default IP address of 192.168.100. Please consult with personnel who will be configuring communications for the most appropriate placement of the label.</p>
-------------------------	--

2.5.10 Wire the Comms Module to the 2706-P92C2-SC and 2706-P94C2-SC Displays

The power to the Comms module is provided by the InView display.

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p> <p>Maintain separation of circuits. Route the incoming power directly to the power connections terminal block.</p> <p>Do not run the power wiring over the logic board.</p>
<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Toucher un câble a haute tension peut provoquer la mort ou des blessures graves.</p> <p>Sortir la prise d'alimentation de l'afficheur avant de le réparer.</p> <p>Maintenir la séparation des câbles.</p> <p>Brancher le câble d'alimentation directement au bornier d'alimentation électrique.</p> <p>Ne pas faire cheminer le câble d'alimentation le long de la carte.</p>
<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages a l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adequat pour votre application.</p>

Wiring method must be in accordance with:

- In the United States, the National Electrical Code, NFPA 70, and the National Fire Alarm and signaling Code, NFPA 72.
- In Canada, CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32.

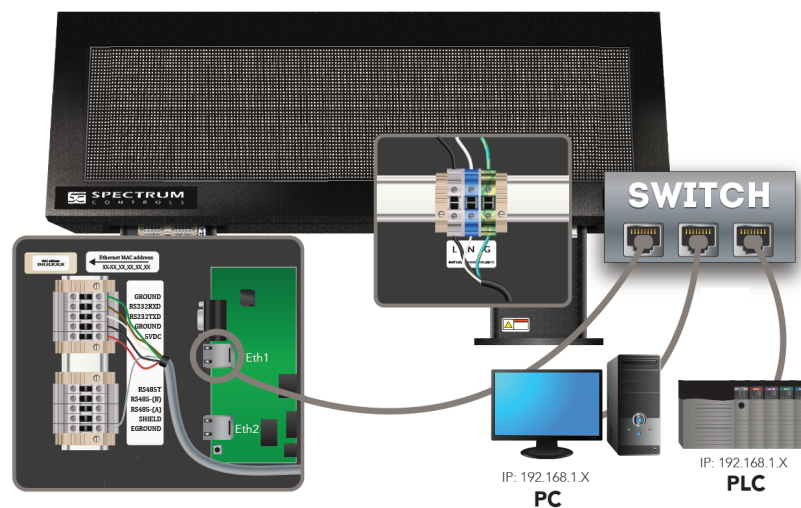
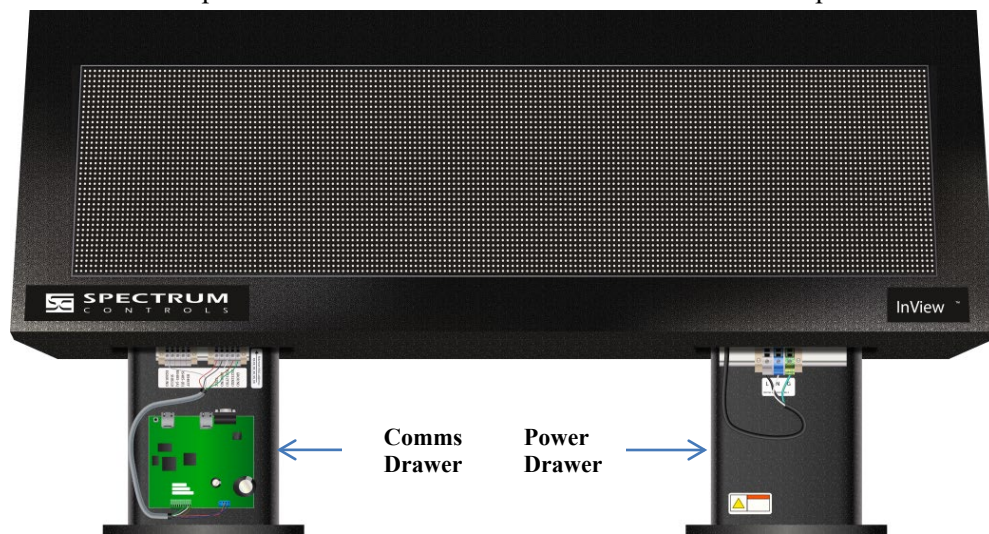
NOTE

The InView Display terminal blocks in the left-hand drawer are rated for wire ranges of 26 AWG to 12 AWG for the Comms Module serial and power wiring connections to the InView display.

Use appropriate conduit fittings and connections to route wires for power and communication into the power access compartment. Ensure a provided ferrite is properly installed on the cables as shown in the supplied photos.

Ensure you follow all applicable, local, electrical codes for placing wiring cable in conduit outside the display.

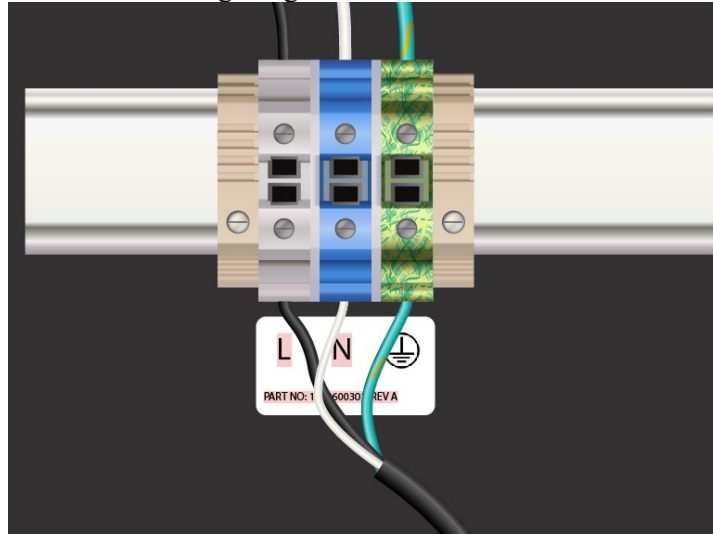
1. If necessary, disconnect power to the InView display.
2. Loosen the right-hand drawer by unscrewing its 4 screws until you can pull the drawer out. Set the screws aside for later step.



3. Connect power conduit through the power drawer conduit opening on the left side of the drawer. Pull wires through the conduit and wire as shown


below. Ensure you follow all applicable, local, electrical codes for completion of the wiring.

4. The InView Display power terminal block in the right-hand drawer is rated for wire ranges of 20 to 6 AWG for the power wiring. Strip the electrical wires back 6.35 mm (0.25 in).
5. Insert the wires into the appropriate terminal connection as shown below and tighten the screw to 1.47 to 1.7 N-m (13 to 15 in-lbs.). Enlarged label is shown following image below:





Wire Color	Wire Name
Black	Line (Hot) connect to L (White terminal)
White	Neutral connect to N (Blue terminal)
Green	Ground connect to G (Green and Yellow terminal)


6. If you are installing a Communications Module in the display drawer, use the following procedure to install, wire, and set up either RS-232 or RS-485 serial communications between the Comms module and the display. (Refer to 0300289-0n_nm(Users_Guide_InView_COMMS_MODULE) manual) for full documentation on all Comms Modules, including these displays:


<p>NOTE</p> 	<p>Cable tie locations are supplied within the drawer to help ensure loose wires are not obstructed by adjacent mechanical obstructions.</p>
--	--

7. Unscrew the four screws on the front of the two drawers located on the bottom panel of the InView display. The padding on the inside of the drawer fronts may allow you to leave the screws in the drawer front.
8. Pull out both drawers to their fullest extent.
9. If necessary, remove the previous Comms module and set aside.
10. In the left-hand drawer (as you face the display), install the Comms module on the mounting stands located at the front of the drawer, using the supplied standoffs and screws.
11. Torque the screws to 0.68 Nm (6 in-lb.).

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p> <p>Maintain separation of circuits. Route the incoming power directly to the power connections terminal block.</p> <p>Do not run the power wiring over the logic board.</p>
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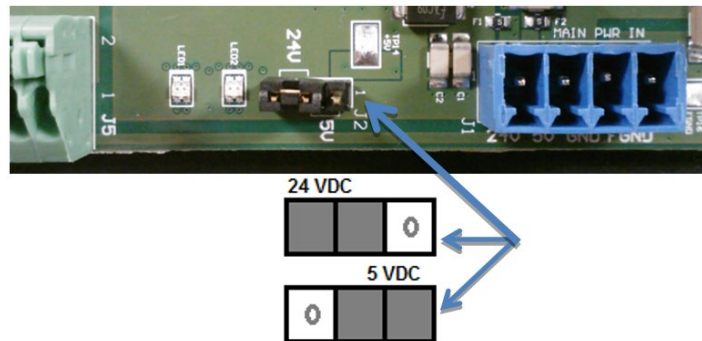
<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Toucher un câble a haute tension peut provoquer la mort ou des blessures graves.</p> <p>Sortir la prise d'alimentation de l'afficheur avant de le réparer.</p> <p>Maintenir la séparation des câbles.</p> <p>Brancher le câble d'alimentation directement au bornier d'alimentation électrique.</p> <p>Ne pas faire cheminer le câble d'alimentation le long de la carte.</p>
---	---

<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
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<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages à l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adéquat pour votre application.</p>
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12. Jumper J2 settings on the Comms module board are shown as labeled, and in 24 VDC or 5 VDC positions.

Check jumper J2 on the Comms Module is correctly positioned in the default jumper setting of 5 VDC:

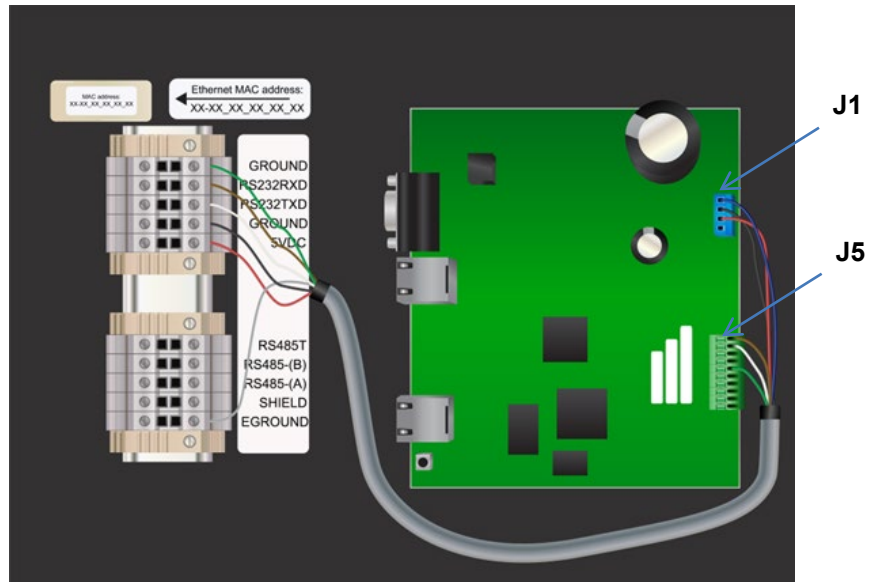


13. In the same drawer in which you install the Comms module board, route a user-supplied CAT5 network cable through the cable grip and locknut that is provided. Connect the CAT5 cable to the Comms module by plugging in the Ethernet cable to the Ethernet1 RJ-45 connector as shown. Connect the other end of the cable to an unmanaged switch.

Connecting Power Wiring Between Comms Module and Display

1. Use the images and tables provided next, along with the supplied Comms Module cable, to connect the display terminal power in the left-hand drawer to the installed Comms module.
2. The InView Display terminal blocks in the left-hand drawer are rated for wire ranges of 26 AWG to 12 AWG for the Comms Module power connections to the InView display.
3. Ensure you follow all applicable, local, electrical codes for placing wiring cable in conduit outside the display.

- Connect the Comms Module power wiring to the display using the diagram and table below:



Stranded wire from Comms Module Cable 6010nn-nn:	Connect to following pins on InView Comms Module J1:	Connect to Display Terminal Block Connector:
BLACK: Supply GND (-5 V)	J1 Pin 3	Black: GROUND
RED +5 V Power	J1 Pin 2	Red: 5 VDC

Connecting RS-232 Wiring Between Comms Module and Display

- Use the table provided, along with the supplied Comms Module cable, to connect the display RS-232 serial wiring in the left-hand drawer to the installed Comms module.
- The InView Display terminal blocks in the left-hand drawer are rated for wire ranges of 26 AWG to 12 AWG for the Comms Module serial wiring connections to the InView display. Ensure you follow all applicable, local, electrical codes for placing wiring cable in conduit outside the display:

J5 Pinout	For RS-232, connect the following:	For RS-485, connect the following:
1	CD	
2	TXD	T-/R-
3	RXD	
4	N/C	N/C
5	Isolated Common/Signal	Isolated Common/Signal

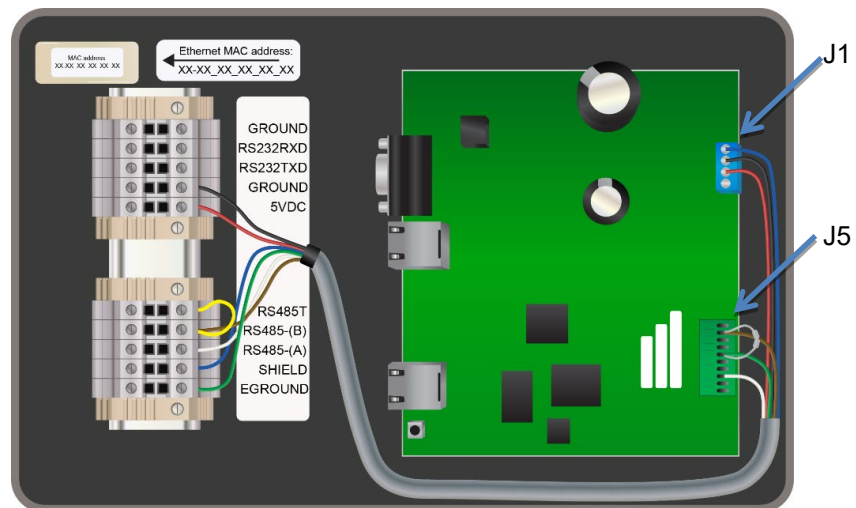
J5 Pinout	For RS-232, connect the following:	For RS-485, connect the following:
	Ground	Ground
6	N/C	N/C
7	CTS	
8	RTS	T+/R+
9	RI	
10	Frame/Shield Ground	

NOTE

The 2706-PxK-SC Comms modules are powered through the serial cable by the display (series A).

Connecting RS-485 Wiring Between Comms Module and Display

1. Connect the Comms Module power and RS-232 communications wiring to the display using the image provided below and the table provided above:



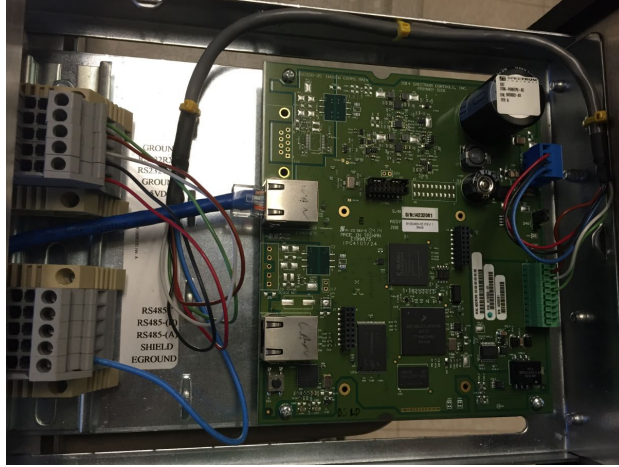
2. Terminate both ends of all RS-485 buses. The last sign in an RS-485 bus should be terminated by placing a jumper between the RS-485T and RS-485-(B) terminals. The jumper wire (yellow) is not included. The Comms Module should be terminated with a 120-ohm resistor between RS-485-(A) and RS-485-(B) as shown in the photos above.

Completing Comms Module Installation

1. Route the Comms cable and tie down the cable as shown below. The cable must be kept above the board until it is past the slots in the drawer.

Individual wires must also be kept clear of the slots. The InView Comms Module screws must be torqued to 0.68 N-m (6.0 in-lbs. \pm 0.100).

2. Route sixteen inches of the Ethernet cable inside the closure and between the two terminal blocks as shown. This avoids a tight curve in the cable:



3. Replace the drawers using the 4 screws. Torque the screws to 1.8 N-m (16 in-lbs.) for NEMA 4 models, and 3 N-m (26.5 in-lbs.) for NEMA 4X models.
4. Connect the InView display to a power source.

NOTE

After the module has fully booted up, if needed you can press the reset button for 5 seconds which will restart the module and display its network configuration, including the IP address, on the InView sign.



5. Write down the values. Example: **192.168.1.100**.
6. Connect your PC and PLC to the unmanaged switch with a CAT5 cable and start an Internet browser.
7. In the Browser Address field, type the IP address you obtained from the display to which the Comms Module is connected.
8. Example entry only. Your address may be different: **192.168.1.100**.
9. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
10. The main InView User Interface View window appears.
11. Use the online help to finish setting up your InView and display.
12. Follow directions. If needed, click the Help button for specific instructions:



Section 2.6 Using the Comms Module with a 2706-P22R-SC Display

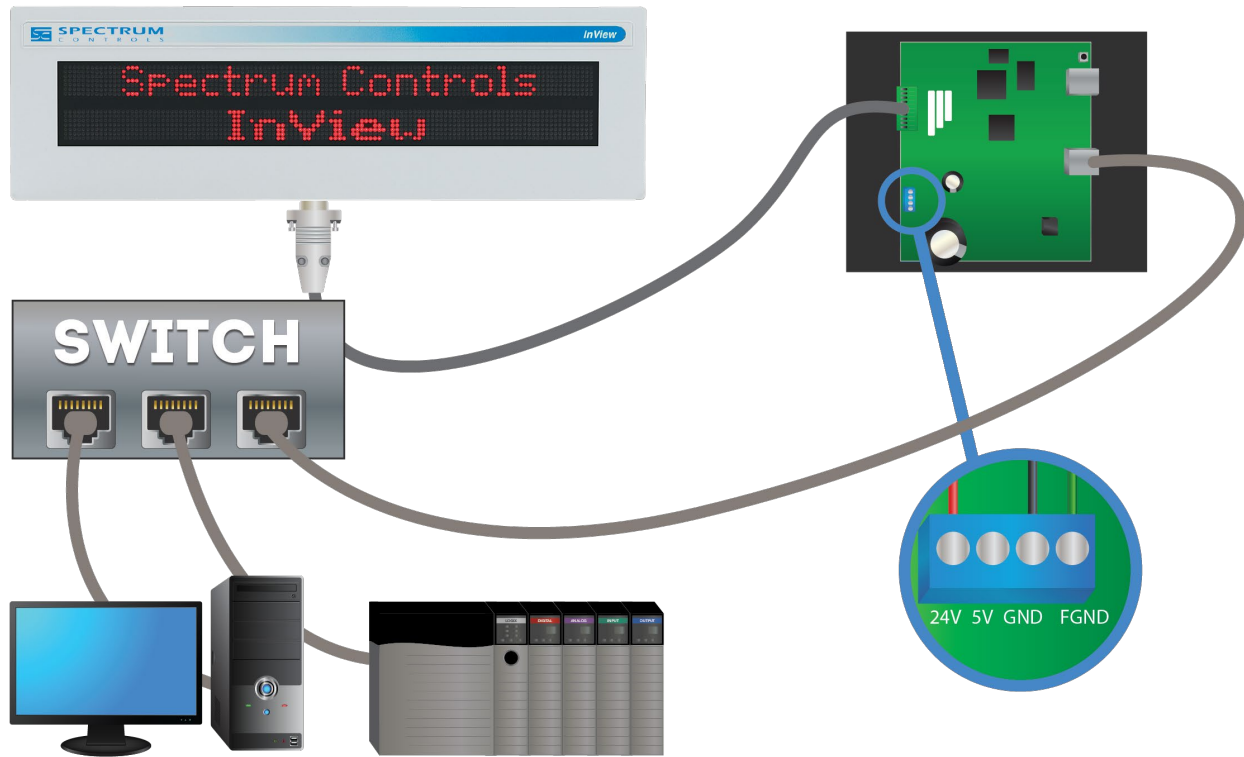
The 2706-P22R-SC InView panel-mount display can be used with a 2706-PxP-SC Comms module. The module is mounted on a DIN rail inside the enclosure in which the 2706-P22R-SC display is mounted. This maintains the NEMA 4x, 12, or 13 rating. The 2706-PxP-SC Comms module also requires a separate 24 VDC power supply. This module does not receive power from the InView display.

To mount and connect the Comms module:

<p>WARNING</p> 	<p>Hazardous voltage.</p> <p>Contact with high voltage may cause death or serious injury.</p> <p>Always disconnect power to the InView display prior to servicing.</p>
<p>WARNING</p> 	<p>Tension dangereuse.</p> <p>Tout contact avec une tension élevée peut entraîner la mort ou des blessures graves.</p> <p>Déconnectez toujours l'alimentation de l'afficheur avant toute opération de maintenance.</p>


1. Disconnect power to the enclosure.
2. Mount the DIN rail somewhere in the enclosure, near the 2706-P22R-SC display.
3. Snap the Comms module to the DIN rail and lock the latches.
4. Unscrew the top of Comms Module container.
5. Connect the Comms module to the 2706-P22R-SC display using the supplied serial cable.
6. Connect the user-supplied CAT5 network cable to the Comms module as shown below:


7. Connect the other end of the network cable to an unmanaged switch.

**IMPORTANT**

The 2706-PENETP2-SC Comms module is provided with cable PN 6010100-*nn*, (5 meters long). Pinouts are shown below.

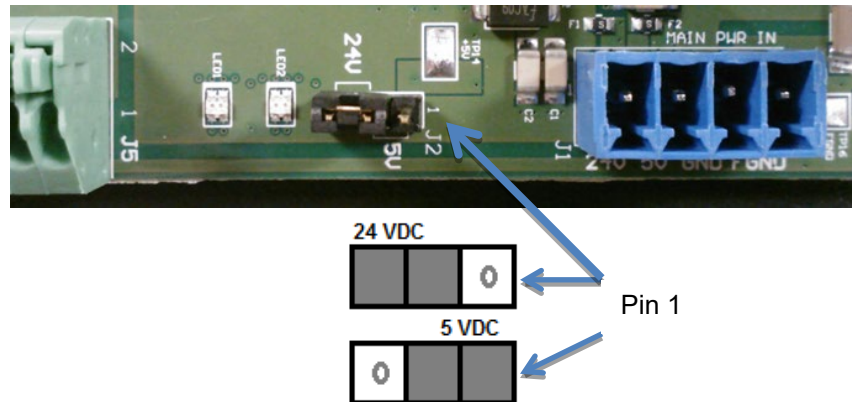
Terminal Block J5 on Comms Module			DB-9F Connector plugged into P22 Display		
Pin	Signal	Color	Pin	Signal	Color
10	Frame GND	Shield	1	NC	-
9	RI (NC)		2	RX	White
8	RTS (O)	Green	3	TX	Red
7	CTS (I)	Brown or Orange	4	NC	-
6	NC	-	5	GND	Black
5	Isolated GND	Black	6	NC	-
4	NC		7	CTS	Green
2	TX (O)	White	8	RTS	Brown or Orange
3	RX (I)	Red	9	NC	-
1	CD (NC)	-			

<p>WARNING</p> 	<p>Hazard of damage to electronic equipment.</p> <p>Failure to ensure that jumper J2 is in the correct position for the voltage supplied to the InView Comms module can result in damage to the module circuitry.</p> <p>Before applying power to the InView Comms Module, check that the jumper is in the correct position for your application.</p>
---	---


<p>WARNING</p> 	<p>Danger de dommage pour l'équipement électronique.</p> <p>S'assurez que le cavalier J2 est dans la position correcte pour la tension fournie au module de communication InView sinon cela pourrait entraîner des dommages a l'ensemble des circuits du module.</p> <p>InView en tension, vérifiez que le cavalier est dans la position de voltage adequat pour votre application.</p>
---	---

8. Jumper J2 settings are shown as labeled on the board and in 24 VDC or 5 VDC positions.

Check jumper J2 is correctly positioned for your application:



9. Connect 24 VDC to the comms module. Wire +24 V to Pin J1-1.
Wire -24 V to Pin J1-3.
10. Turn +24 VDC power on.
The Comms Module starts up.

<p>NOTE</p> 	<p>After the module has fully booted up, if needed you can press the reset button for 5 seconds which will restart the module and display its network configuration, including the IP address, on the InView sign.</p>
--	--

11. Write down the values. Example: **192.168.1.100**
12. Connect your PC and PLC to the unmanaged switch and start an Internet browser.

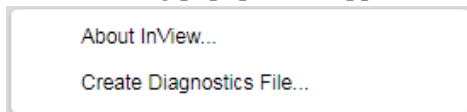
13. In the Address field, type the IP address you obtained from the display to which the Comms Module is connected.
Example entry only. Your address may be different: **192.168.1.100**.
14. The InView User Interface software starts up and provides you with a login screen. Enter the default password:
spectrum
15. The main InView User Interface View window appears.
16. Use the online help or Chapter 3 to finish setting up your InView and display.
17. Follow directions. If needed, click **Help** button for specific instructions:



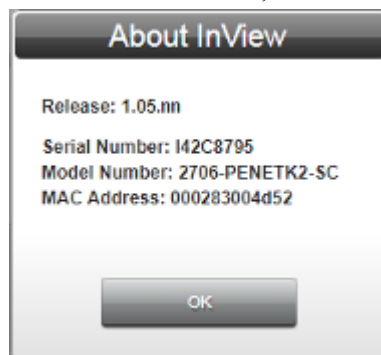
Section 2.7 Getting Hardware and Software Information

You can get hardware equipment and software version information using a web browser. To access this information:

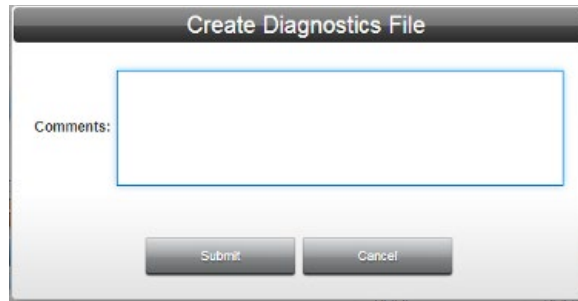
1. If needed, log onto the InView:
See Logging onto the InView User Interface:
2. Right click on a gray area of the window:
The following popup menu appears: :



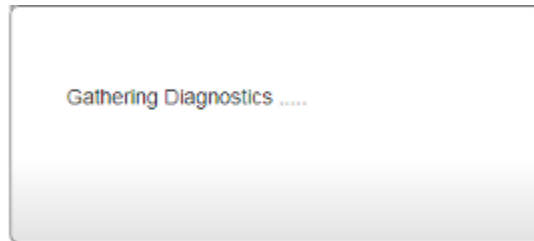
3. View the information using the following options:
 - **About InView.** Displays the current InView Messaging Software User Interface software version, InView Comms Module serial number, and its model number:



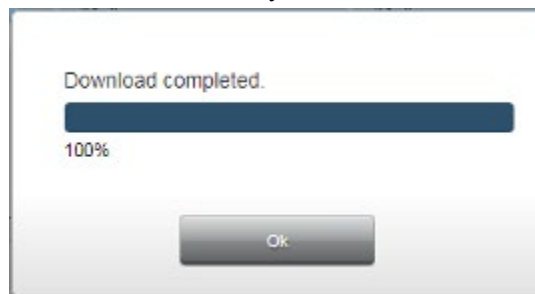
- **Create Diagnostics File.** Creates a diagnostic file to be sent to Spectrum Controls, Inc. for troubleshooting purposes:



- *Comments.* Enter any information that helps technical services to diagnose and troubleshoot your problem.
 - *Submit.* Saves comments and creates the diagnostics file.
 - *Cancel.* Exits without saving the diagnostics information.
4. The software informs you that it is gathering the diagnostics information:



5. The software informs you when the download is complete:

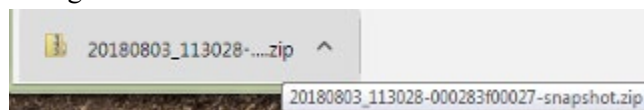


6. Click **OK**.

NOTE

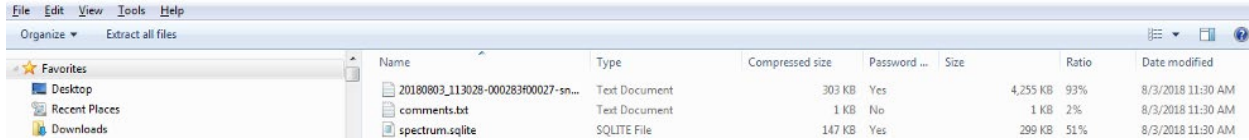
Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

7. A download file is simultaneously displayed at the lower left of the dialog. Click the file name:



- The following dialog appears showing where the software saved the exported files (usually to the Downloads directory, or other designated folder, on your personal computer).

These files are password-protected for Spectrum Controls use only:



Section 2.8 Pinging IP Addresses

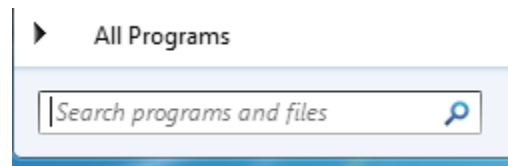
Whether or not you are able to ping an individual InView Comms Module is dependent on your PC's security settings, and whether or not you have chosen to allow pings over your network.

You can determine whether or not a device such as a computer, InView Comms Module, router, or other device that has an IP address is reachable from your device by using the **ping** command. Example: You have connected a personal computer to an InView Comms Module, and you wish to determine whether or not the computer is able to communicate with the module.

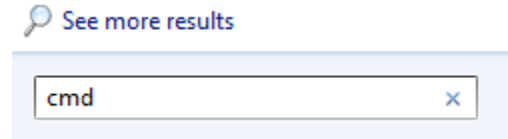
To ping the InView Comms Module from the personal computer:

- From the main window on your personal computer, click **Start** or press the **Windows** key:

The following field appears (later versions of Windows have different Startup access):



- In the field, type **cmd** and press **Enter**:



The **C:\Windows\system32\cmd.exe** command window appears.

- At the command prompt, type **ping IP address** where **IP address** is the address of the InView Comms Module you wish to access, and press **Enter**. Example: **10.0.0.13**:

The following data appears in the command window:

```
C:\Users\lrichards>ping 10.0.0.13
Pinging 10.0.0.13 with 32 bytes of data:
Reply from 10.0.0.13: bytes=32 time=1ms TTL=64
Reply from 10.0.0.13: bytes=32 time<1ms TTL=64
Reply from 10.0.0.13: bytes=32 time<1ms TTL=64
Reply from 10.0.0.13: bytes=32 time<1ms TTL=64

Ping statistics for 10.0.0.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\Users\lrichards>
```

This data lets you know that you were successful in reaching the device belonging to the IP address you entered.

4. If you were not successful in reaching the device, you will instead be informed that the device is unreachable:

```
C:\Users\lrichards>ping 10.0.0.130
Pinging 10.0.0.130 with 32 bytes of data:
Reply from 65.122.121.173: Destination net unreachable.
Reply from 65.122.121.173: Destination net unreachable.
Reply from 65.122.121.173: Destination net unreachable.
Reply from 65.122.121.173: Destination net unreachable.

Ping statistics for 10.0.0.130:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

C:\Users\lrichards>_
```

If you cannot reach the device using this command, you can contact your system administrator or technical support for additional assistance in connecting to the device you are trying to access.

Section 2.9 General Public License Information

As part of the InView product, Spectrum Controls, Inc. uses software licensed under GNU General Public License, version 2:

GPL version 2.0

Spectrum Controls, Inc. also uses software licensed under GNU General Public License, version 3:

GPL version 3.0

Please refer to the websites listed above for further information about these licenses, and how they are to be used.

Section 2.10 Limited Warranty


Spectrum Controls, Inc. warrants that its products are free from defects in material and workmanship under normal use and service, as described in Spectrum Controls, Inc. literature covering this product, for a period of 1 year. The obligations of Spectrum Controls, Inc. under this warranty are limited to replacing or repairing, at its option, at its factory or facility, any product which shall, in the applicable period after shipment, be returned to the Spectrum Controls, Inc. facility, transportation charges prepaid, and which after examination is determined, to the satisfaction of Spectrum Controls, Inc., to be thus defective.

This warranty shall not apply to any such equipment which shall have been repaired or altered except by Spectrum Controls, Inc. or which shall have been subject to misuse, neglect, or accident. In no case shall the liability of Spectrum Controls, Inc. exceed the purchase price. The aforementioned provisions do not extend the original warranty period of any product which has either been repaired or replaced by Spectrum Controls, Inc.

Chapter 3


Using the InView Messaging Software Interface

Section 3.1 Using the InView Messaging Software User Interface

<p>NOTE</p> 	<p>Before you can use the InView Comms Module to configure the InView Display both systems must be powered on and connected to the network.</p>
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Section 3.2 Logging onto the InView Comms Module

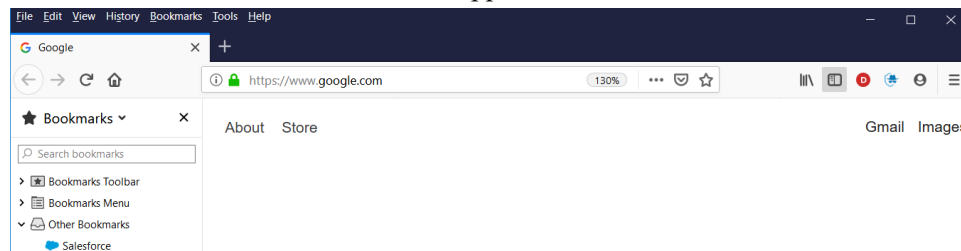
You log onto the InView Comms Module to set up and manage all InView Comms Module functions.


<p>NOTE</p> 	<p>All fields that show a red asterisk (*) are required.</p>
---	--

To log onto the InView Comms Module:

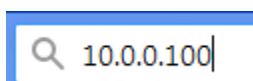
1. Start web browser software. Google Chrome is recommended.

The browser window appears:

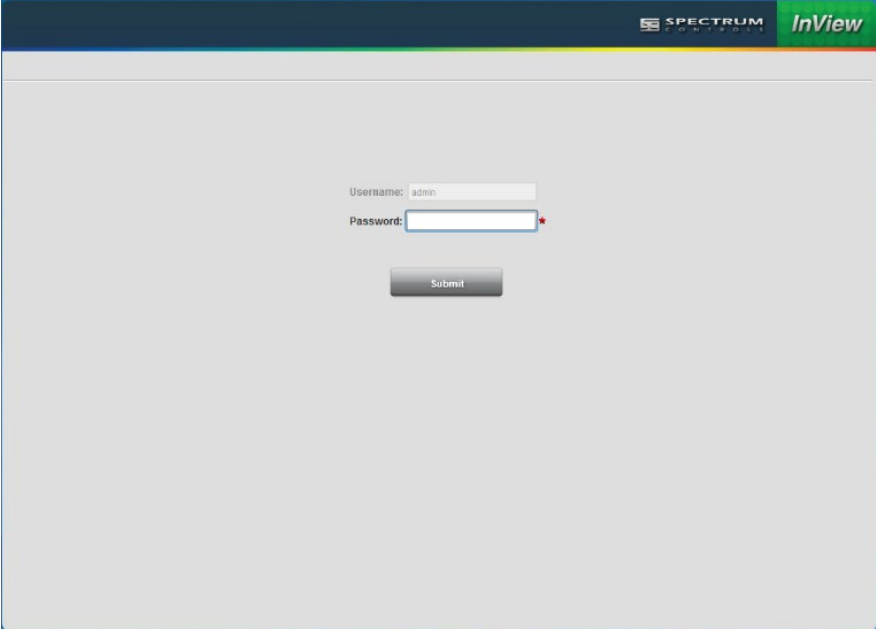


<p>NOTE</p> 	<p>When you first install the Comms Module, the default IP address that it ships with is 192.168.1.100. During installation, you may need to change this address to work within your network.</p>
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2. Enter the IP address you specified during system installation. Example:
10.0.0.100:




The InView User Interface login screen appears:




3. Type in (enter) your password. The asterisk [*] beside the field tells you that you must enter information in this field.
4. The default username is not editable. The default password provided with your InView Comms Module is:

- **Username.** Default username (**admin**) is not editable.
- **Password.** Default password is **spectrum**.



- You are prompted to immediately change the password for additional security. See Changing the InView Password
5. Click **Submit**.

Section 3.3 About the InView User Interface Window

<p>NOTE</p> 	<p>The Comms web browser-based user interface has replaced the 2706-PENET1 hardware and software.</p>
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See Installing the InView Comms Module

Section 3.4 Setting Up the InView Comms Module

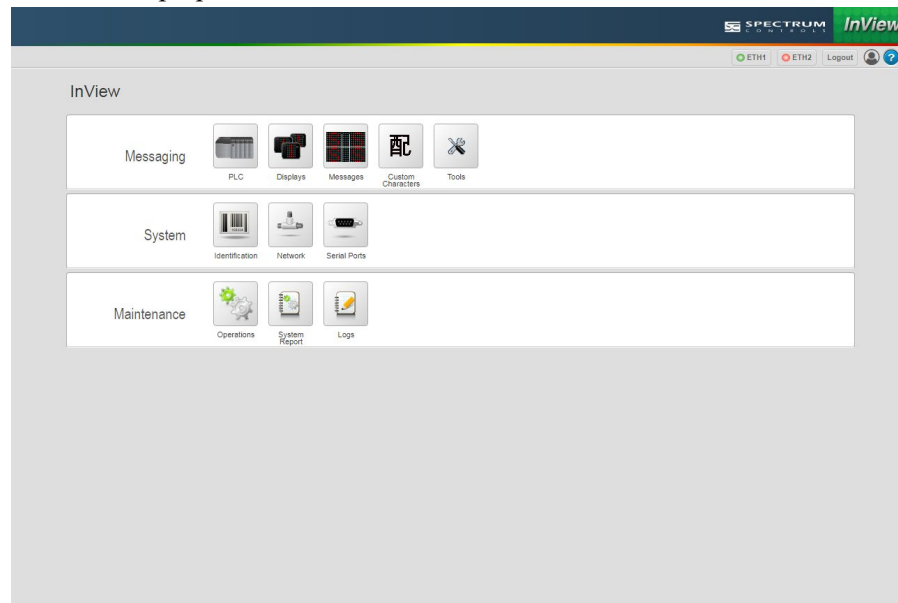
When you first install an InView Comms Module, you enter network, serial port, display settings, and messages that allow you to work with message server PLCs and InView displays via the InView Comms Module. You may import (and export) messages, settings, and custom characters from the legacy Rockwell InView Messaging Software .ivp, .ivl, and .csv files. You may also backup your configuration, update the firmware, reset to default configuration, and reboot the InView Comms Module.

From v1.03, the InView Comms Module provides a TCP/IP Passthrough option that provides a complete replacement for the 2706-PENET1 hardware. Your third-party software functions using the new generation of InView Comms Modules.

For more information refer to Rockwell's document 2706-UM016, Chapter Four regarding the InView Protocol used in Passthrough mode.

To access all InView options:

1. From the InView Configuration window, select one of the following Setup options:



The InView Comms Module User Interface Window contains:

- **InView Comms Module User Interface Title Bar.** Displays company name and logo.
- **InView Comms Module User Interface Menu Bar.** Accesses

network status data (ETH1 and ETH2), logout button, password change dialog, and the embedded help button.

- **InView Comms Module User Interface Work Area.** Provides access to InView Messaging Software for all Comms Module functions except changing the password.

3.4.1 InView Comms Module User Interface Title Bar

The InView User title bar shows the company name and InView Comms Module logo:




3.4.2 InView User Interface Menu Bar

The InView Comms Module User Interface menu bar provides access to network status data (ETH1 and ETH2), the logout button, a password change dialog, and the embedded help button:



The status panel updates every five minutes. To directly access the Network Setup dialog, double click in the status panel.

<p>NOTE</p> 	<ul style="list-style-type: none"> • When green, a connection is active. • When red, a connection is not active.
---	--

To access Eth1 communications status information, mouse over the ETH1 icon:



See Viewing Eth1 Communications Status Information

To access Eth2 communications status information, mouse over the ETH2 icon:



See Viewing Eth2 Communications Status Information

To log out of the application, click **Logout**.

To change the password, click the following button:



See Changing InView Password

To access embedded online help, select the following button:

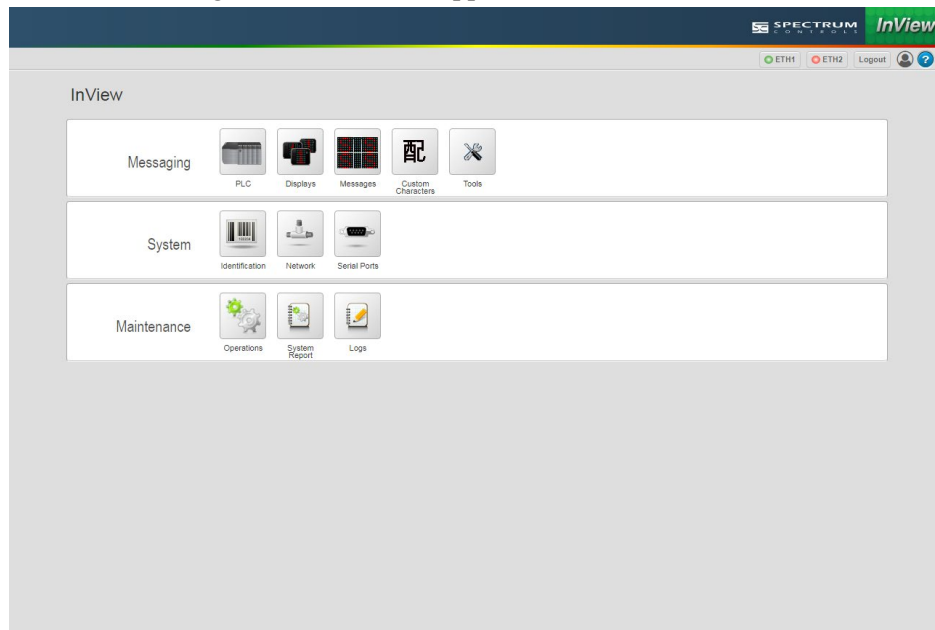


See Viewing Help Information

3.4.3 InView User Interface Configuration Work Area

To access the Configuration work area, bring up the InView embedded web page. See Logging into the InView Comms Module User Interface.

The InView Configuration work area appears:



Use the InView Configuration work area for setting up your entire InView Comms Module configuration. You may access help about all configuration software options from this screen.

Section 3.5 Configuring PLC Server Setup for the InView Comms Module

You may configure message server access using one of three modes:

- **Classic mode.** Provides compatibility with older RA ladder logic Add-On-Instructions commonly used in conjunction with legacy Rockwell Automation InView Comms Modules. You access this option by selecting a PLC type and selecting **Classic**.
- **Easy mode.** Forms the **CTRL-T** and **CTRL-V** InView Display language commands for you. You access this option by selecting a PLC type and selecting **Easy**.
- **TCP/IP Passthrough.** Provides message server access to a PC message server application (TCP/IP Passthrough option replaces the PENET1 hardware and software). There is no need to configure tags when you choose this option. (This option also allows any type of TCP/IP connected message server to run the InView display via the Comms Module over TCP/IP, so you could configure a PLC to connect and send TCP/IP InView commands from within your own custom ladder logic.)


Classic and Easy modes function as follows:

- **Classic Mode.** This mode provides backwards compatibility with the legacy ladder logic on PLC message servers used with older, legacy, Rockwell Automation Comms modules. A message server is typically used to update system variables and to trigger system messages. The InView Comms Module setup defines the settings for communication between a PLC Message Server, a personal computer, or a communications protocol, and the Comms Module. The Spectrum InView Comms Module then monitors the **Message Trigger Address**

and the **Variable Update Address** on the host message server. When the tag changes state, the Comms Module reads the **CTRL-T** (Trigger) ASCII commands from the PLC message server. The Comms Module forwards these as a Function Frame to the InView display using the serial link (RS-232 or RS-485).

- This mode also requires a Rockwell Add On Instruction in the PLC's ladder logic in order to form the complete InView language **CTRL-T** or **CTRL-V** ASCII string Function Frame from the PLC Message Data Address or Variable Data Address. The Comms Module then relays that Function Frame to the InView display's control module using the serial link. If you are sufficiently familiar with InView ASCII language, you may also form your own **CTRL-T** or **CTRL-V** Function Frame strings.
- **Easy Mode.** Easy mode allows you to provide plain INT or SINT/STRING tag values for the prescribed Message Trigger update tags instead of having to form the completed InView language Function Frame string in the PLC ladder logic. The InView Communications Module converts the tags to InView Function Frame strings and sends them to the InView display. Monitoring for Message Trigger tags and Variable Update Trigger tags functions the same way as in Classic mode. In Easy Mode, the Comms Module scans the appropriate Holding Registers in the PLC.

For PLCs, you may specify an interscan delay if tag polling traffic generates too many requests for the message server.

<p>NOTE</p> 	<p>If you select a PLC type that uses a different protocol than that used by the previous message server type selection, (changing from PCCC to CIP or CIP to PCCC, for example), several changes occur:</p> <ul style="list-style-type: none"> • Polling is disabled. • The tag configuration is cleared and set to a default. This is necessary because tag settings that are valid between an existing protocol and the InView controller may need to be cleared of data that is not valid for the new protocol. • The setup screen changes according to the selected PLC type. Differences are documented in the options for individual PLC types.
--	---

To configure the message server setup:

1. From the InView Configuration Work Area, select the following icon:



The PLC/Tag Setup screen appears:

2. View or specify the following options:
 - **PLC.** Lists message server options:
 - *Msg Server Type.* From this list choose the PLC type you wish to configure.
 - ♦ CompactLogix. See Configuring CompactLogix Message Server Setup for the InView Comms Module.
 - ♦ ControlLogix. See Configuring ControlLogix Message Server Setup for the InView Comms Module.
 - ♦ MicroLogix/PLC5/SLC. See Configuring MicroLogix/PLC5/SLC Message Server Setup for the InView Comms Module.
 - ♦ Modbus TCP. See Configuring Modbus TCP Message Server Setup.
 - ♦ TCP/IP Passthrough. See Configuring TCP/IP Passthrough.
3. **Submit.** Click to save entered changes (applies to both **PLC** and **Tag Setup** fields).
4. **Cancel.** Click to cancel any changes and restore the current settings (applies to both **PLC** and **Tag Setup** fields).

Section 3.6 Configuring ControlLogix Message Server Setup for the InView Comms Module

You may configure a ControlLogix Message Server using one of two modes:


- **Classic mode.** Provides compatibility with older RA ladder logic Add-On-Instructions commonly used in conjunction with legacy Rockwell Automation InView Comms Modules.
- **Easy mode.** Forms the **CTRL-T** and **CTRL-V** InView Display language commands for you.

The two modes function as follows:

- Classic Mode.** This mode provides backwards compatibility with the legacy ladder logic on PLC message servers used with older, legacy, Rockwell Automation Comms modules. A message server is typically used to update system variables and to trigger system messages. The InView Comms Module setup defines the settings for communication between a PLC Message Server, a personal computer, or a communications protocol, and the Comms Module. The Spectrum InView Comms Module then monitors the **Message Trigger Address** and the **Variable Update Address** on the host message server. When the tag changes state, the Comms Module reads the **CTRL-T** (Trigger) ASCII commands from the PLC message server. The Comms Module forwards these as a Function Frame to the InView display using the serial link (RS-232 or RS-485).
- This mode also requires a Rockwell Add On Instruction in the PLC's ladder logic in order to form the complete InView language **CTRL-T** or **CTRL-V** ASCII string Function Frame from the PLC Message Data Address or Variable Data Address. The Comms Module then relays that Function Frame to the InView display's control module using the serial link. If you are sufficiently familiar with InView Modbus ASCII language, you may also form your own **CTRL-T** or **CTRL-V** Function Frame strings.
- Easy Mode.** Easy mode allows you to provide plain INT or SINT/STRING tag values for the prescribed Message Trigger update tags instead of having to form the completed InView language Function Frame string in the PLC ladder logic. The InView Communications Module converts the tags to InView Function Frame strings and sends them to the InView display. Monitoring for Message Trigger tags and Variable Update Trigger tags functions the same way as in Classic mode. In Easy Mode, the Comms Module scans the appropriate Holding Registers in the PLC.

You may also specify an interscan delay if tag polling traffic generates too many requests for the message server.

To access the setup screen, see *Configuring PLC Message Server Setup for the InView Comms Module*.

<p>NOTE</p> 	<p>If you select a PLC type that uses a different protocol than that used by the previous message server type selection, (changing from PCCC to CIP or CIP to PCCC, for example), several changes occur:</p> <ul style="list-style-type: none"> • Polling is disabled. • The tag configuration is cleared and set to a default. This is necessary because tag settings that are valid between an existing protocol and the InView controller may need to be cleared of data that is not valid for the new protocol. • The setup screen changes according to the selected PLC type. Differences are documented in the options for individual PLC types.
--	---

To configure the setup:

1. From **PLC:Msg Server Type** drop down list, select **ControlLogix**:

2. View or specify the following options in the PLC screen:
 - **Device Name.** The name of the PLC message controller with which the InView display communicates. Not editable.
 - **Connection.** Shows communications connection type (**Ethernet**). Not editable.
 - **Protocol.** Shows communications protocol type (**EtherNet/IP**). Not editable.
 - **Address.** The IP address of the PLC message server with which the InView display communicates on the EtherNet/IP network. The IP address is formatted as four sets of decimal numbers with periods between them (**10.0.0.10**). The range of values for the first set of numbers is **1** to **255**, unless all fields are **0.0.0.0**. The range of values for the last three sets of decimal numbers is **0** to **255**.
 - **TCP Port.** Specifies port used to communicate with controller. Default port for any PLC selected under **Message Server Type** option is **44818** with the exception of ModbusTCP (**502**). Port selection range is **1** to **65535**.
 - **Slot Number.** Specify slot position of PLC controller. Range is **0** to **16**.
 - **Enable Polling.** Enables/disables polling of the message server PLC by the Comms Module.

NOTE

After updating firmware, ensure that this option is correctly on or off for your own application. If you have turned this option on in the previous software version, check to ensure that your setting is still on.

- **Delay *n* ms.** Defines the delay between polls of the message server PLC by the Comms Module. The default setting for this field is **100 ms**. The range is **10 ms** to **500 ms**.
 - **Test Device Connection.** Tests connection between InView Comms Module and PLC message server and informs you whether or not the Comms Module can communicate with the message server. See Testing Device Connections.
 - **Ping.** To ping a PLC connected to the Comms Module, enter the address in the field and click the button.
3. Specify each classic or easy setup in the Tag Setup screen:



Tag Setup <input checked="" type="radio"/> Classic <input type="radio"/> Easy	
Message Trigger Tag name: <input type="text" value="inview_mesg_trigger"/> Data Type: <input type="text" value="SINT"/> Base Addr/Offset: <input type="text"/> * <input type="text" value="0"/>	Variable Trigger Tag name: <input type="text" value="inview_var_trigger"/> Data Type: <input type="text" value="SINT"/> Base Addr/Offset: <input type="text"/> * <input type="text" value="0"/>
Message Data Tag name: <input type="text" value="inview_mesg_data"/> Data Type: <input type="text" value="SINT"/> Base Addr/Offset: <input type="text"/> <input type="text" value="1"/> Array Size: <input type="text" value="16"/>	Variable Data Tag name: <input type="text" value="inview_var_data"/> Data Type: <input type="text" value="SINT"/> Base Addr/Offset: <input type="text"/> <input type="text" value="1"/> Array Size: <input type="text" value="16"/>

- **Message Trigger.** Specify the following:
 - *Tag Name.* View name of trigger tag. Example: **inview_mesg_trigger**. Not editable.
 - *Data Type.* View data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* The controller address that will trigger a message to the display. Characters allowed for naming address are alphanumeric, underscore, and hyphen. Example: **Msg_Data**. Offset is number from **0** to **254** that references an element in an array starting at the specified offset. Range is **0** to **254**.

- **Message Data.** Specify the following:
 - *Tag Name.* View name of data tag. Example: **inview_mesg_data**. Not editable.
 - *Data Type.* View data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* Same as **Message Trigger** value. Not editable. Offset starts at [**Message Trigger** base address+1]. However, you can enter a different offset as long it is at least 1 increment above the **Message Trigger** address.
 - *Array Size.* Specifies the size of the array (from **16** to **254** characters). The array contains the variable data. The maximum array size is dependent on the controller and must be an even integer.
- **Variable Trigger.** Specify the following:
 - *Tag Name.* View name of variable trigger tag. Not editable Example: **inview_var_trigger**.
 - *Data Type.* View data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* Base address here is set from **Variable Trigger Address field**. The **Offset** value is the offset from the **Base Address** as to where the **Variable Data** starts.
- **Variable Data.** Specify the following:
 - *Tag Name.* Lists name of tag. Example: **inview_var_data**. Not editable.
 - *Data Type.* Lists data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* Same as **Variable Trigger** value. Not editable. The **Offset** value is the offset from the **Base Address** as to where the **Variable Data** starts.
 - *Array Size.* Specifies the size of the variable data array. The size of the array, which contains the variable data, is **16** to **254** characters. The maximum array size is dependent on the controller and must be an even integer.

- **Easy.** Specify the following **Preset InView Tags**. You may individually edit each tag:

Tag Setup Classic Easy

Preset InView Tags  

Name	Address	Data Type	Data Length (bytes)
iv_DispSerAddr		SINT	1
iv_PriorityMsg_Trig		SINT	1
iv_PriorityMsg_Num		INT	2
iv_AddMsg2Q_Trig		SINT	1
iv_AddMsg2Q_Num		INT	2
iv_DelMsgFromQ_Trig		SINT	1
iv_DelMsgFromQ_Num		INT	2
iv_ClearMsgQ_Trig		SINT	1
iv_NumVarUpdate_Trig		SINT	1
iv_NumVarUpdate_Num		SINT	1
iv_NumVarUpdate_Val		INT	2
iv_AlphaVarUpdate_Trig		SINT	1
iv_AlphaVarUpdate_Num		SINT	1
iv_AlphaVarUpdate_Val		STRING	82

Submit Cancel

For an explanation of the easy tags, and a summary of their function, see Easy Tags Summary (Chapter 4).

- Choose tag for **iv_AlphaVarUpdate_Val** Data Type. Options are:
 - ♦ **STRING**. Specifies a string with a fixed length of **82** characters. Not editable.
 - ♦ **SINT**. Specifies a string with a fixed length of **16** characters, range is from **16** to **128** characters. Editable.
- *Reset*. Select to reset any of altered tag names, addresses or integer types to the preset versions:



Confirm that you wish to reset the tag names:

Confirmation Needed

You are about to restore all Tag Addresses back to their defaults.

Do you wish to continue?

Yes No

- *Download*. Select to download the tags as a .csv file format that can be imported into a Logix PLC:



- **Submit**. Click to save entered changes.
- **Cancel**. Click to cancel any changes and exit.

Section 3.7 Configuring CompactLogix Message Server Setup for the InView Comms Module

You may configure a CompactLogix Message Server using one of two modes:


- **Classic mode.** Provides compatibility with older RA ladder logic Add-On-Instructions commonly used in conjunction with legacy Rockwell Automation InView Comms Modules.
- **Easy mode.** Forms the **CTRL-T** and **CTRL-V** InView Display language commands for you.

The two modes function as follows:

- **Classic Mode.** This mode provides backwards compatibility with the legacy ladder logic on PLC message servers used with older, legacy, Rockwell Automation Comms modules. A message server is typically used to update system variables and to trigger system messages. The InView Comms Module setup defines the settings for communication between a PLC Message Server, a personal computer, or a communications protocol, and the Comms Module. The Spectrum InView Comms Module then monitors the **Message Trigger Address** and the **Variable Update Address** on the host message server. When the tag changes state, the Comms Module reads the **CTRL-T** (Trigger) ASCII commands from the PLC message server. The Comms Module forwards these as a Function Frame to the InView display using the serial link (RS-232 or RS-485).
- This mode also requires a Rockwell Add On Instruction in the PLC's ladder logic in order to form the complete InView language **CTRL-T** or **CTRL-V** ASCII string Function Frame from the **PLC Message Data Address** or **Variable Data Address**. The Comms Module then relays that Function Frame to the InView display's control module using the serial link. If you are sufficiently familiar with InView Modbus ASCII language, you may also form your own **CTRL-T** or **CTRL-V** Function Frame strings.
- **Easy Mode.** Easy mode allows you to provide plain INT or SINT/STRING tag values for the prescribed Message Trigger update tags instead of having to form the completed InView language Function Frame string in the PLC ladder logic. The InView Communications Module converts the tags to InView Function Frame strings and sends them to the InView display. Monitoring for Message Trigger tags and Variable Update Trigger tags functions the same way as in Classic mode. In Easy Mode, the Comms Module scans the appropriate Holding Registers in the PLC.

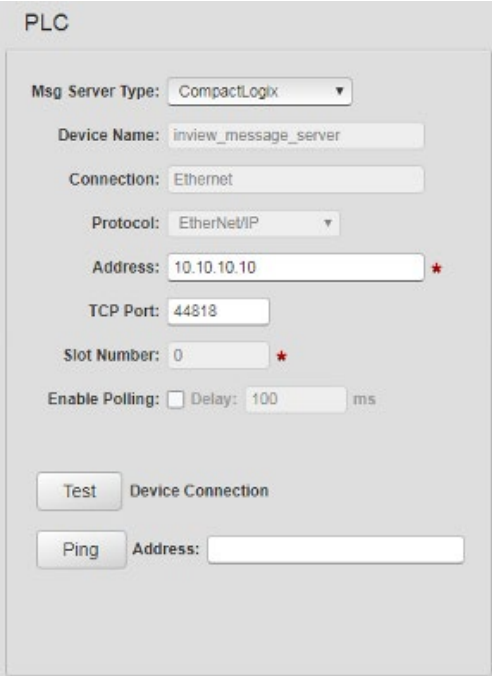
You may also specify an interscan delay if tag polling traffic generates too many requests for the message server.

To access the setup screen, see *Configuring PLC Message Server Setup* for the InView Comms Module.

<p>NOTE</p> 	<p>If you select a PLC type that uses a different protocol than that used by the previous message server type selection, (changing from PCCC to CIP or CIP to PCCC, for example), several changes occur:</p> <ul style="list-style-type: none"> • Polling is disabled. • The tag configuration is cleared and set to a default. This is necessary because tag settings that are valid between an existing protocol and the InView controller may need to be cleared of data that is not valid for the new protocol. • The setup screen changes according to the selected PLC type. Differences are documented in the options for individual PLC types.
--	---

To configure the setup:

1. From the **PLC:Msg Server Type** drop down list, select **CompactLogix**:



2. View or specify the following options in the PLC screen:
 - **Device Name.** The name of the PLC message controller with which the InView display communicates. Not editable.
 - **Connection.** Shows communications connection type (**Ethernet**). Not editable.
 - **Protocol.** Shows communications protocol type (**Ethernet/IP**). Not editable.
 - **Address.** The IP address of the PLC message server with which

the InView display communicates on the EtherNet/IP network. The IP address is formatted as four sets of decimal numbers with periods between them (**10.0.0.10**). The range of values for the first set of numbers is **1** to **255**, unless all fields are **0.0.0.0**. The range of values for the last three sets of decimal numbers is **0** to **255**.

- **TCP Port.** Specifies port used to communicate with controller. Default port for any PLC selected under **Message Server Type** option is **44818**. Port selection range is **1** to **50000**.
- **Slot Number.** Slot position of PLC controller. Not editable.
- **Enable Polling.** Enables/disables polling of the message server PLC by the Comms Module.

NOTE

After updating firmware, ensure that this option is correctly on or off for your own application. If you have turned this option on in the previous software version, check to ensure that your setting is still on.

- **Delay *n* ms.** Defines the delay between polls of the message server PLC by the Comms Module. The default setting for this field is **100 ms**. The range is **10 ms** to **500 ms**.
- **Test Device Connection.** Tests connection between InView Comms Module and PLC message server and informs you whether or not the Comms Module can communicate with the message server. See Testing Device Connections.
- **Ping.** To ping a PLC connected to the Comms Module, enter the **Address** in the field and click the button.

3. View or specify the following options in the Tag Setup screen:

The screenshot shows the 'Tag Setup' dialog box with two tabs: 'Classic' (selected) and 'Easy'. The dialog is divided into four quadrants:



- Message Trigger:** Tag name: ; Data Type: ; Base Addr/Offset: (with a red asterisk icon).
- Variable Trigger:** Tag name: ; Data Type: ; Base Addr/Offset: (with a red asterisk icon).
- Message Data:** Tag name: ; Data Type: ; Base Addr/Offset: ; Array Size: .
- Variable Data:** Tag name: ; Data Type: ; Base Addr/Offset: ; Array Size: .

At the bottom of the dialog are two buttons: 'Submit' and 'Cancel'.

- **Message Trigger.** Specify the following:
 - *Tag Name.* View name of trigger tag. Example: **inview_mesg_trigger**. Not editable.
 - *Data Type.* View data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* The controller address that will trigger a message to the display. Characters allowed for naming address are alphanumeric, underscore, and hyphen. Example: **Msg_Data**. Offset is number from **0** to **254** that references an element in an array starting at the specified offset. Range is **0** to **254**.
- **Message Data.** Specify the following:
 - *Tag Name.* View name of data tag. Example: **inview_mesg_data**. Not editable.
 - *Data Type.* View data type for tag. Not editable.
 - *Base Addr/Offset.* Same as **Message Trigger** value. Not editable. Offset starts at [**Message Trigger** base address+1]. However, you can enter a different offset as long it is at least 1 increment above the **Message Trigger** address.

- *Array Size.* Specifies the size of the array (from **16** to **254** characters). The size of the array, which contains the variable data, is **16** to **254** characters. The maximum array size is dependent on the controller and must be an even integer.
- **Variable Trigger.** Specify the following:
 - *Tag Name.* View name of variable trigger tag. Not editable Example: **inview_var_trigger**.
 - *Data Type.* View data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* The controller address that will trigger a message variable to the display. Base address here is set from **Variable Trigger Address** field. Not editable. The **Offset** value is the offset from the **Base Address** as to where the **Variable Data** starts.
- **Variable Data.** Specify the following:
 - *Tag Name.* Lists name of tag. Example: **inview_var_data**. Not editable.
 - *Data Type.* Lists data type for tag. Example: **SINT**. Not editable.
 - *Base Addr/Offset.* The starting address of the variable data to be displayed. Base address here is set from **Variable Trigger Address** field. Not editable. The **Offset** value is the offset from the **Base Address** as to where the **Variable Data** starts.
 - *Array Size.* Specifies the size of the array. The size of the array, which contains the variable data, is **16** to **254** characters. The maximum array size is dependent on the controller and must be an even integer.
- **Easy.** Specify the following **Preset InView Tags**. You may individually edit each tag:

Tag Setup Classic Easy

Preset Inview Tags  

Name	Address	Data Type	Data Length (bytes)
iv_DispSerAddr	iv_DispSerAddr	SINT	1
iv_PriorityMesg_Trig	iv_PriorityMesg_Trig	SINT	1
iv_PriorityMesg_Num	iv_PriorityMesg_Num	INT	2
iv_AddMesg2Q_Trig	iv_AddMesg2Q_Trig	SINT	1
iv_AddMesg2Q_Num	iv_AddMesg2Q_Num	INT	2
iv_DelMesgFromQ_Trig	iv_DelMesgFromQ_Trig	SINT	1
iv_DelMesgFromQ_Num	iv_DelMesgFromQ_Num	INT	2
iv_ClearMesgQ_Trig	iv_ClearMesgQ_Trig	SINT	1
iv_NumVarUpdate_Trig	iv_NumVarUpdate_Trig	SINT	1
iv_NumVarUpdate_Num	iv_NumVarUpdate_Num	SINT	1
iv_NumVarUpdate_Val	iv_NumVarUpdate_Val	INT	2
iv_AlphaVarUpdate_Trig	iv_AlphaVarUpdate_Trig	SINT	1
iv_AlphaVarUpdate_Num	iv_AlphaVarUpdate_Num	SINT	1
iv_AlphaVarUpdate_Val	iv_AlphaVarUpdate_Val	STRING	82

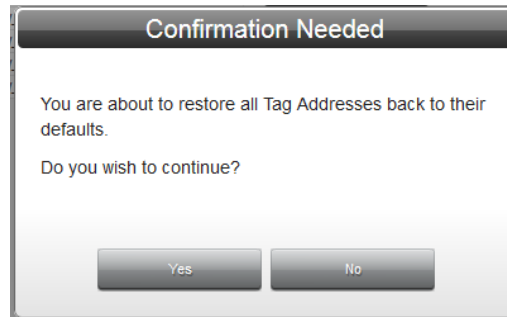
Submit Cancel

For an explanation of the easy tags, and a summary of their function, see Easy Tags Summary (Chapter 4).

- Choose tag for **iv_AlphaVarUpdate_Val** Data Type. Options are:
 - ♦ **STRING**. Specifies a string with a fixed length of **82** characters. Not editable.
 - ♦ **SINT**. Specifies a string with a fixed length of **16** characters, range is from **16** to **128** characters. Editable.
- *Reset*. Select to reset any of altered tag names, addresses or integer types to the preset versions:



Confirm that you wish to reset the tag names:



- *Download*. Select to download the tags as a .csv file format that can be imported into a Logix PLC:



- **Submit**. Click to save entered changes.
- **Cancel**. Click to cancel any changes and exit.

Section 3.8 Configuring MicroLogix/PLC5/SLC Message Server Setup for the InView Comms Module

You may configure a MicroLogix/PLC5 or SLC Message Server using one of two modes:

- **Classic mode**. Provides compatibility with older RA ladder logic Add-On-Instructions commonly used in conjunction with legacy Rockwell Automation InView Comms Modules.
- **Easy mode**. Forms the **CTRL-T** and **CTRL-V** InView Display language commands for you.

The two modes function as follows:


- **Classic Mode**. This mode provides backwards compatibility with the legacy ladder logic on PLC message servers used with older, legacy, Rockwell Automation Comms modules. A message server is typically used to update system variables and to trigger system messages. The InView Comms Module setup defines the settings for communication between a PLC Message Server, a personal computer, or a

communications protocol, and the Comms Module. The Spectrum InView Comms Module then monitors the **Message Trigger Address** and the **Variable Update Address** on the host message server. When the tag changes state, the Comms Module reads the **CTRL-T** (Trigger) ASCII commands from the PLC message server. The Comms Module forwards these as a Function Frame to the InView display using the serial link (RS-232 or RS-485).

- The user is required to implement in ladder logic the fully formed InView display language **CTRL-T** and **CTRL-V** function frames stored at the specified **Message Data Address** and **Variable Data Address** for MicroLogix/PLC5/SLC.
- **Easy Mode.** Easy mode allows you to provide plain INT or SINT/STRING tag values for the prescribed **Message Trigger** update tags instead of having to form the completed InView language Function Frame string in the PLC ladder logic. The InView Communications Module converts the tags to InView Function Frame strings and sends them to the InView display. Monitoring for **Message Trigger** tags and tags functions the same way as in Classic mode. In Easy Mode, the Comms Module scans the appropriate Holding Registers in the PLC.

You may also specify a delay if tag polling traffic generates too many requests for the message server.

To access the setup screen, see Configuring PLC Message Server Setup for the InView Comms Module.

<p>NOTE</p> 	<p>If you select a PLC type that uses a different protocol than that used by the previous message server type selection, (changing from PCCC to CIP or CIP to PCCC, for example), several changes occur:</p> <ul style="list-style-type: none"> • Polling is disabled. • The tag configuration is cleared and set to a default. This is necessary because tag settings that are valid between an existing protocol and the InView controller may need to be cleared of data that is not valid for the new protocol. • The setup screen changes according to the selected PLC type. Differences are documented in the options for individual PLC types.
--	---

1. From the **PLC:Msg Server Type** drop down list, select **MicroLogix**, **PLC5**, or **SLC**:

2. View or specify the following options in the PLC screen:
 - **Device Name.** The name of the PLC message controller with which the InView display communicates. Not editable.
 - **Connection.** Shows communications connection type (**Ethernet**). Not editable.
 - **Protocol.** Shows communications protocol type (**EtherNet/IP-PCCC**). Not editable.
 - **Address.** The IP address of the PLC message server with which the InView display communicates on the EtherNet/IP network. The IP address is formatted as four sets of decimal numbers with periods between them (**10.0.0.10**). The range of values for the first set of numbers is **1** to **255**, unless all fields are **0.0.0.0**. The range of values for the last three sets of decimal numbers is **0** to **255**.
 - **TCP Port.** Specifies port used to communicate with controller. Default port for any PLC selected under **Message Server Type** option is **44818**. Port selection range is **1** to **50000**.
 - **Slot Number.** Slot position of PLC controller. Not editable.
 - **Enable Polling.** Enables/disables polling of the message server PLC by the Comms Module.

NOTE

After updating firmware, ensure that this option is correctly on or off for your own application. If you have turned this option on in the previous software version, check to ensure that your setting is still on.

- **Delay *n* ms.** Defines the delay between polls of the message

server PLC by the Comms Module. The default setting for this field is **100 ms**. The range is **10 ms** to **500 ms**.




- **Test Device Connection. Test Device Connection.** Tests connection between InView Comms Module and PLC message server and informs you whether or not the Comms Module can communicate with the message server.
- **Ping.** To ping a PLC connected to the Comms Module, enter the **Address** in the field and click the button.

3. Specify each classic or easy setup in the Tag Setup screen:

- **Message Trigger.** Specify the following:
 - *Tag Name.* View name of trigger tag. Example: **inview_mesg_trigger**. Not editable.
 - *Data Type.* View data type for tag. Example: **INT**. Not editable.
 - *Address.* The controller address that will trigger a message to the display. Lists address in **N:7:0** (PCCC tag address) format.
- **Message Data.** Specify the following:
 - *Tag Name.* View name of data tag. Example: **inview_mesg_data**. Not editable.
 - *Data Type.* View data type for tag. Example: **INT**. Not editable.
 - *Address.* The starting address of the data to be displayed. Lists address in **N:7:0** (PCCC tag address) format.
 - *Array Size.* Specifies the size of the array (from **16** to **254** bytes). MicroLogix is **16** to **78** bytes, PLC5 is **16** to **228** bytes, and SLC is **16** to **78** bytes. The array contains the variable data. The maximum array size is dependent on the controller and must be an even integer.

- **Variable Trigger.** Specify the following:
 - *Tag Name.* View name of variable trigger tag. Not editable Example: **inview_var_trigger**.
 - *Data Type.* View data type for tag. Example: **INT**. Not editable.
 - *Address.* The controller address that will trigger a message variable to the display. Not editable. Lists address in **N:7:0** (PCCC tag address) format.
- **Variable Data.** Specify the following:
 - *Tag Name.* Lists name of tag. Example: **inview_var_data**. Not editable.
 - *Data Type.* Lists data type for tag. Example: **INT**. Not editable.
 - *Address.* The starting address of the variable data to be displayed. Not editable. Lists address in **N:7:0** (PCCC tag address) format.
 - *Array Size.* Specifies the size of the array. The array contains the variable data. The maximum array size is dependent on the controller and must be an even integer.
- **Easy.** Specify the following **Preset InView Tags**. You may individually edit each tag:

Tag Setup Classic Easy

Preset InView Tags   

Name	Address	Data Type	Data Length (bytes)
iv_DisSerAddr	N7:0	INT	2
iv_PriorityMesg_Trig	N7:1	INT	2
iv_PriorityMesg_Num	N7:2	INT	2
iv_AddMesg2Q_Trig	N7:3	INT	2
iv_AddMesg2Q_Num	N7:4	INT	2
iv_DelMesgFromQ_Trig	N7:5	INT	2
iv_DelMesgFromQ_Num	N7:6	INT	2
iv_ClearMesgQ_Trig	N7:7	INT	2
iv_NumVarUpdate_Trig	N7:8	INT	2
iv_NumVarUpdate_Num	N7:9	INT	2
iv_NumVarUpdate_Val	N7:10	INT	2
iv_AlphaVarUpdate_Trig	N7:11	INT	2
iv_AlphaVarUpdate_Num	N7:12	INT	2
iv_AlphaVarUpdate_Val	N7:13	INT	16

For an explanation of the easy tags, and a summary of their function, see Easy Tags Summary (Chapter 4).

- *Modify.* To modify a tag entry, select the row of interest and click the following icon:



Specify the following starting address for the generated addresses for tags:

- ♦ **Starting Addresses.** Specify the starting address for InView Message Server tags. Addresses will be generated and incremented by one for all tags in the list.
 - ♦ **Variable Update Array Size.** Specifies size of array (must be even integer).
 - ♦ **Submit.** Submits information so software can generate addresses for preset tags.
 - ♦ **Cancel.** Cancels information submission. No addresses are generated for preset tags.
- **Reset.** Select to reset any of altered tag names, addresses or integer types to the preset versions:



Confirm that you wish to reset the tag names:

- **Download.** Select to download the tags as a .csv file format that can be imported into a Logix PLC:



- **Submit.** Click to save entered changes.
 - **Cancel.** Click to cancel any changes.
4. **Cancel.** Click to cancel any changes and restore the current settings.

Section 3.9 Configuring Modbus TCP Message Server Setup

Easy mode allows you to provide plain INT or SINT/STRING tag values for the prescribed Message Trigger update tags instead of having to form the completed InView language Function Frame string in the PLC ladder logic. The InView Communications Module converts the tags to InView Function Frame strings and sends them to the InView display. Monitoring for Message Trigger tags and Variable Update Trigger tags functions the same way as in Classic mode. In Easy Mode, the Comms Module scans the appropriate Holding Registers in the PLC. To configure the Modbus TCP setup:

1. From the InView Configuration Work Area, select the following icon:



The following screen appears:

2. View or specify the following options:
 - **PLC.** Lists message server options:
 - *Msg Server Type.* From this list, choose **Modbus TCP**. Allows you to communicate with controllers such as Schneider controllers.

Modbus TCP options are:

The screenshot shows a configuration window for a PLC. The title is 'PLC'. It contains the following fields and controls:

- Msg Server Type:** A dropdown menu set to 'ModbusTCP'.
- Device Name:** A text field containing 'inview_message_server'.
- Connection:** A text field containing 'Ethernet'.
- Protocol:** A dropdown menu set to 'EtherNet/IP'.
- Address:** A text field containing '10.10.10.10' with a red asterisk to its right.
- TCP Port:** A text field containing '44818'.
- Slave ID:** A text field containing '0'.
- Enable Polling:** A checkbox that is unchecked, followed by a 'Delay' field containing '100' and the unit 'ms'.
- Test Device Connection:** A button.
- Ping Address:** A button followed by an empty text field.

- ◆ Device Name. The default name of the PLC with which the InView display communicates. Not editable.
- ◆ Connection. Shows communications connection type (**Ethernet**). Not editable.
- ◆ Protocol. Shows communications protocol type (**TCP/IP**). Not editable.
- ◆ Address. The IP address or host name of the controller on the Ethernet network with which the InView display communicates. The IP address is formatted as four sets of decimal numbers with periods between them (**10.0.0.10**). The range of values for the first set of numbers is **1** to **255**, unless all fields are **0.0.0.0**. The range of values for the last three sets of decimal numbers is **0** to **255**.
- ◆ TCP Port. Specifies port used to communicate with controller. Default port is **502**.
- ◆ Slave ID. Specify value for the controller's **Slave ID**. This value is usually **1**.
- ◆ Enable Polling. Enables/disables polling of the message server PLC by the Comms Module.
- ◆ Delay *n* ms. Defines the delay between polls of the message server PLC by the Comms Module. The default setting for this field is **100 ms**. The range is **10 ms** to **500 ms**.

- ♦ **Test Device Connection. Test Device Connection.** Tests connection between InView Comms Module and PLC message server and informs you whether or not the Comms Module can communicate with the message server. See Testing Device Connections.
 - ♦ **Ping.** To ping a PLC connected to the Comms Module, enter the Address in the field and click the button.
- **Preset InView Tags.** Easy setup is the only option available for setting up tags using Modbus TCP. For an explanation of the easy tags, and a summary of their function, see Easy Tags Summary (Chapter 4):
 - *Generate.* To generate addresses for tags, click the following icon:



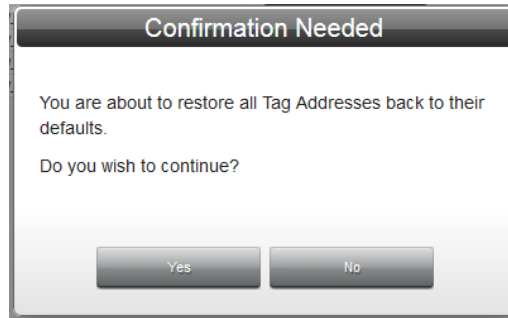
The following dialog appears:

View or specify the following options:

- ♦ **Starting Address.** Specify the starting address for InView Message Server tags. Addresses will be generated and incremented by one for all tags in the list.
 - ♦ **Variable Update Array Size.** Specifies the size of the **iv_AlphaVarUpdate_Val** array containing the variable data. The maximum array size is dependent on the controller and must be an even integer. The array range is from **16** to **100** characters.
 - ♦ **Submit.** Submits information so software can generate addresses for preset tags.
 - ♦ **Cancel.** Cancels information submission. No addresses are generated for preset tags.
- *Reset.* To reset any of altered tag names, addresses or integer types to the preset versions, select the following icon:



Confirm that you wish to reset the tag names:



- *Download*. Select to download the tags as a .csv file format:



3. **Submit**. Click to save entered changes (applies to both **PLC** and **Tag Setup** fields).
4. **Cancel**. Click to cancel any changes and restore the current settings (applies to both **PLC** and **Tag Setup** fields).

Section 3.10 Configuring TCP/IP Passthrough

TCP/Passthrough provides message server access to a PC message server application. The TCP/IP Passthrough option replaces the PENET1 hardware and software. You then use third-party software to communicate with the display via the Comms Module.

To configure TCP/IP passthrough setup:

1. From the InView Configuration Work Area, select the following icon:



The following screen appears:

2. View or specify the following options:
 - **PLC**. Lists message server options:
 - *Msg Server Type*. From this list, choose **TCP/IP Passthrough**. Options are:

- ◆ **TCP/IP Passthrough. Does not use a PLC.** Specifies that the Comms module is to function as a passthrough module. The TCP/IP Passthrough option replaces 2706-PENET1 TCP/IP hardware functionality and allows you to use a PC message server application instead of a PLC message server to drive the InView display.

The screenshot displays two adjacent configuration windows. The left window, titled 'PLC', contains the following settings: 'Msg Server Type' is set to 'TCP/IP Passthrough' (dropdown), 'Connection' is 'Ethernet' (text field), 'Protocol' is 'TCP/IP' (dropdown), and 'TCP Port' is '3001' (text field). The right window, titled 'Tag Setup', contains the text: 'There is no need to configure tags for Passthrough.'

- ◆ View or specify the following options:
 - **Connection.** Lists Ethernet connection used for TCP/IP Passthrough. Example: **Ethernet**. Not editable.
 - **Protocol.** Lists TCP/IP protocol used with Passthrough. Example: **TCP/IP**. Not editable.
 - **TCP Port.** When the **TCP/IP Passthrough** option is selected, specifies which port the host PC message server application uses to communicate with the InView Comms module. (Port **3001**, by default.)

3. **Submit.** Click to save entered changes.

Section 3.11 Testing Device Connections

You may test connections between a PLC and an InView Comms Module. To test the connection, after setting up your PLC Message Server, click the **Test Device Connection** button.

To test connections:

1. From the InView Configuration Work Area, select the following icon:



The PLC/Tag Setup screen appears:

PLC Tag Setup Classic Easy

Msg Server Type: ControlLogix

Device Name: Inview_message_server

Connection: Ethernet

Protocol: EtherNet/IP

Address: 10.10.10.10

TCP Port: 44818

Slot Number: 0

Enable Polling: Delay: 100 ms

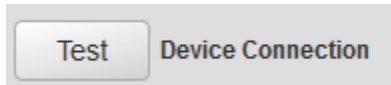
Device Connection

Address: _____

Submit

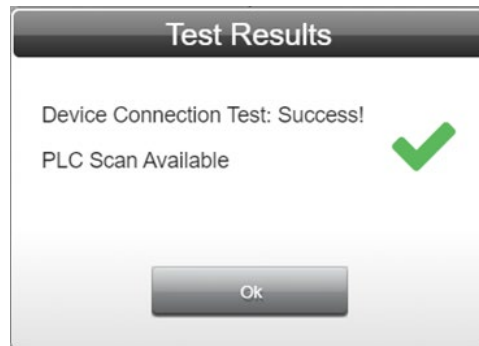
Name	Address	Data Type	Data Length (bytes)
iv_DiscoSerAddr		SINT	1
iv_PriorityMsg_Trig		SINT	1
iv_PriorityMsg_Num		INT	2
iv_AdvMsgIQ_Trig		SINT	1
iv_AdvMsgIQ_Num		INT	2
iv_DeIvMsgFromQ_Trig		SINT	1
iv_DeIvMsgFromQ_Num		INT	2
iv_ClearMsgQ_Trig		SINT	1
iv_NumVarUpdate_Trig		SINT	1
iv_NumVarUpdate_Num		SINT	1
iv_NumVarUpdate_Val		INT	2
iv_AlphaVarUpdate_Trig		SINT	1
iv_AlphaVarUpdate_Num		SINT	1
iv_AlphaVarUpdate_Val		STRING	82

2. Click the Test Device Connection icon:



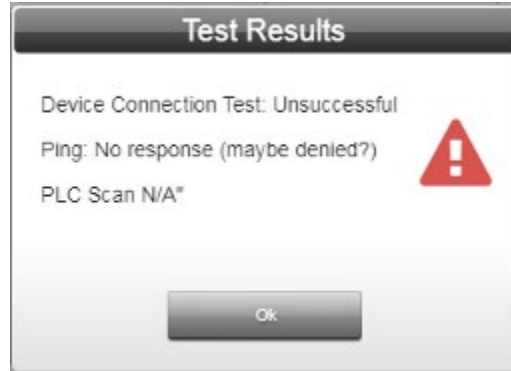
The software tests the connection. The dialog that appears shows the connected device tested, the time it took for three pings of the connected device to return, and whether or not the communications protocol is actually working properly between the two devices:

- If successful, the following dialog appears:



- If unsuccessful, the following dialog appears.

The dialog contains an error message that lets you know the type of problem encountered:



Section 3.12 Pinging a PLC

You may ping any connected PLC's IP address from an InView Comms Module. To test the connection, after setting up your PLC Message Server, click the **Ping** button:

To test connections:

1. From the InView Configuration Work Area, select the following icon:

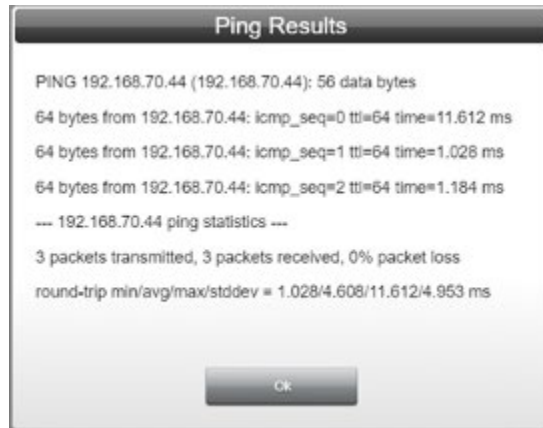


The PLC/Tag Setup screen appears:

2. Enter the IP address of the PLC and click the **Ping** button:

The software tests the connection. The dialog that appears shows the connected device tested, the time it took for three pings of the connected device to return, and whether or not the communications protocol is actually working properly between the two devices.


- If successful, the following dialog appears:



- If unsuccessful, the following dialog appears:



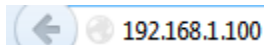
3.12.1 Configuring Eth1 Settings for the InView Comms Module

<p>NOTE</p> 	<p>Keep the following in mind:</p> <ul style="list-style-type: none"> • If you configure the InView Comms Module's Eth1 port as a DHCP client, the Eth1 IP address is allocated by the DHCP server on the network to which you connect the InView Comms Module. You do not need to change the address. • If you leave the Eth1 port with its default Static IP address, you have the option of specifying a new IP address, subnet mask, gateway, and one or two DNS addresses for your network.
--	--

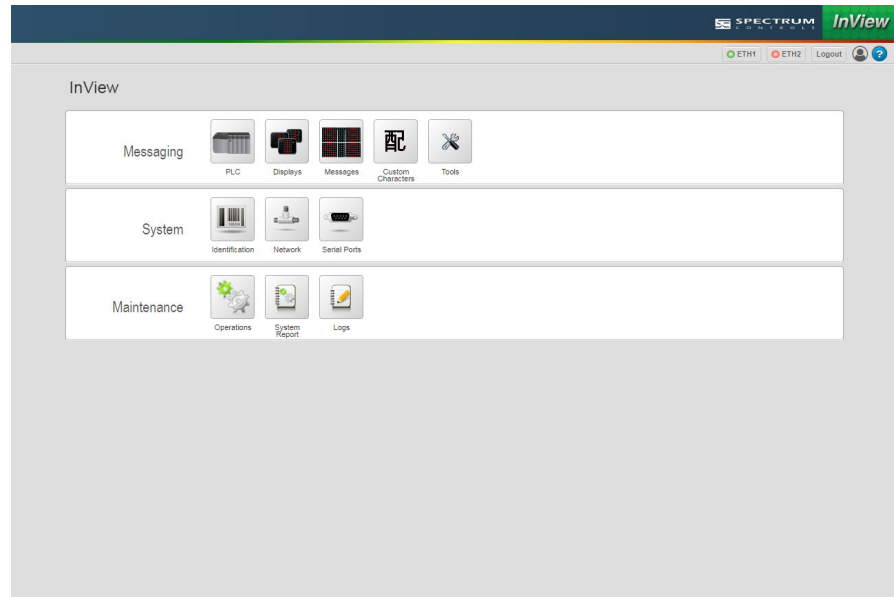
The InView Comms Module Eth1 port is a single Ethernet port that provides an interface between a network and the InView Comms Module. Each InView Comms Module Ethernet port is assigned a unique Spectrum Controls MAC address. This address is listed on the label on your InView Comms Module. During setup, you can configure the Eth1 as a DHCP client or with a static IP address. The Eth1 port communicates at 10/100 Mbytes per second over an Ethernet connection.

To configure Eth1 settings for the InView Comms Module:

1. Upon startup, type the address into a web browser address field:



The InView Configuration Work Area screen appears.



- From the InView Configuration Work Area, select the following icon:



The Network Setup screen appears:

- View or specify the following Eth1 Settings options:
 - Connection type.** Identifies whether to use static or dynamic address configuration for the Eth1 network:
 - Static IP.* Select this option if you want the IP address

for the InView Comms Module to be static. This means that the IP address is entered manually and does not change:

Eth1

Static IP DHCP Client

IP: 192.168.1.100 *

Subnet Mask: 255.255.255.0 *

Gateway: 192.168.1.1

DNS1: 8.8.8.8

DNS2:

-
- *DHCP Client*. If you have a DHCP Server installed and configured on the network, select this option to allow the InView Comms Module to get an Eth1 IP address from the designated DHCP server for a designated lease period when the InView Comms Module starts up. The DHCP client IP address can change each time the lease period expires although it usually does not.
- **IP**. Select a valid Static IP address in the Network. Enter InView Comms Module Eth1 IP Address. This option is enabled only if you select **Static IP** addressing. Example: **192.168.1.100**.
- **Subnet Mask**. Enter subnet mask address. This value is typically **255.255.255.0**. This option is enabled only if you select **Static IP** addressing.
- **Gateway**. Enter Gateway address (optional). Example: **192.168.1.1**. This option is enabled only if you select **Static IP** addressing.
- **Submit**. Saves data on InView Comms Module and exits.
- **Cancel**. Does not save data from InView Comms Module.

Section 3.13 Identifying the InView Comms Module

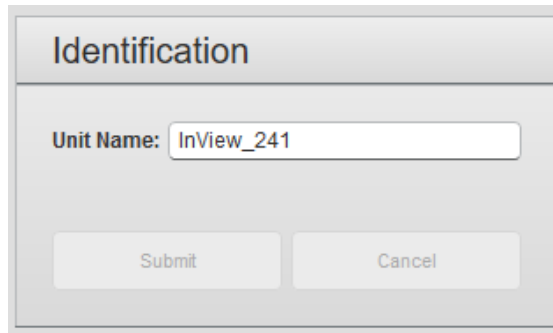
This information provides a human-readable name that identifies the Comms Module.

To access the option:

1. Click the following icon:



The Identification screen appears:

A screenshot of a software dialog box titled 'Identification'. The dialog has a light gray header with the title 'Identification' in bold. Below the header is a text input field labeled 'Unit Name:' containing the text 'InView_241'. At the bottom of the dialog are two buttons: 'Submit' on the left and 'Cancel' on the right.

2. Enter the unit name. This is a text name that uniquely identifies your Comms Module. No spaces are allowed. 100 characters maximum. Default characters restrictions apply, plus the forward slash character. Allowable characters are a to z, A to Z, 0 to 9, dash, underscore, and comma. Example: **InView_241**. The name is displayed as the tab name in the browser window.
 - **Submit.** Saves changes.
 - **Cancel.** Resets any modified information on the screen.

Section 3.14 Configuring Network Settings for the InView Comms Module

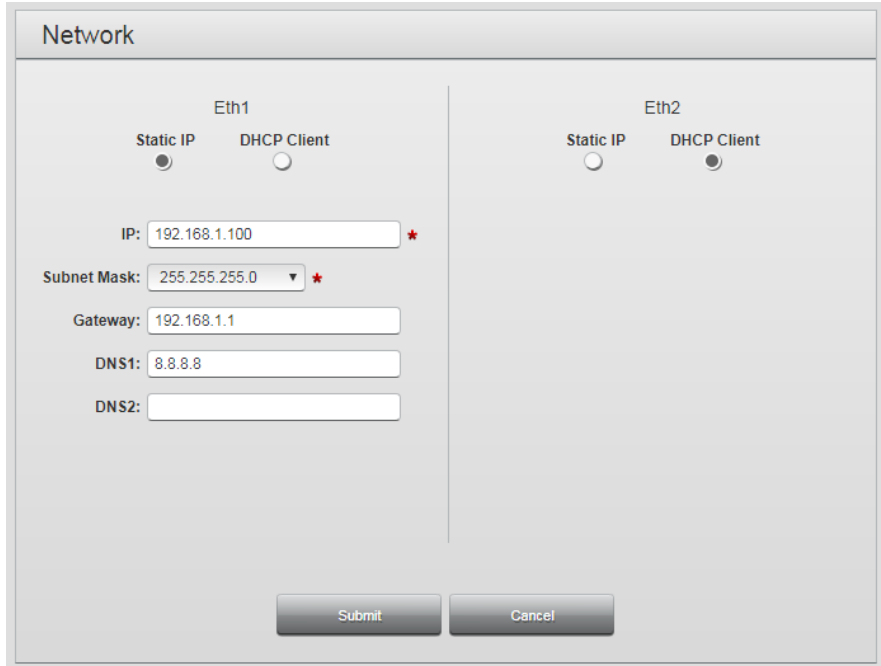
You use the InView Comms Module Network Settings options to configure InView Comms Module web server, network, and Ethernet settings.

To configure network settings:

1. From the InView Configuration Work Area, select the following icon:



2. The Network Setup screen appears:



Network

Eth1

Static IP DHCP Client

IP: 192.168.1.100 *

Subnet Mask: 255.255.255.0 *

Gateway: 192.168.1.1

DNS1: 8.8.8.8

DNS2:


Eth2


Static IP DHCP Client

Submit Cancel

3. View or specify the options listed in the following sections.
 - Configuring Eth1 Settings for the InView Comms Module.
 - Configuring Eth2 Settings for the InView Comms Module.

3.14.1 Configuring Eth1 Settings for the InView Comms Module

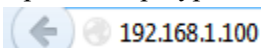
<p>NOTE</p> 	<p>About the ETH1 port:</p> <ul style="list-style-type: none"> • The ETH1 port defaults to a static IP address. • The ETH1 port's main purpose is for a network connection to allow the module access to the PLC. • Change the IP address and Gateway of the ETH1 port to the same subnet as the comms adapter of the PLC on the comms module Network Setup screen.
--	--

<p>NOTE</p> 	<p>Keep the following in mind:</p> <ul style="list-style-type: none"> • If you configure the InView Comms Module's Eth1 port as a DHCP client, the Eth1 IP address is allocated by the DHCP server on the network to which you connect the InView Comms Module. You do not need to change the address. • If you leave the Eth1 port with its default Static IP address, you have the option of specifying a new IP address, subnet mask, gateway, and one or two DNS addresses for your network.
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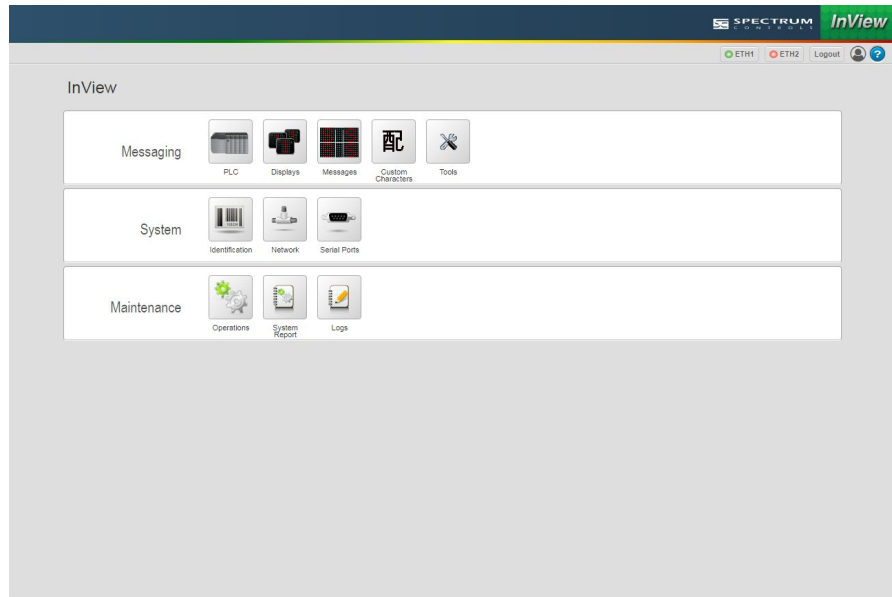
The InView Comms Module Eth1 port is a single Ethernet port that provides an interface between a network and the InView Comms Module. Each InView Comms Module Ethernet port is assigned a unique Spectrum Controls MAC address. This address is listed on the label on your InView Comms Module. During setup, you can configure the Eth1 as a DHCP client or with a static IP address. The Eth1 port communicates at 10/100 Mbytes per second over an Ethernet connection.

To configure Eth1 settings for the InView Comms Module:

4. Upon startup, type the address into a web browser address field:



The InView Configuration Work Area screen appears.



5. From the InView Configuration Work Area, select the following icon:



The Network Setup screen appears:

6. View or specify the following Eth1 Settings options:
- **Connection type.** Identifies whether to use static or dynamic address configuration for the Eth1 network:
 - *Static IP.* Select this option if you want the IP address

for the InView Comms Module to be static. This means that the IP address is entered manually and does not change:

The screenshot shows the configuration window for 'Eth1'. At the top, there are two radio buttons: 'Static IP' (which is selected) and 'DHCP Client'. Below these are several input fields:


- IP:** 192.168.1.100
- Subnet Mask:** 255.255.255.0
- Gateway:** 192.168.1.1
- DNS1:** 8.8.8.8
- DNS2:** (empty)

 Red asterisks are visible next to the IP and Subnet Mask fields.

- *DHCP Client.* If you have a DHCP Server installed and configured on the network, select this option to allow the InView Comms Module to get an Eth1 IP address from the designated DHCP server for a designated lease period when the InView Comms Module starts up. The DHCP client IP address can change each time the lease period expires although it usually does not.
- **IP.** Select a valid Static IP address in the Network. Enter InView Comms Module Eth1 IP Address. This option is enabled only if you select **Static IP** addressing. Example: **192.168.1.100**.
- **Subnet Mask.** Enter subnet mask address. This value is typically **255.255.255.0**. This option is enabled only if you select **Static IP** addressing.
- **Gateway.** Enter Gateway address (optional). Example: **192.168.1.1**. This option is enabled only if you select **Static IP** addressing.
- **Submit.** Saves data on InView Comms Module and exits.
- **Cancel.** Does not save data from InView Comms Module.

3.14.2 Configuring Eth2 Settings for the InView Comms Module

The InView Comms Module Eth2 port provides a local network interface between a personal computer and the InView configuration software on the InView Comms Module.

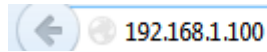
<p>NOTE</p> 	<p>About the Eth2 port:</p> <ul style="list-style-type: none"> • The Eth2 port defaults to a DHCP client, ready for a server to configure its address on the network. • The Eth2 port's main purpose is for a network connection to the plant network for the purpose of allowing the Automation Engineer access without requiring access to the PLC network. • It is required that Eth2 be on a separate subnet from Eth1.
--	--

NOTE

Because Eth2 defaults to DHCP, you have to log into the unit via Eth1 and then configure Eth2 for Static or provide the Eth2 and IP address via DHCP and then use that IP address to log in.

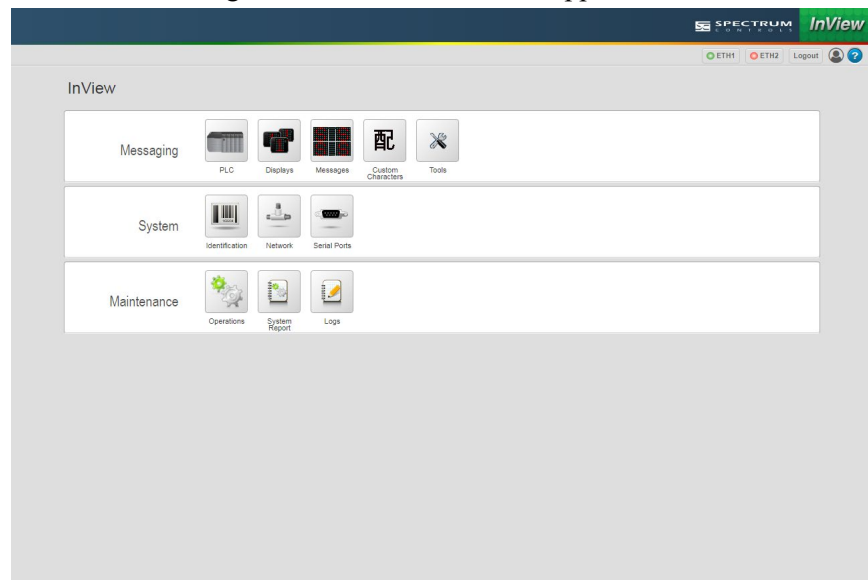
To configure Eth2 settings for the InView Comms Module:

1. Upon startup, type the InView Comms Module IP address into a web browser address field:



2. Login to the Interface. See Logging Onto the InView Comms Module User Interface:

The InView Configuration Work Area screen appears.



3. From the InView Configuration Work Area, select the following icon:



The Network Setup screen appears:

The screenshot shows a 'Network' configuration window. It is divided into two columns for 'Eth1' and 'Eth2'. For Eth1, the 'Static IP' radio button is selected, and the 'DHCP Client' is unselected. The IP address is 192.168.1.100, Subnet Mask is 255.255.255.0, Gateway is 192.168.1.1, and DNS1 is 8.8.8.8. For Eth2, the 'Static IP' radio button is unselected, and the 'DHCP Client' radio button is selected. At the bottom are 'Submit' and 'Cancel' buttons.

4. View or specify the following Eth2 Settings options:

- **Connection type.** Identifies whether to use static or dynamic address configuration for the Eth2 network:
 - **Static IP.** Select this option if you want the local IP address for the InView Comms Module to be static. This means that the IP address is entered manually and does not change.

This close-up shows the 'Eth2' configuration. The 'Static IP' radio button is selected, and the 'DHCP Client' is unselected. The IP address field contains '192.168.17.125' and the Subnet Mask dropdown is set to '255.255.255.0'. Both fields have a red asterisk indicating they are required.

- **DHCP Client.** If you have a DHCP Server installed and configured on the network, select this option to allow the InView Comms Module to get an Eth2 IP address from the designated DHCP server for a designated lease period when the InView Comms Module starts up. The DHCP client IP address can change each time the lease period expires although it usually does not.
- **IP.** Select a valid Static IP address in the Network. Enter InView Comms Module Eth2 IP Address. This option is enabled only if you select **Static IP** addressing. Must be on a separate subnet from ETH1, Example: **192.168.17.125**.
- **Subnet Mask.** Enter subnet mask address. This value is typically **255.255.255.0**. This option is enabled only if you select Static IP addressing.

- **Submit.** Saves data on InView Comms Module and exits.
- **Cancel.** Does not save data from InView Comms Module.

Section 3.15 Managing Displays

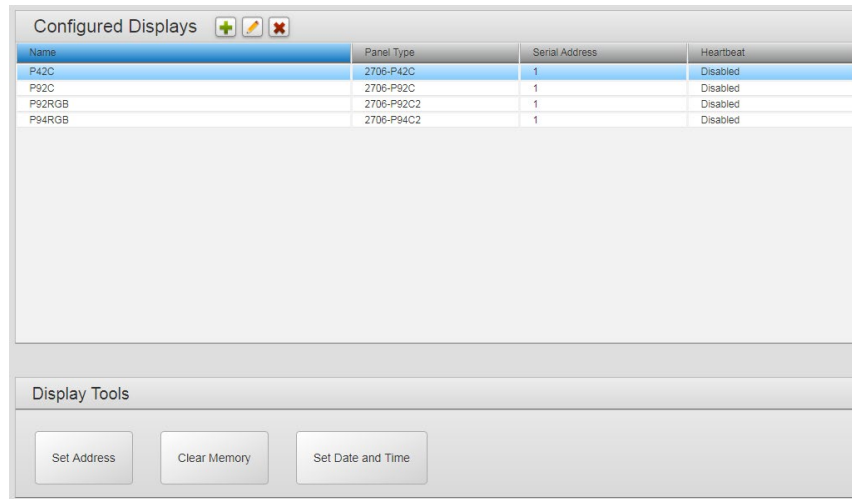
You may add, modify, or delete display profiles. A profile is a record of display information for use by the Comms Module user interface and is distinct from the actual physical display.

To add, modify, or delete display profiles:

1. From the InView Configuration Work Area, select the following icon:

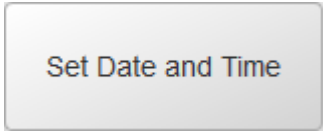


The Configured Displays screen appears:



2. View or specify the following options:

Icon	Function	Access
	Add a display:	Adding Displays
	Modify a display:	Modifying Displays
	Delete a display from the InView Comms Module:	Deleting Displays
	Set a display serial address:	Setting a Display Address
	Clear display memory:	Clearing Display Memory

Icon	Function	Access
	Set date and time:	Setting Date and Time

Section 3.16 Adding Displays

You may add any current InView display model to the InView Comms Module software.

To add a display:

1. From the InView Configuration Work Area, select the following icon:



The Configured Displays screen appears:

Configured Displays + ✎ ✕

Name	Panel Type	Serial Address	Heartbeat
P42C	2706-P42C	1	Disabled
P92C	2706-P92C	1	Disabled
P92RGB	2706-P92C2	1	Disabled
P94RGB	2706-P94C2	1	Disabled

Display Tools

Set Address

Clear Memory

Set Date and Time

2. In the Configured Displays section, click the following icon:



The Display Properties dialog appears:

5. View or specify the following Display options:
 - **Name.** Enter the display name. Example: **West Wing Messages**
 - **Panel Type.** Defines the type of display panel you are adding. This affects the type of message you can create. For all displays, number of lines and number of characters is entirely dependent on the choice of font. Select the panel type from the dropdown list:
 - *2706-22R.* InView Message Display with 2 lines, 20 characters, Red LEDs. When panel-mounted, NEMA Type 4.
 - *2706-42C.* InView Message Display with 1 or 2 lines, 12 or 20 characters, 4.8, or 2.1 in. high, tri-color LEDs, NEMA Type 12.
 - *2706-42R.* InView Message Display with 1 or 2 lines, 12 or 20 characters, 4.8, or 2.1 in. high, red LEDs, NEMA Type 12.
 - *2706-42C2.* InView Message Display with 1 or 2 lines, 12 or 20 characters, 4.8, or 2.1 in. high, ten-color LEDs, NEMA Type 12.
 - *2706-44C.* InView Message Display with 1 or 2 lines, 24 or 40 characters, 4.8, or 2.1 in. high, tri-color LEDs, NEMA Type 12.
 - *2706-44R.* InView Message Display with 1 or 2 lines, 24 or 40 characters, 4.8, or 2.1 in. high, red LEDs, NEMA Type 12.
 - *2706-44C2.* InView Message Display with 1 or 2 lines, 24 or 40 characters, 4.8, or 2.1 in. high, ten-color LEDs, NEMA Type 12.
 - *2706-72C.* InView Message Display with 1 or 2 lines, 12 or 20 characters, 7.2, 3.0, 2.1, or 1.5 in. high, tri-color LEDs, NEMA Type 4.
 - *2706-74C.* InView Message Display with 1 or 2 lines, 12

or 20 characters, 7.2, 3.0, 2.1, or 1.5 in. high, tri-color LEDs, NEMA Type 4X.

- 2706-92C. InView Message Display with 1 or 2 lines, 13 or 24 characters, 9.6, 4.5, 3.0, 2.1, or 1.5 in. high, tri-color LEDs, NEMA Type 12, 13.
- 2706-94C. InView Message Display with 1 or 2 lines, 26 or 48 characters, 9.6, 4.5, 3.0, 2.1, or 1.5 in. high, tri-color LEDs, NEMA Type 12, 13
- 2706-92C2 (2706-92C2X). InView Message Display, with up to five lines, 9.9, 4.75, 3.0, 2.25, or 1.75 in. high, ten-color LEDs, NEMA Type 4, 4X
- 2706-94C2 (2706-94C2X). InView Message Display, with up to five lines, 9.9, 4.75, 3.0, 2.25, or 1.75 in. high, ten-color LEDs, NEMA Type 4, 4X.

Serial Address. Specifies the address of the display to which a message is downloaded. Before downloading messages to the InView Message Display you must set the address of the target display. The serial address of the InView display is a number from **1** to **254**. The default address is **1**.

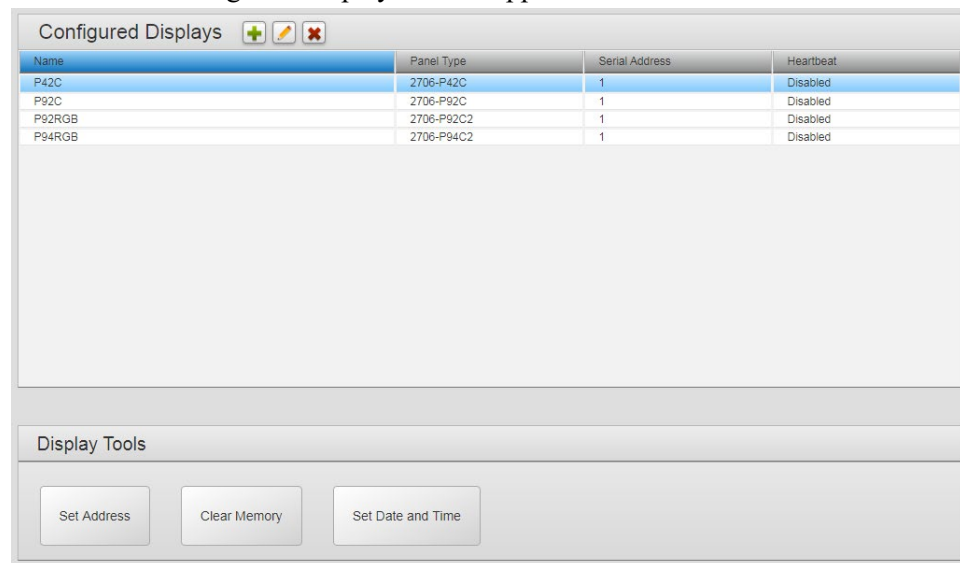
- **Heartbeat.** This is not an active feature and must be left disabled.
- **Submit.** Saves changes on InView Comms Module and exits.
- **Cancel.** Exits without saving changes on InView Comms Module.

Section 3.17 Modifying Displays

To modify display information:

1. Access the Configured Displays screen:
See Managing Displays

The Configured Displays screen appears:



2. Select a listing and click the following icon:



The Display Properties dialog appears. Change information in the listed fields:

See Adding Displays

3. When finished making changes, click either of the following to exit:
 - **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.

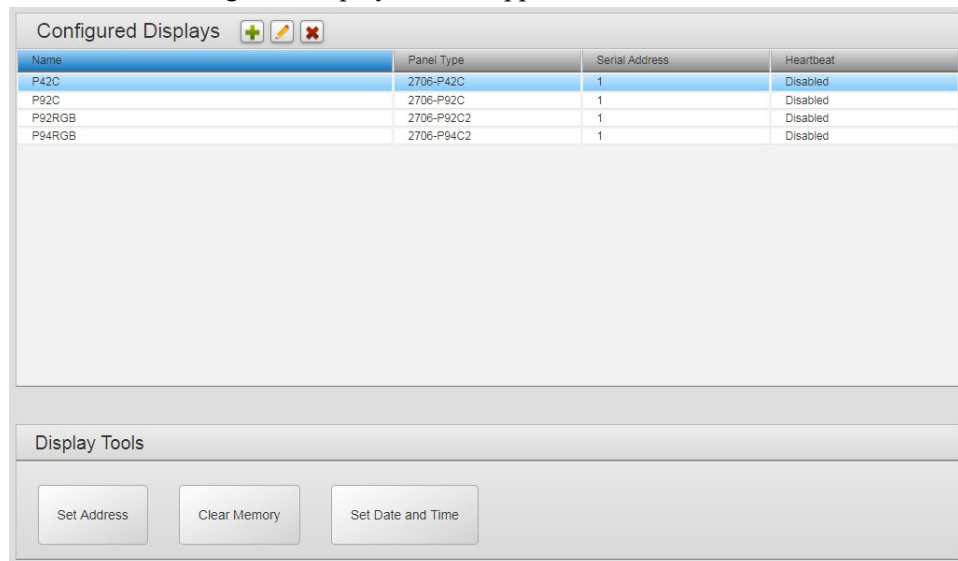
Section 3.18 Deleting Displays

To delete a display:

1. Access the Configured Displays screen:

See Managing Displays

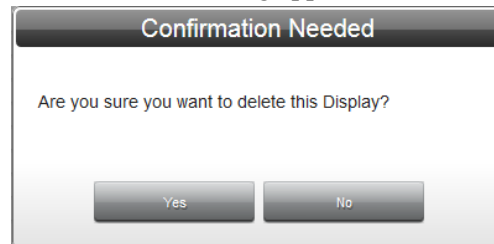
The Configured Displays screen appears:



2. Select a display from the list.
3. Click the Delete icon:



A confirmation dialog appears:



4. Confirm the deletion:
 - **Yes.** Deletes the selected display from the InView Comms

Module and exits.

- **No.** Exits without deleting the selected display from the InView Comms Module.

Section 3.19 Setting a Display Address

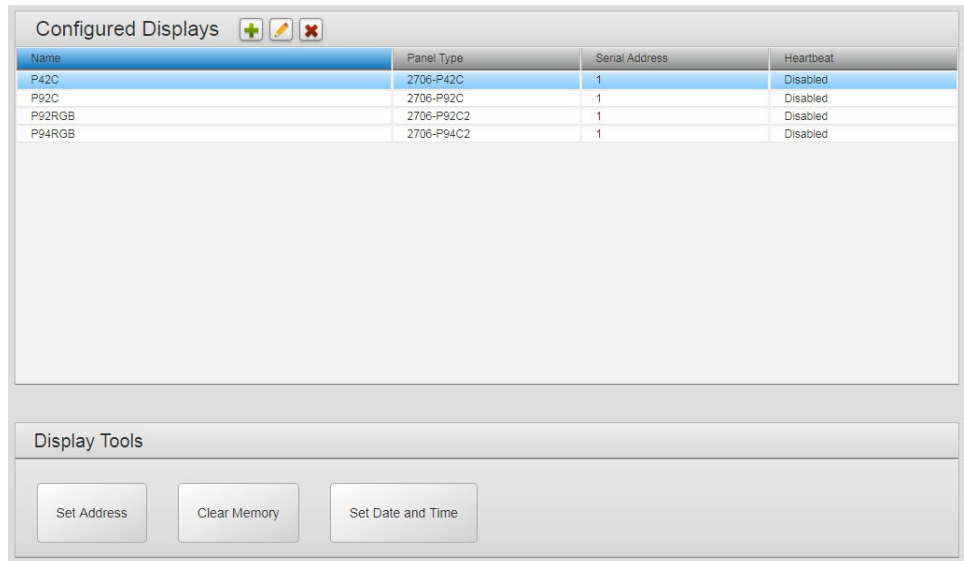
Before downloading messages to the InView Message Display you must set the address of the target display. All InView displays leave the factory with a default address of 1. You must know what the current display address is before setting a new address. If you are not sure of the current address, cycle power to the InView display to check the address.

To set a display address:

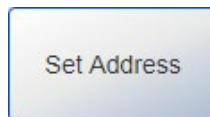
1. Access the Configured Displays screen:

See Managing Displays

The Configured Displays screen appears:



2. Select the Set Address icon:



3. The Set Address dialog appears. Change information in the listed fields.



- **Old Display Address.** Lists the current display address (1 to 254). If you do not know what this address is, power cycle the

InView display and observe the Display Serial Address as shown on the display power-up message.

- **New Display Address.** Specify the new display address. (1 to 254).
4. When finished making changes, click either of the following to exit:
- **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.

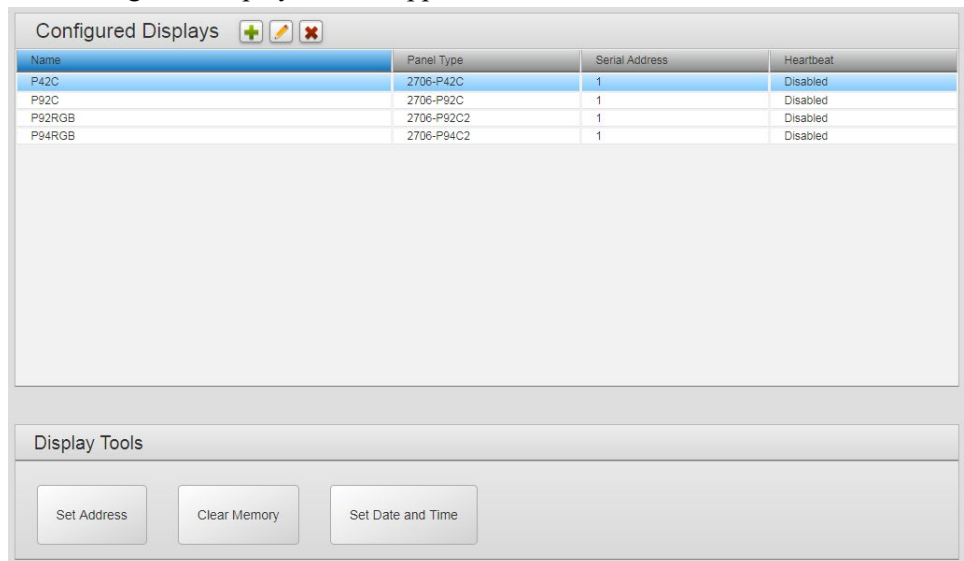
Section 3.20 Clearing Display Memory

Clears all messages from the display's memory and resets the display. When memory is cleared, the background message becomes **NO BACKGROUND MESSAGE**.

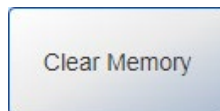
To clear display memory:

1. Access the Configured Displays screen:
See Managing Displays

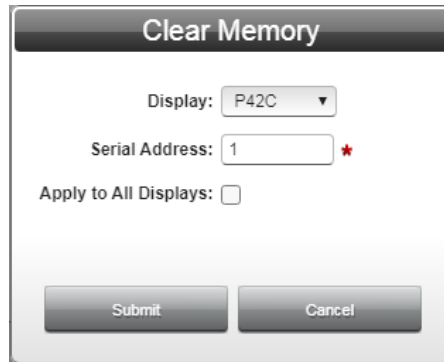
The Configured Displays screen appears:



2. Select the Clear Memory icon:



- The Clear Memory dialog appears. Enter information in the listed fields.



The Clear Memory dialog box has a title bar with the text "Clear Memory". Below the title bar, there are three input fields: "Display:" with a dropdown menu showing "P42C", "Serial Address:" with a text box containing "1" and a red asterisk to its right, and "Apply to All Displays:" with an unchecked checkbox. At the bottom of the dialog are two buttons: "Submit" and "Cancel".

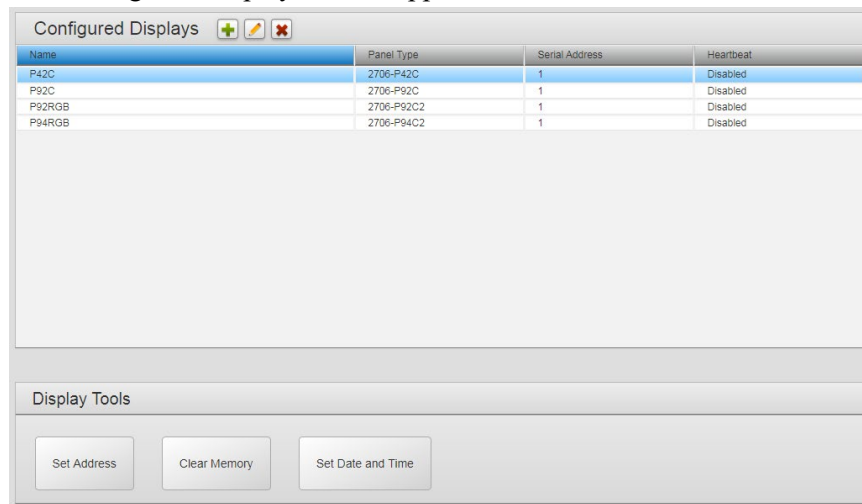
- **Display.** Specifies the display for which you wish to clear memory. Select from the dropdown list.
 - **Serial Address.** Lists the current serial display address (1 to 254). If you do not know what this address is, power cycle the InView display and write down the address you see displayed on startup.
 - **Apply to All Displays.** Specifies whether to apply the clear memory to all displays accessible from the InView Comms module. If checked, the **Serial Address** is set to 255, and **Serial Address** and **Display** are disabled.
- When finished making changes, click either of the following to exit:
 - **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.

Section 3.21 Setting Date and Time

To configure InView display time and date settings:

- Access the Configured Displays screen:
See Managing Displays

The Configured Displays screen appears:

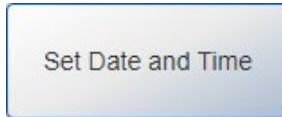


The Configured Displays screen shows a table with the following data:

Name	Panel Type	Serial Address	Heartbeat
P42C	2706-P42C	1	Disabled
P92C	2706-P92C	1	Disabled
P92RGB	2706-P92C2	1	Disabled
P94RGB	2706-P94C2	1	Disabled

Below the table is a "Display Tools" section with three buttons: "Set Address", "Clear Memory", and "Set Date and Time".

2. Select the Set Date and Time icon:



3. The Set Date and Time dialog appears. Enter information in the listed fields.

- **Date.** *MM/DD/YYYY*. Enter the date or select the date you wish to use from the popup calendar:

- **Time:** *HH:MM AM/PM*. Enter the time you wish to use in hours and minutes.
- **Time Format.** Specifies whether to use standard (12-hour) or military (24-hour) time. Time Format for legacy displays is 12-hour or 24-hour. For P4xC2 and P9xC2 displays, there are three, time selections; 12-hour/24-hour/Military.
- **Display.** Specifies the display for which you wish to set date and time. If needed, select from the dropdown list.
- **Serial Address.** Lists the current serial display address (1 to 254). If you do not know what this address is, power cycle the

InView display and write down the address you see displayed on startup.

- **Apply to All Displays.** Specifies whether to apply the set date and time to all displays accessible from the InView Comms module.
4. When finished making changes, click either of the following to exit:
- **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.

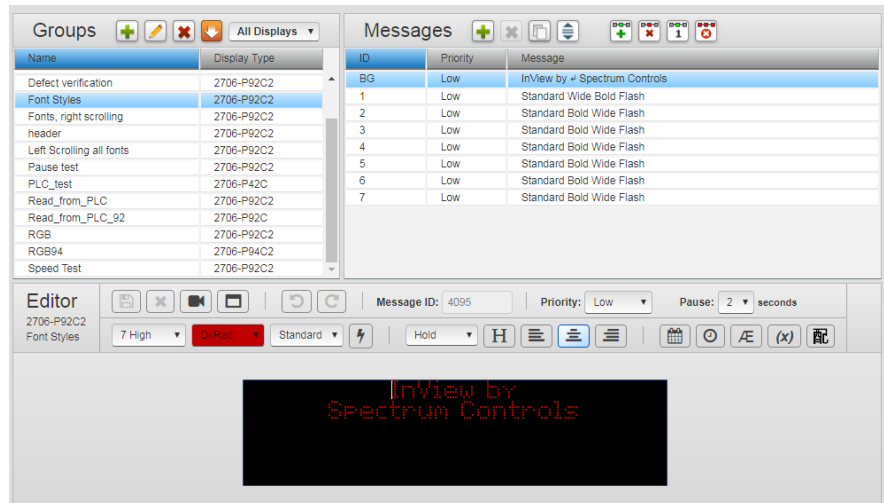
Section 3.22 Configuring Message Groups

To configure message groups:

1. From the InView Configuration Work Area, select the following icon:



The following screen appears:



2. View or specify the following Groups options:

Icon	Function	Access
	Add a message group:	Adding Message Groups
	Modify a message group:	Modifying Message Groups
	Delete a message group:	Deleting Message Groups
	Download message group to display:	Downloading a Message Group

Section 3.23 Adding Message Groups

You must assign a display type group to each message you create. Groups are useful if you wish to organize messages by display types. For example, you

The Message Group Properties dialog appears:



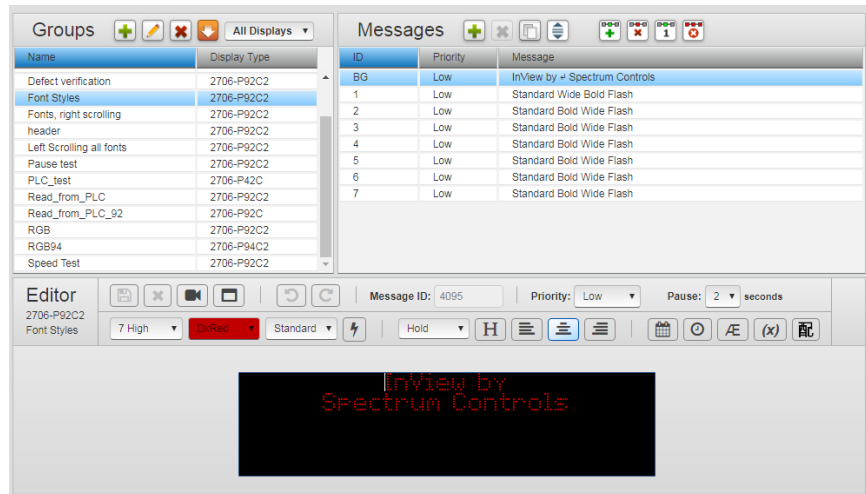
3. Change information in the listed fields.
See Adding Message Groups
4. If you also wish to convert the message you are modifying to run on a P9C2 or a P94C2, click the **Copy & Convert to 2706-P9x2** button. You may do the same to convert a P4xC file to a P4xC2 file. The file is converted to the selected message format. The converted file appears using the same file name as the selected file, with **Copy** added to the file name. You will need to select the display type to view the converted file.
5. When finishing making changes, click either of the following to exit:
 - **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on the InView Comms Module.

Section 3.25 Deleting Message Groups

To delete a message group:

1. Access the Message Groups screen:
See Adding Message Groups

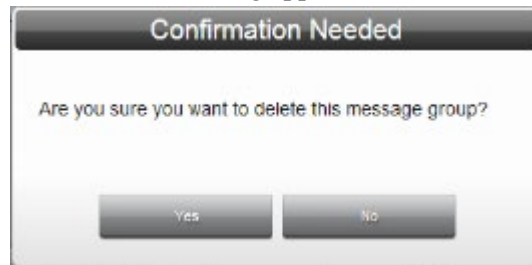
The Message Groups screen appears:



2. Select a message group from the list.
3. Click the Delete icon:



A confirmation dialog appears:



NOTE



Deleting a message group also removes any associated messages that are associated with the group.

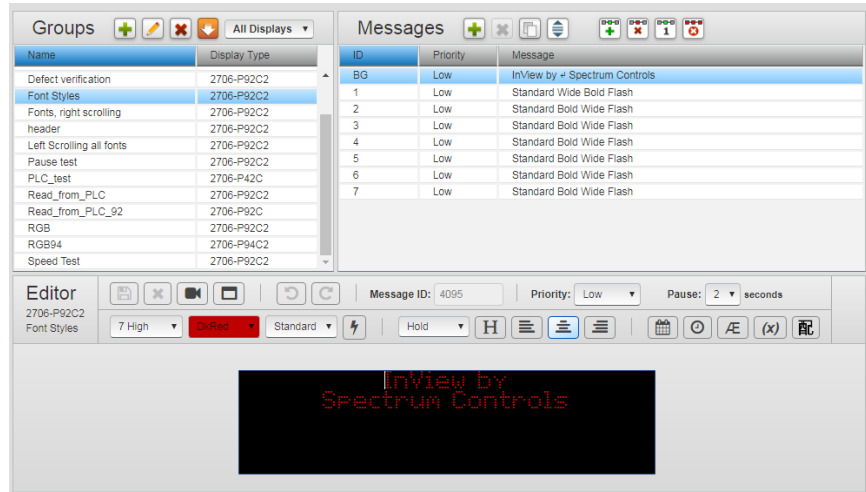
- **Yes.** Deletes the selected message group from the InView Comms Module and exits.
- **No.** Exits without deleting the selected message group from the InView Comms Module.

Section 3.26 Downloading a Message Group

To download a message group to an InView display:

1. Access the Message Groups screen:
See Adding Message Groups

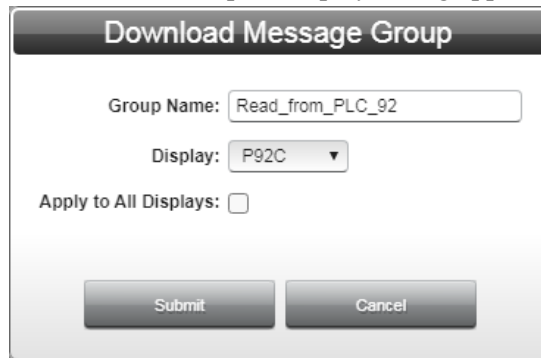
The Message Groups screen appears:



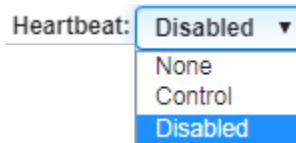
2. Select a message group from the Message Groups list.
3. Click the Download icon:



A Download Group to Display dialog appears:



4. View or specify the following options:
 - **Group.** Shows group selected for download. Not editable.
 - **Display.** Select the target display from the dropdown list.
 - **Apply to All Displays.** Specify whether to apply the instruction to all displays accessible from the InView Comms module. If selected, the Heartbeat option appears.
 - **Heartbeat.** The display requires serial activity approximately every three seconds. In the absence of such activity, the display will show a **No Network Activity** message.

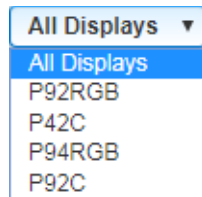


- Options are:
 - *Disabled.* When the heartbeat property is set to **Disabled**, disables the need for constant serial activity in the display.

- *None*. When the heartbeat property is set to **None**, the activity is assumed to come from sources such as variable updates.
 - *Control*. When the heartbeat property is set to **Control**, the control generates a serial heartbeat command that prevents the display from showing the **No Network Activity** message.
5. Download the message group:
 - **Submit**. Downloads the selected group to the specified display.
 - **Cancel**. Cancel downloading the selected group the specified display.

Section 3.27 Filtering Displays

You may filter which display groups are visible in Groups. This option is disabled when there are unsaved changes in the Messages Editor. To filter the groups, select an option from the following dropdown menu on the Groups tab:



Options are:

- **All Displays**. All groups appear in the Groups lists.
- **Display_group**. Selecting any other option limits the display to the selected group.

Section 3.28 Configuring Messages

You add messages to groups using the Messages Editor. The Editor contains a control panel and an edit window. The default message that is always the first in the list is the “Background Message” not the “Header”. Each message has a Header.

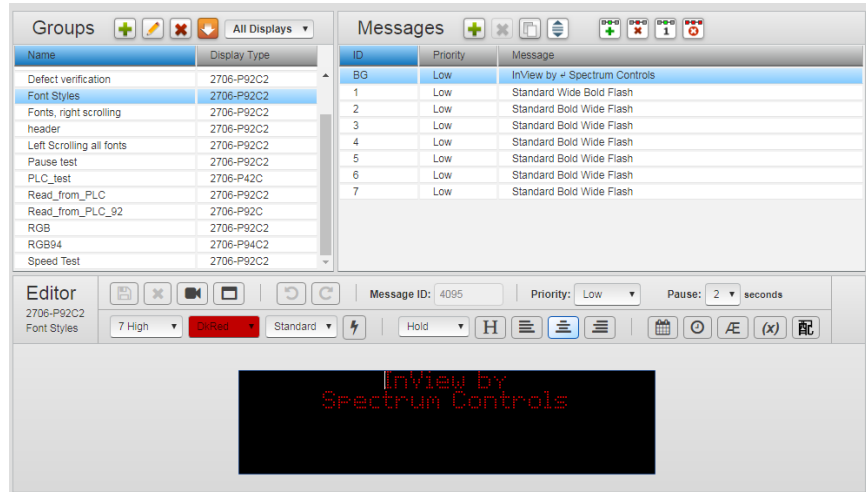
However, the editor has two modes of operation, **Edit**, and **Preview**. The messages you create in the edit window are What You See Is What You Get (WYSIWYG). Once you have entered one or more messages, you can see how your messages may appear on your display by switching from **Edit** mode to **Preview** mode to check actual operation (rotation, blinking, pause, and so on).

To add, modify, or delete messages:









1. From the InView Configuration Work Area, select the following icon:









The Messages screen appears:



2. View or specify the following options:

Icon	Function	Access
	Add a message to a group:	Adding Messages
	Copy message(s):	Copying Messages
	Delete a message from a group:	Deleting Messages
	Reorder messages in a group:	Reordering Messages
	Add a message to the message queue:	Adding Message to the Queue
	Delete a message from the message queue:	Deleting a Message from the Queue
	Trigger a priority message (operates on the message queue):	Triggering a Priority Message
	Clear message queue:	Clearing Message Queue

Section 3.29 Adding Messages

<p>NOTE</p> 	<p>The P22R display allows you to have two messages displaying on the P22R at the same time. One message is set to Line 1. The second message is set to Line 2. You may also have an All Lines setting where one message displays on one or both lines.</p>
<p>NOTE</p> 	<p>If you select a message that has missing bitmaps, the software informs you that is the case. However, the software opens the file and adds a question mark bitmap when previewing the message:</p> 
<p>NOTE</p> 	<p>In Rotate mode, all Justification buttons are disabled.</p>
<p>NOTE</p> 	<p>If your message is longer than the display, a set of Pagination controls is displayed. This allows you to move through each page, or to the end, or beginning of the display ‘pages’ so you may see what will appear as a single page and move through a longer message.</p>  <p>Message pages are also now separated by arrows in the message rows. A carriage return is represented by an arrow symbol. You cannot edit a message in Preview mode.</p>

Adds a message to a display.

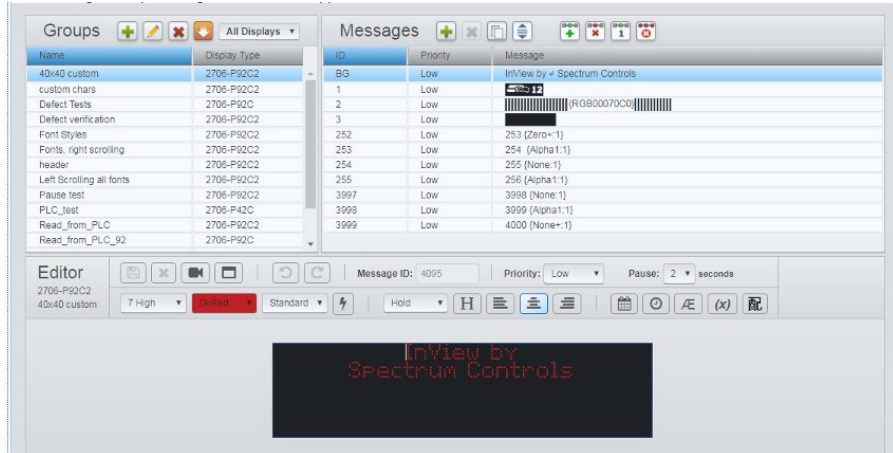
To add a message:

1. From the InView Configuration Work Area, select the following icon:



The Message Group/Message Editor screen appears:

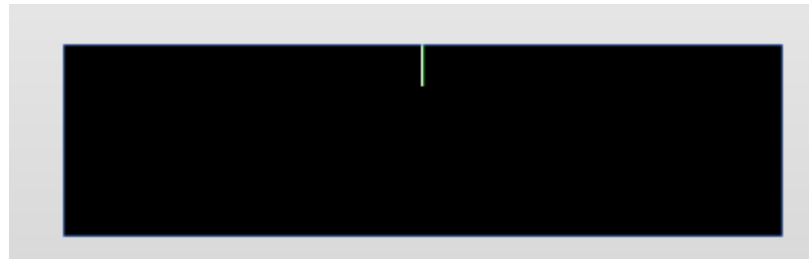
n



- In the Messages section, click the following icon:



When you click on the Add Message icon, the software creates a blank message, switches focus to the Editor dialog field, and displays an I-cursor:

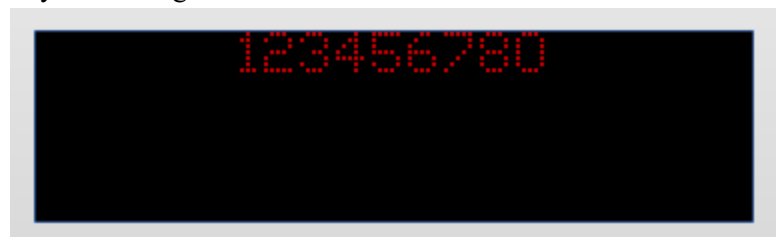


NOTE



When you start typing in the Message field, The Editor icons are enabled.

- Use the following Message Editor options and icons to add a message to the blank message window and to format the message's appearance. Formatting options are defined by the type of display on which the message is to appear:
 - In the message display window (92C example shown here), type in your message:



- **Save.** Before you download a message, you need to save it. The icon is enabled when you have unsaved changes, disabled during message preview or if the Message ID is invalid. Click this icon to save the message:



- **Delete.** Cancels unsaved changes. The icon is disabled when there are no unsaved changes or during message preview:



- **Preview (start toggle).** When clicked starts displaying text as defined. If you have selected a blinking character or message, the message rotates or starts blinking:



- **Pause Preview (toggle).** When the **Preview** button is clicked, the **Pause** button appears. To stop preview, click the **Pause** button. The rotation or blinking stop, and the **Preview** button reappears:



Maximize Display Window (stop toggle). When clicked, enlarges edit display area to combine multi-page content into a single area for more convenient editing.



Minimize Display Window (toggle). When clicked, reduces edit display area to original aspect-ratio dimension of the selected display.



Undo. When clicked, reverts the most recent change. Continuing to click steps back through the history of changes (up to 30). Disabled when previewing a message:



- **Redo.** When clicked, redoes the previous undo action. Disabled when previewing a message:

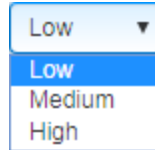


- **Message ID.** Lists message number. Range is 1 to 4000. If the message is the header, shows 4095. Disabled when previewing a message. Messages are added in sequential number order. Message ID numbers must be unique:

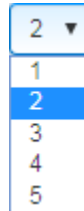
Message ID:

- **Priority.** Specifies the importance of a message. Messages of a lower priority do not run if any message of a higher priority is running.

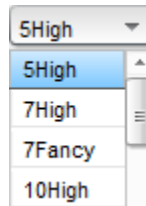
To select a priority, from the dropdown menu, select:



- **Pause *n* seconds.** Refreshes and displays the message after the specified number of seconds (1 to 5). Default is 2 seconds. The number of seconds selected here also controls how often a character selection blinks. To select a pause, from the dropdown menu, select:



- **Font/Size.** Specifies the maximum number of pixels to use for the height of the characters. Font and size are grouped together for each selection. The font is sans-serif. Fancy indicates the maximum height of the characters using a serif font. Fonts available are filtered by a displays's available fonts, and those that will fit on the display if both header and message sections are used. To select a font style, from the dropdown menu select:



Font sizes are:

- 5 High
- 7 High (default value)
- 7 Fancy
- 10 High
- 16 High
- 16 Fancy
- 20 High (2706-92C2-SC, 2706-94C2-SC only)
- 20 Fancy (2706-92C2-SC, 2706-94C2-SC only)
- 24 High (2706-92C2-SC, 2706-94C2-SC only)
- 24 Fancy (2706-92C2-SC, 2706-94C2-SC only)
- 32 High
- 32 Fancy
- 40 High (2706-92C2-SC, 2706-94C2-SC only)
- 40 Fancy (2706-92C2-SC, 2706-94C2-SC only)

- **COLOR.** Specifies a color. R displays only show red. For C/C2 displays, specifies a color. Select the color you wish to use:

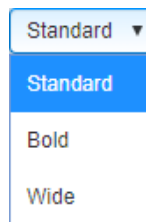
- 3 colors for earlier displays (not C2):



- 10 colors (C2 models provide 10 color selections):



- **Font Display Options.** Specifies whether font is standard size, bold, or wide. Options are:
 - **Standard.** Font is shown without any custom options applied.
 - **Bold.** Specifies bold font style at the location of the caret and updates the bold style of a selection block.
 - **Wide.** Specifies a wider character or wider characters for a selection block.

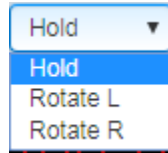


- **Blink (toggle).** To make a character of a selection block of characters blink, highlight the text you wish to blink, and click the following icon. To stop the text blinking, click again. Blinking rate is controlled by **Pause** setting:



- **Display Mode.** Specifies whether message display is fixed or rotating. Rotate modes do not allow more than 1 line per page.

- To select a mode, from the dropdown menu, select:



- *Hold*. Specifies stationary message display. You may rotate messages to the left, or to the right, depending on your character set. Arabic characters may be rotated right to left. However, you must also insert the characters in the correct order (reversed from English language characters) so that the text meaning displays correctly.
- *Rotate L*. Message rotates on displays from right to left (English and other languages that are read from left to right).
- *Rotate R*. P4xC2, P9xC2. Message rotates on displays from left to right (Arabic and other languages that are read from right to left).
- **Header** (toggle). Uses the Header button create a heading for each message. The heading is centered on the first line of the display above the message. You can assign attributes to the heading, which can differ from the message text. Headers are disabled for P22 displays. To add a header, click the button:



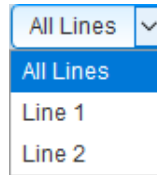
Add your header text. To remove a header you have added, delete the text. Toggling off the header button also deletes the header. You are asked to confirm the text deletion. Header example:



- **LINE CONTROL**. Allows you to display two messages on the 22R, 2-line display at one time. To activate this feature, you must assign each message to a specific line, Line 1, or Line 2, in the Message Editor. Options are:
 - *All Lines*. Displays a message on Line 2 only.
 - *Line 1*. Displays a message on Line 1 only.
 - *Line 2*. Displays a message on Line 2 only.
- When displaying messages, the line controls options function as follows:
 - If a Line 1 message is active on the display, and a Line 2 message is downloaded, the Line 1 message remains active on Line 1, and the downloaded Line 2 message appears on Line 2.
 - If a Line 1 message is active on the display, and a new

Line 1 message is downloaded to the display, the active Line 1 message is replaced with the downloaded Line 1 message.

- If a Line 1 or Line 2 message is downloaded while All Lines message is active, the All Lines message is cleared, and the Line 1 or Line 2 message is displayed.
- If an All Lines message is downloaded while a Line 1 and/or Line 2 message is active, the Line 1 and/or Line 2 messages are cleared, and the All Lines Message is displayed.



- **Left-align text.** To align the text justified to the left, click the following icon:



- **Center text.** To align the text in the center of the display, click the following icon. Headers are always centered:



- **Right-align text.** P4xC2, P9xC2 only. This icon is hidden for other displays. To align the text justified to the right, click the following icon:



- **Date Insertion.** To insert the date in a message, click where you wish to insert the date and click the following icon:



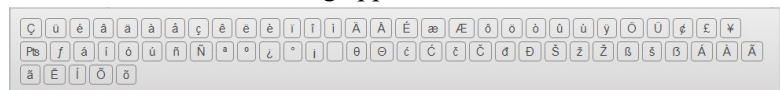
- **Time Insertion.** To insert the time in a message, click where you wish to insert the time and click the following icon:



- **Extended Character Set Insertion (toggle).** To insert a special character in the set, click the following icon:



The Extended ASCII dialog appears:



From this dialog, select the character of interest. The dialog closes and the character appears in the text window.

- **Variable Insertion.** To insert a variable in a message, click where you wish to insert the variable, and click the following icon:



The Insert Variable dialog appears:

Specify the variable to insert in the list:

- Choose either numbers, or numbers and letters:
 - ♦ *Numeric.* Specifies that variable can only be a number.
 - ♦ *Alphanumeric.* Specifies that variable can be either a number or a letter.
 - ♦ *Variable ID.* Lists ID associated with variable.
 - ♦ *Padding.* Defines whether or not to place no space, spaces, or zeroes before or after the variable. This setting is only available when setting up a numeric variable.
 - ♦ *Show ±:* Indicates whether to display a + or – sign for the number.
 - ♦ *Min Text Length.* Defines minimum text length.
- Insert a custom character in message. To insert a custom character in an image, click where you wish to insert the character and click the icon.



Choose the custom character library and character you wish to insert and click the Save icon. The character appears in your message. See also Inserting Custom Characters in Message Editor Libraries for further information.

4. Once you have downloaded a message group, you may add the message to the queue, delete a message from a queue, or trigger a priority message using the following icons:

- To add a message to a queue, click the following icon:



See also Adding Message to a Queue

- To delete a message from a queue, click the following icon:



See also Deleting Message from a Queue

- To trigger a priority message, click the following icon:



See also Triggering a Priority Message

- To clear a message queue, click the following icon:



See also Clearing Message Queue


Section 3.30 Managing Custom Characters in the Message Editor

Custom characters may either comprise a set of foreign language characters sets and/or one or more images representing logos or trademarks. Character set(s) are grouped into libraries. You manage these sets using the libraries.

The Custom Character Manager panel provides options for:

- Creating and removing custom character libraries.
- Adding and removing custom characters to/from a library.

The custom characters panel displays all the imported images for a library in their raw size. This provides you with information about the file size in which the custom character was imported.

<p>NOTE</p> 	<p>Custom characters should be monochrome (1-bit color depth), and must be 16 × 16, 24 × 24, 32 × 32, or 40 × 40 pixels in dimension.</p>
--	---

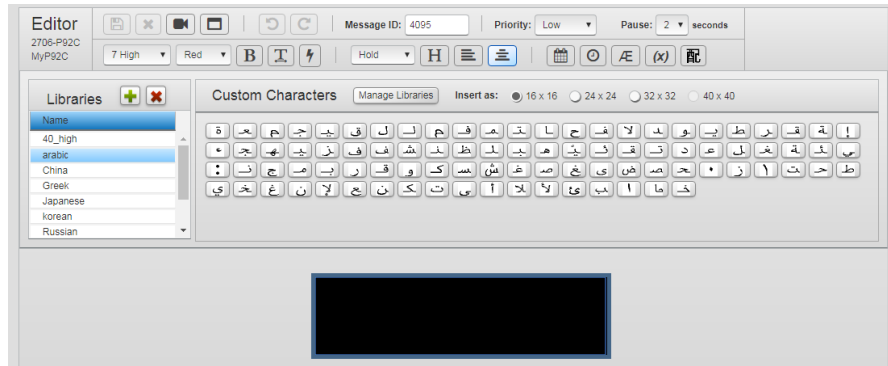
To manage custom character libraries and characters:

1. Access the InView Configuration Message Editor screen. See Adding Messages earlier in this section.
2. From the InView Configuration Message Editor screen, the following icon:



OR

If you select the icon from the Editor window, the following Custom Character Manager panel appears as a dropdown panel below the Editor panel:



Use this panel to add and delete custom libraries and characters.

3.30.1 Adding Libraries

To add a library:

1. In the Libraries list, click the following icon:



The Create New Library dialog appears:

2. View or specify the following options:
 - **Library Name.** Enter the name of the new library. Name must be unique using alphanumeric, underscore, or hyphen characters.
 - **Submit.** Adds new library name to **Libraries** list.
 - **Cancel.** Cancels addition of new library name to **Libraries** list.

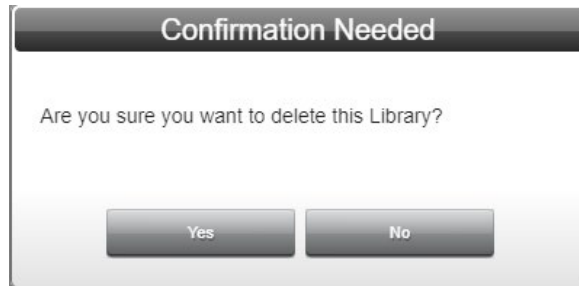
3.30.2 Deleting Libraries

To add a library:

1. Select a library from the **Libraries** list.
2. Above the **Libraries** list, click the following icon:



The following dialog appears:



3. Confirm the deletion:
 - **Yes.** Deletes the selected library from the **Libraries** list.
 - **No.** Cancels deletion of the selected library name from the **Libraries** list.

3.30.3 Inserting/Deleting Custom Characters in Message Editor Libraries

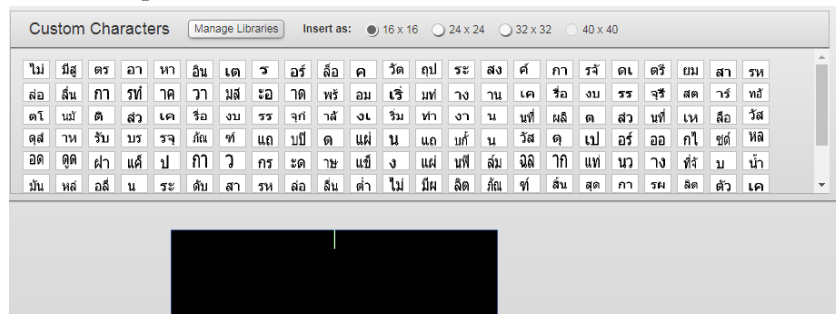
You use the options on the Custom Characters panel to view, add, remove, and/or filter characters in individual custom character libraries.

Custom characters should be monochrome (1-bit color depth), and must be 16×16 , 24×24 , 32×32 , or 40×40 (92xC2 only) pixels in dimension.

To insert a custom character:

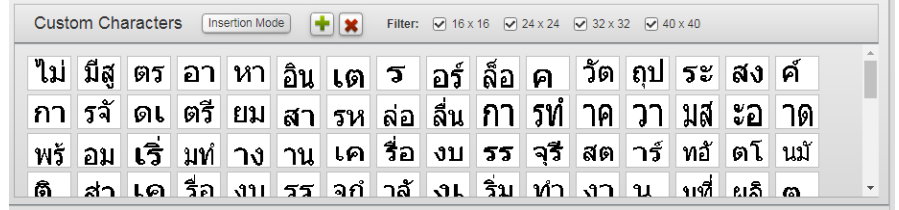
1. Select a library from the **Libraries** list to provide a set of custom characters to work with. (A Thai custom character library is used in this documentation.)

All custom characters present in the library appear in the Custom Characters panel:



2. View or specify the following options:
 - **Manage Libraries** (toggle). To view the characters in a specific library, select the library from the Libraries list. The characters in the library appear in the panel. If needed, a scroll bar also appears so you can view all the characters. To insert any of the characters in the library in a message, choose the font size (see below), and click a character. The character appears in the editor window. Repeat until you have created the message and save.

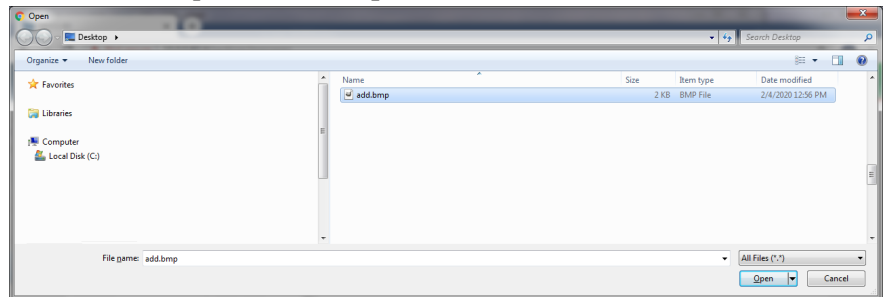
- **Insertion Mode** (toggle). This mode appears when you click **Manage Libraries** on the Custom Character panel:



- **Filter.** Allows you to filter custom characters based on the size of the imported files. Options are bitmaps sized as follows (in pixels).
 - **bitmap size.** Insert as selected size. Defines how large the bitmap image will be for the selected character. Image sizes may be 16 × 16, 24 × 24, 32 × 32, or 40 × 40 pixels (C2 displays only). Different displays may not accept all image sizes. To review all characters available for the selected library, click each of the image size selections in turn.
3. To add a bitmap to the library, click the following icon:



4. Navigate to the directory holding the bitmap(s) you wish to import, select the bitmaps, and click **Open**:

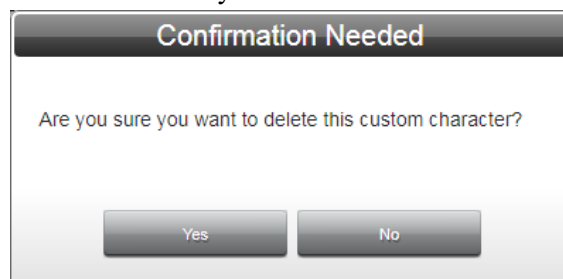


The selected bitmap(s) open at the end of the current set of characters.

5. To delete a bitmap from the library, select the bitmap to delete and select the following icon:



6. The software asks you to confirm the deletion:



- **Yes.** Deletes the bitmap.
- **No.** Returns to the current panel without deleting the bitmap.

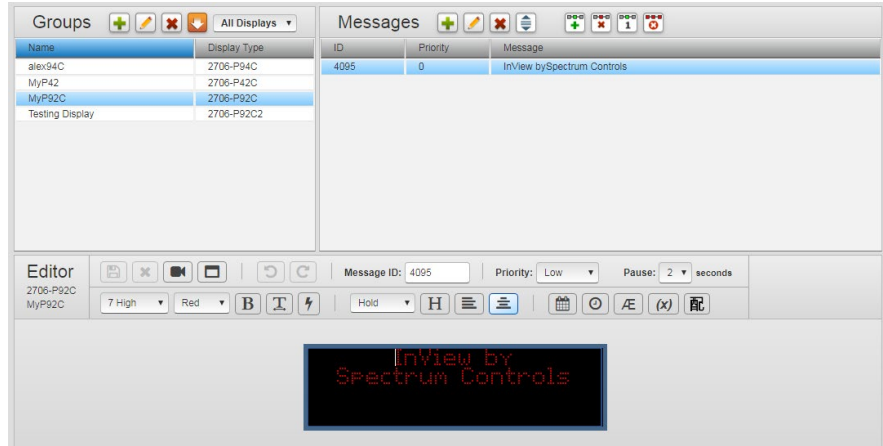
Section 3.31 Modifying Messages

You can modify messages that you import. For example, you can change the font size on text characters and custom characters after you import a message group onto a Comms Module associated with a new 42C2, 44C2, 92C2, or 94C2 display.

To modify messages:

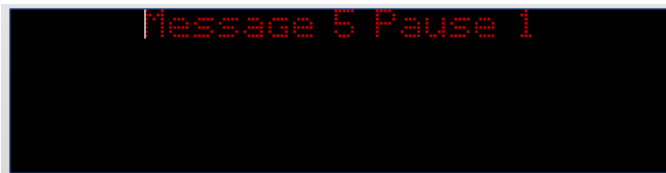
1. Access the Message Groups screen:
See Adding Message Groups.

The Messages screen appears:

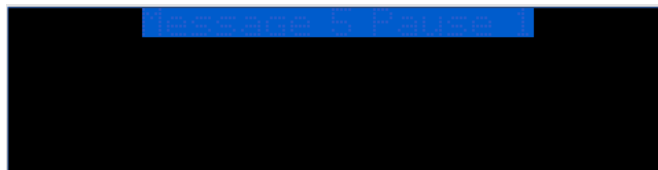


2. Select a message group and a message from that group.

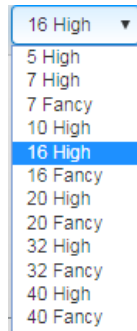
The Message appears in the Editor screen:



3. Highlight the message characters you wish to change to 40 pixels in size:

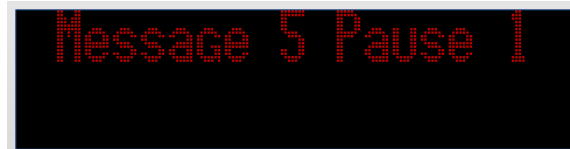


The Fonts dropdown option provides a list of sizes:



- From the dropdown list, select the desired font size.

The select characters change to the selected font size:



- When finished making changes, to save your changes, click the following icon:



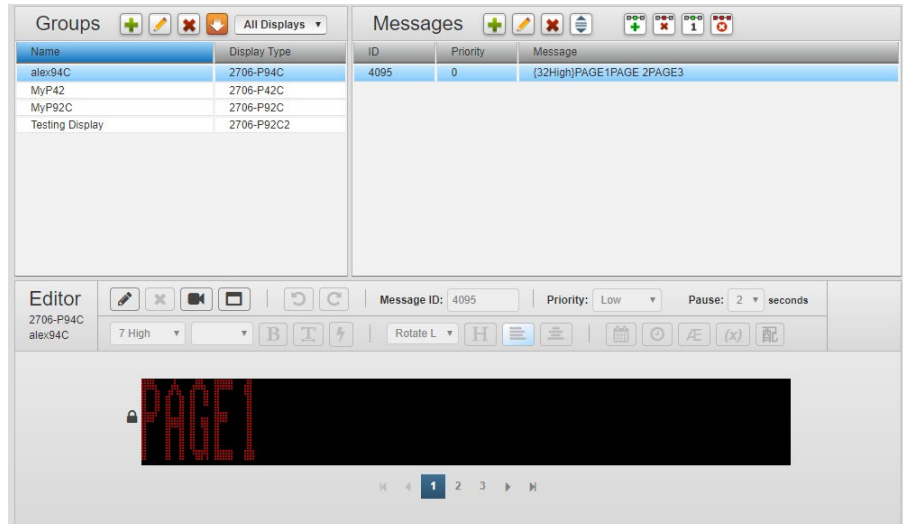
Section 3.32 Deleting Messages

To delete a message:

- Access the Messages screen:

See Adding Message Groups

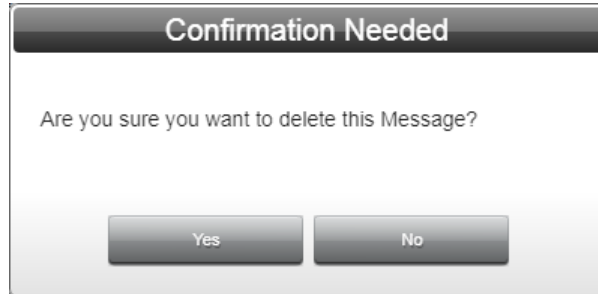
The Messages screen appears:



2. Select a message from the list.
3. Click the Delete icon:



A confirmation dialog appears:



4. Confirm the deletion:
 - **Yes.** Deletes the selected message from the message group and exits.
 - **No.** Exits without deleting the selected message from the message group.

Section 3.33 Copying Messages

NOTE

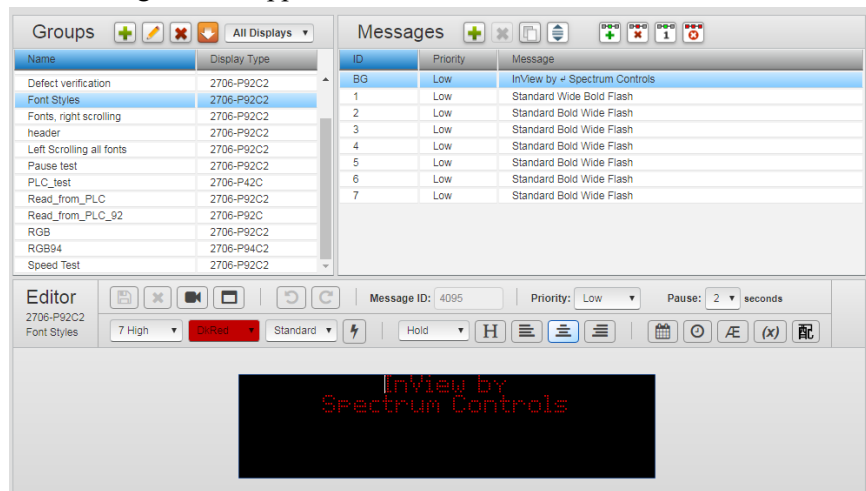


Copying messages does not reorder them.

To copy messages:

1. Access the Message Groups screen:
See Adding Message Groups

The Message screen appears:



2. From Messages, select the message you wish to copy.

The Reorder Messages dialog appears.

Msg ID#	New Msg ID#	Message
1	<input type="text"/>	Standard {Wide}Wide{Standard} {Bold}Bold{Standard} {Flash}Flash
2	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}Wide{Standard} {Flash}Flash
3	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}{Bold}Wide{Standard} {Flash}Flash
4	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}Wide{Standard} {Flash}Flash
5	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}Wide{Standard} {Flash}Flash
6	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}Wide{Standard} {Flash}Flash
7	<input type="text"/>	Standard {Bold}Bold{Standard} {Wide}Wide{Standard} {Flash}Flash
8	<input type="text"/>	{bmp: 40_high,1,0,16,16}{bmp: 40_high,2,1,16,16}{bmp: 40_high,3,2,16,16}{bmp: 40_high,4,3,16,16}{bmp: 40_high,5,4,16,16}

3. View or specify the following options:
 - **Msg ID#.** Lists existing message ID number. Not editable.
 - **New Msg ID#.** Selects the new number for the message. You cannot enter a number allocated to another message. The software tells you the number is not available.
 - **Message.** Shows message text. Not editable.
4. Enter new number(s) for the message(s).
Message IDs must be whole numbers. Zero (0) is invalid.
5. When finished making changes, click either of the following to exit:
 - **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.


Section 3.35 Managing Custom Character Libraries from the Configuration Work Area

Custom characters may either comprise a set of foreign language characters sets and/or one or more images representing logos or trademarks. Character set(s) are grouped into libraries. You manage these sets using the libraries.

The Custom Character option provides options for:

- Creating and removing custom character libraries.
- Adding and deleting custom characters to/from a library.

The custom characters panel displays all the imported images for a library in their raw size. This provides you with information about the file size in which the custom character was imported.

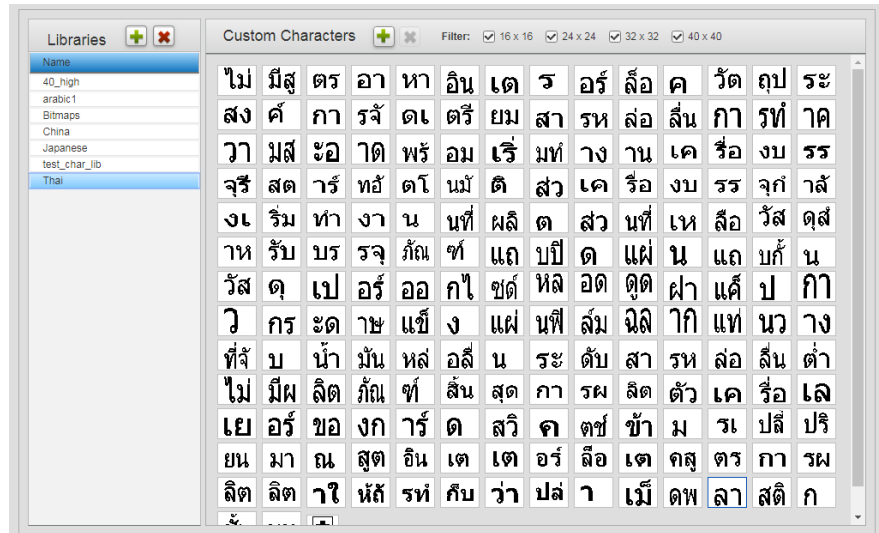
<p>NOTE</p> 	<p>Custom characters should be monochrome (1-bit color depth), and must be 16 × 16, 24 × 24, 32 × 32, or 40 × 40 pixels in dimension.</p>
--	---



To add, modify, or delete custom characters or custom character libraries:

- From the InView Configuration Work Area, select the following icon:



The Custom Characters screen appears:



Icon	Function	Access
	Add a library or character:	Adding Libraries/Characters
	Delete a library or character:	Deleting Libraries/Characters
	Insert/Delete a library or character:	Inserting/Deleting Custom Characters in Libraries

3.35.1 Adding Libraries

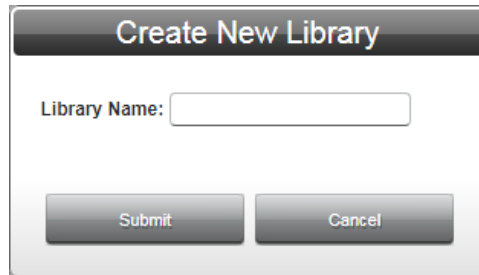
You may add custom character libraries to the InView Comms Module.

To add a library:

- In the Libraries list, click the following icon:



The Create New Library dialog appears.

A dialog box titled "Create New Library" with a dark header. Below the header is a text input field labeled "Library Name:". At the bottom of the dialog are two buttons: "Submit" and "Cancel".

2. View or specify the following options:
 - **Library Name.** Enter the name of the new library. Name must be unique using alphanumeric, underscore, or hyphen characters.
 - **Submit.** Adds new library name to **Libraries** list.
 - **Cancel.** Cancels addition of new library name to **Libraries** list.

3.35.2 Deleting Libraries

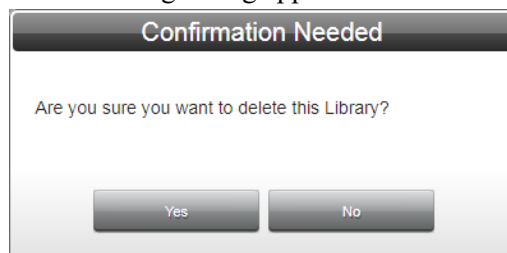
You may delete custom character libraries from the InView Comms Module.

To delete a library:

1. Select a library from the **Libraries** list.
2. Above the **Libraries** list, click the following icon:



The following dialog appears.

A dialog box titled "Confirmation Needed" with a dark header. Below the header is the text "Are you sure you want to delete this Library?". At the bottom of the dialog are two buttons: "Yes" and "No".

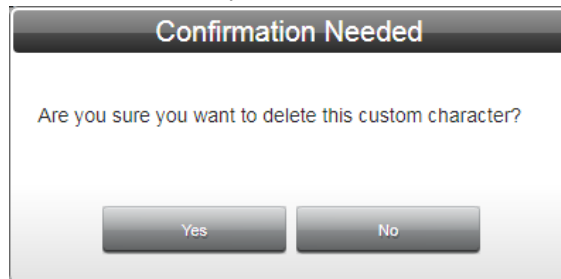
3. Confirm the deletion:
 - **Yes.** Deletes the selected library name from the **Libraries** list.
 - **No.** Cancels deletion of the selected library name from the **Libraries** list.

The selected bitmap(s) open at the end of the current set of characters.

4. To delete a bitmap from the library, select the bitmap to delete and select the following icon:



5. The software asks you to confirm the deletion:



- **Yes.** Deletes the bitmap.
- **No.** Returns to the current panel without deleting the bitmap.
- **Filter.** Allows you filter custom characters based on the size of the imported files. Options are bitmaps sized as follows (in pixels).
 - **bitmap size.** Defines how large the bitmap image will be for the selected character. Image sizes may be 16 × 16, 24 × 24, 32 × 32, or 40 × 40 (9xC2 displays only) pixels. Different displays may not accept all image sizes. To review all characters available for the selected library, click each of the image size selections in turn.

Section 3.36 Managing InView Comms Module Operation Options

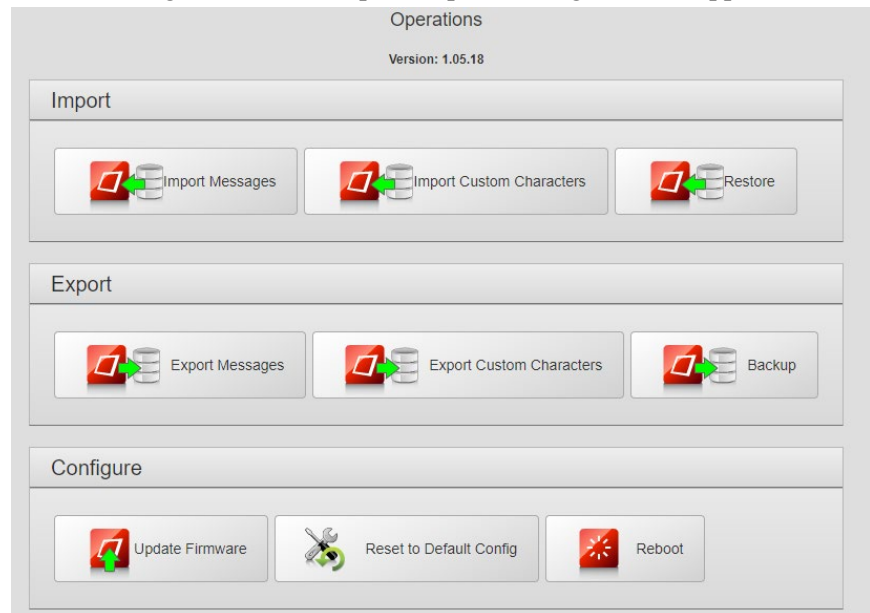
You use the operation options to export and import messages and custom characters, update firmware, reset the InView Comms Module to the factory default configuration, back up your data, restore your data, and reboot the InView Comms Module.

To manage operations:

1. From the Configuration Work Area, select the following icon:



The following screen with Import/Export/Configure areas appears:



2. View or specify the following options:
 - Importing InView Messages
 - Importing InView Comms Module Custom Characters
 - Restoring InView Comms Module
 - Exporting InView Messages
 - Exporting InView Comms Module Custom Characters
 - Backing Up InView Comms Module
 - Updating Firmware
 - Resetting the InView Comms Module to Default Configuration
 - Rebooting the InView Comms Module

Section 3.37 Importing InView Comms Messages

NOTE


If you are importing a .csv file, you need to ensure that the partition size you choose is large enough to accommodate the message group you are importing. Review the partition size set of the message group in the IMS .ivp project from which the *messages.csv* file was originally exported to ensure you specify a sufficiently large partition.

Imports messages from an existing, legacy .IVP file, a .csv, or a new Spectrum .sim file.

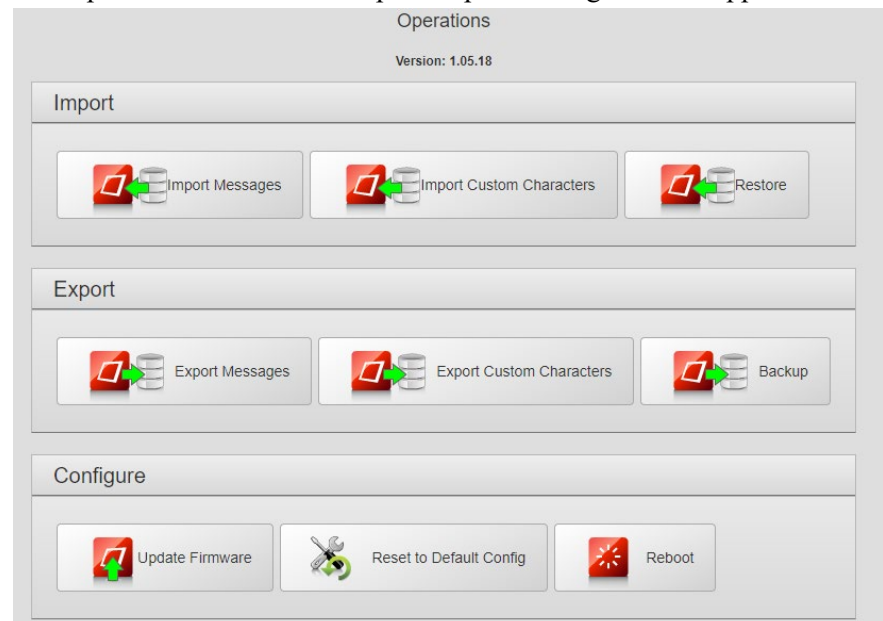
This option imports an existing set of messages created by the Rockwell Automation InView Messaging Software into the Spectrum Controls, Inc. InView Comms Module software. This allows you to view the configuration information and messages in the current InView software. You may also import legacy .IVL files that contain custom character libraries.

To import an existing .IVP file:

1. Save the contents of an existing message table and configuration to a .IVP file using the legacy InView Message Software.
2. Start up the InView Communications Module User Interface.
3. From the Configuration Work Area, select the following icon:



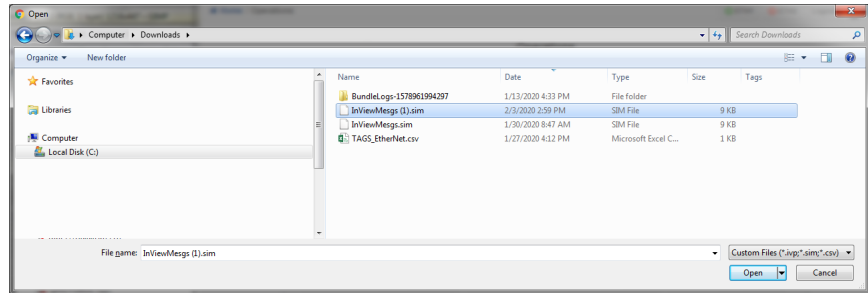
The Operations screen with Import/Export/Configure areas appears:



4. From the Import area, select the following button:

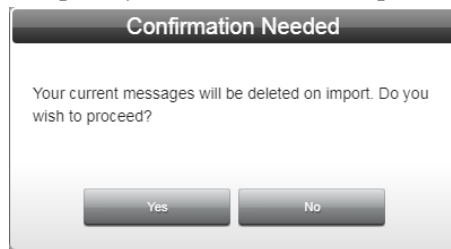


5. An **Open** dialog appears. Navigate to the directory in which the .ivp, .csv, or .sim file you created is located.



6. Click **Open**.
7. If a CSV is selected, then instead of a confirmation message, a popup is presented to select properties for the group that will hold the imported messages. (For CSV, rather than replacing messages and displays, a single message group is added to the existing config.)

The software warns you the current messages will be removed completely as a result of the import:



- To confirm the import, click **Yes**.
- To cancel the import, click **No**.

Once the upload is complete, the software informs you that it is complete, is now rebooting, and you may refresh the browser in a few minutes.

After the import is completed, you can access the messages in the software interface.

Section 3.38 Importing Custom Characters

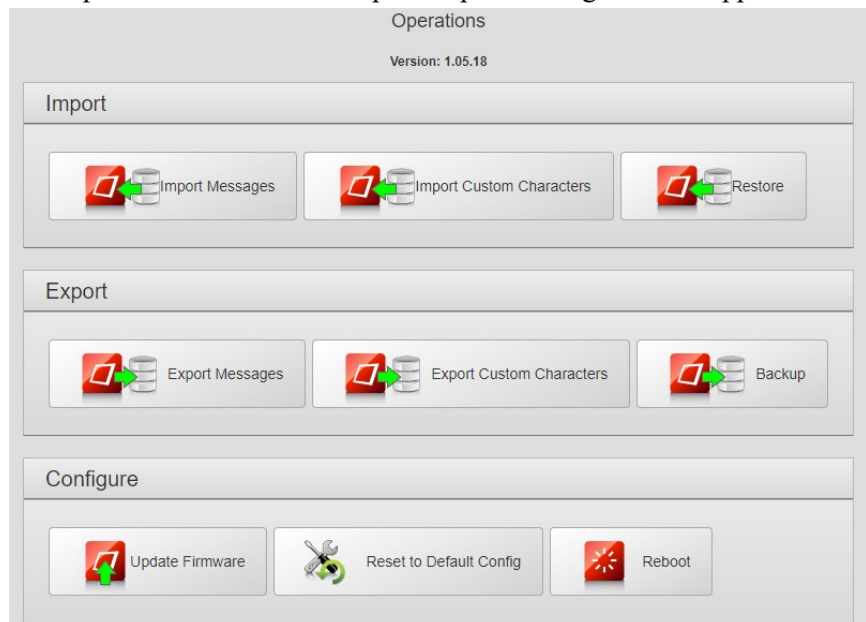
Imports custom character libraries into the InView Comms Module.

To import custom characters:

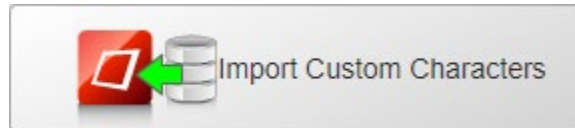
1. Using the Rockwell Automation InView Messaging Software, export the custom character libraries to a .IVL file, or choose a new Spectrum .sic file.
2. Start up the InView Communications Module User Interface.
3. From the Configuration Work Area, select the following icon:



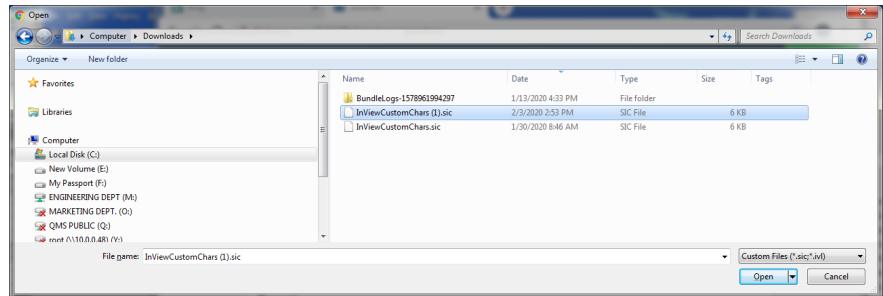
The Operations screen with Import/Export/Configure areas appears:



4. From the Import area, select the Import Custom Characters button:



The following dialog appears:



5. Navigate to the directory containing the .ivl or .sic file.
6. Click **Open**. The software informs you that it is importing the data: After the import is completed, the software informs you that it is complete and is now rebooting.

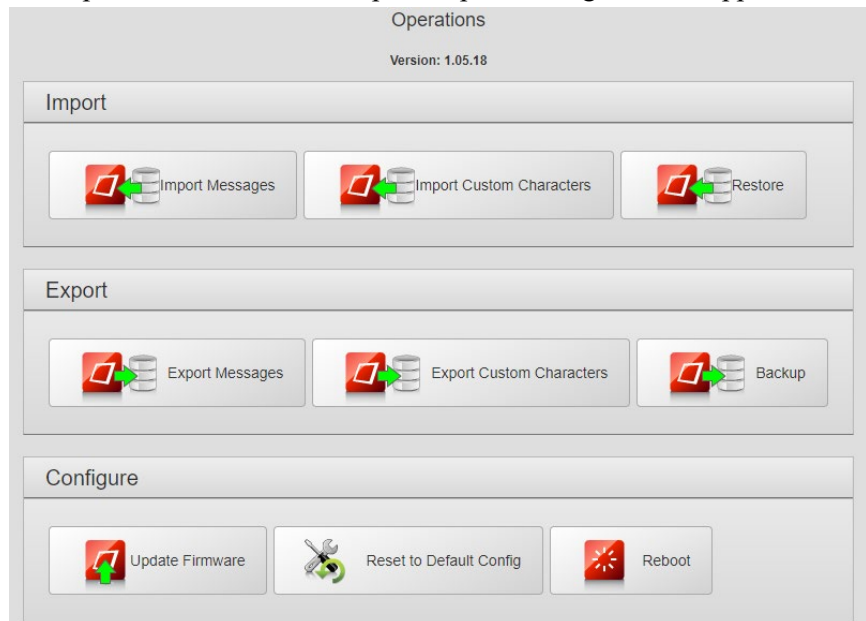
Section 3.39 Restoring the InView Comms Module

Restores the InView Comms Module data. To restore the InView Comms Module:

1. From the Configuration Work Area, select the following icon:



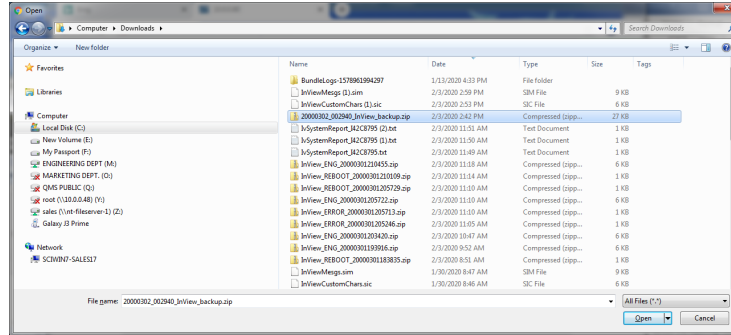
The Operations screen with Import/Export/Configure areas appears:



Click **Restore**:



2. From the file dialog that appears, select the backup file you wish to use to restore your InView Comms Module and click **Open**:



The software restores the data and informs you when it is finished.

Section 3.40 Exporting InView Comms Module Messages

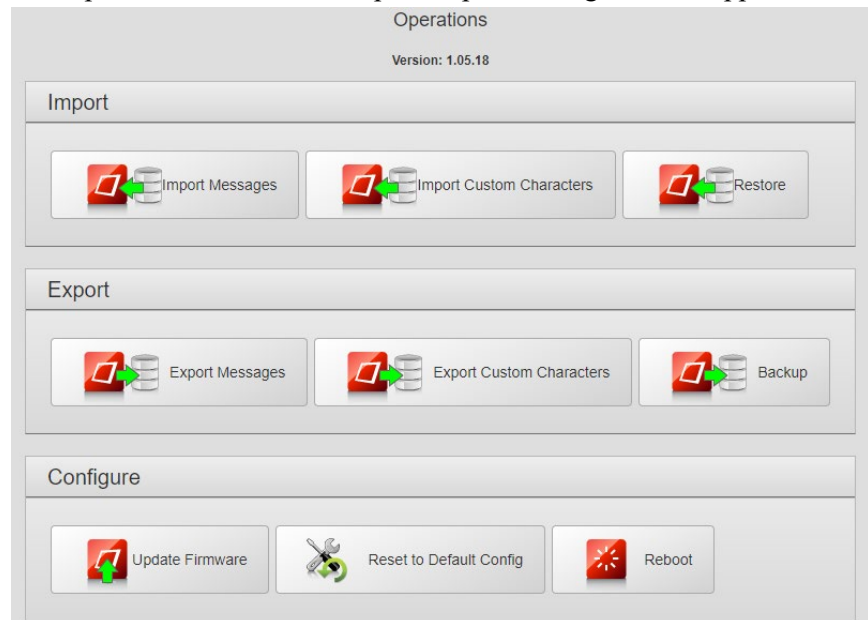
You can export InView Comms Module messages to a file on a local personal computer.

To export an InView Comms Module message file:

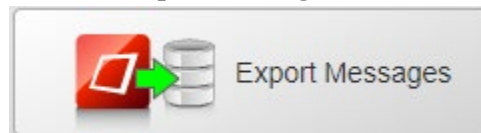
1. From the Configuration Work Area, select the following icon:



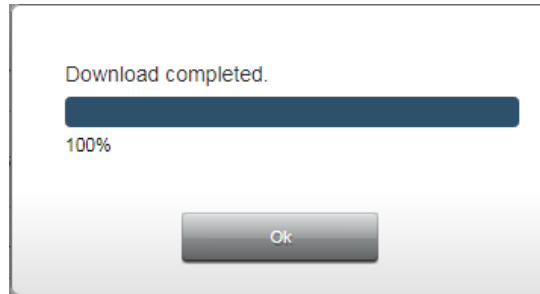
The Operations screen with Import/Export/Configure areas appears:



2. Click the **Export Messages** button:

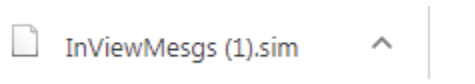


3. The software creates a backup file and informs you of progress. When progress reaches 100%, click **OK**:

**NOTE**

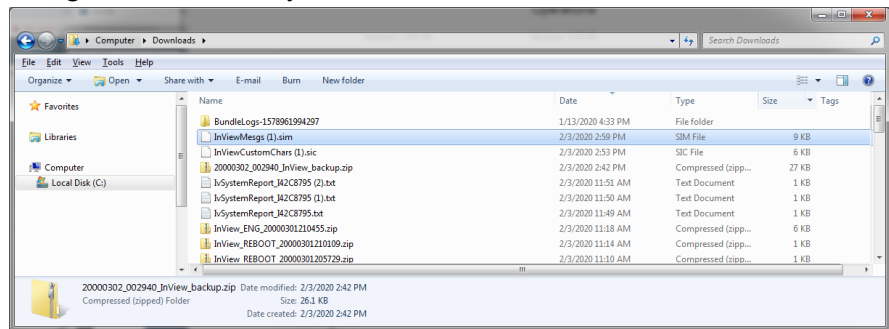
Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

- A download file is simultaneously displayed at the lower left of the dialog.
Clicking the file name brings up a message letting you know the file can now be opened:



The exported file has been saved to the Downloads directory, or other designated folder, on your personal computer. The software saves the InView Comms Module export file with name “InViewMesgs.sim”.

- Navigate to the directory to retrieve the saved file:



- The exported file has a **.sim** (Spectrum InView Message file) extension. This file can only be used with InView software.

Section 3.41 Exporting Custom Characters

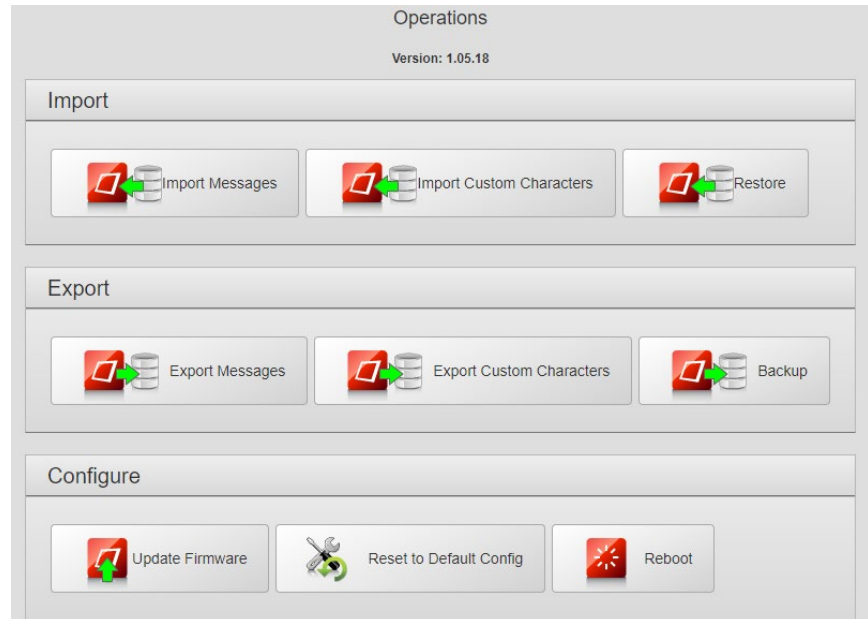
You can export custom characters to a file.

To export InView Comms Module custom characters:

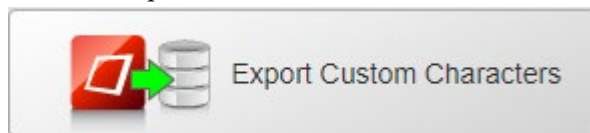
1. From the Configuration Work Area, select the following icon:



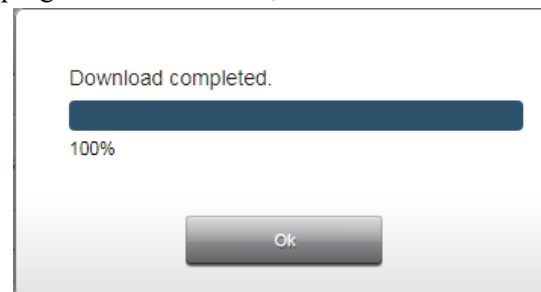
The Operations screen with Import/Export/Configure areas appears:



2. Click the Export Custom Characters button:



3. The software creates a backup file and informs you of progress. When progress reaches 100%, click **OK**:



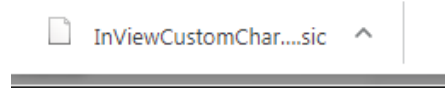
NOTE



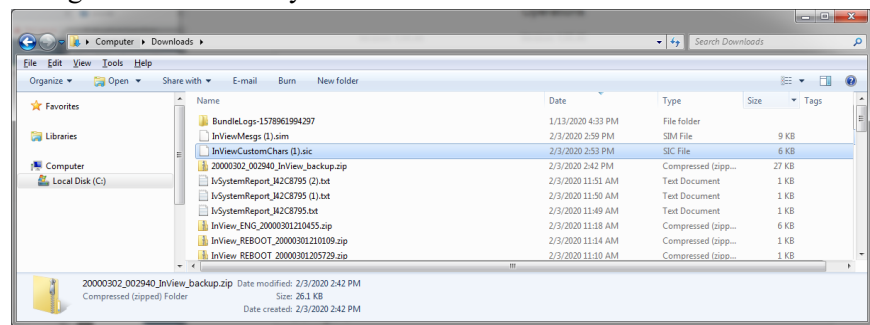
Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

- A download file is simultaneously displayed at the lower left of the dialog.

Clicking the file name brings up a message letting you know the file can now be opened:



- The exported file has been saved to the Downloads directory, or other designated folder, on your personal computer:
 - The software saves the InView Comms Module export file with the name “InViewCustomChars.sic”.
- Navigate to the directory to retrieve the saved file:



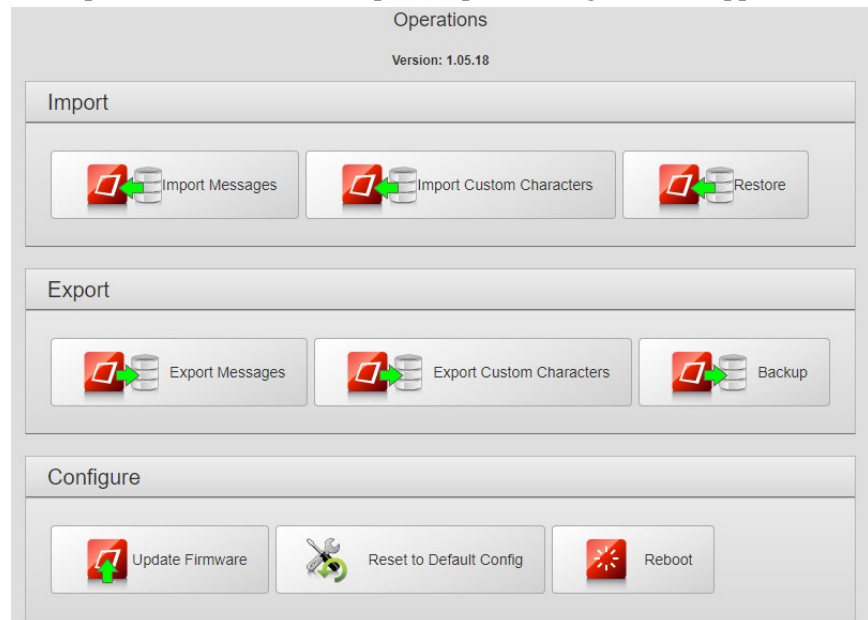
Section 3.42 Backing Up the InView Comms Module

Backs up the InView Comms Module data. To back up the InView Comms Module:

- From the Configuration Work Area, select the following icon:



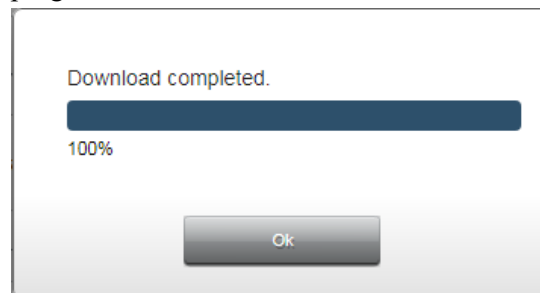
The Operations screen with Import/Export/Configure areas appears:



Click the **Backup** icon:



- The software creates a backup file and informs you of progress. When progress reaches 100%, click **OK**:

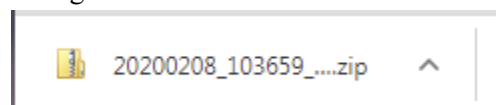


NOTE

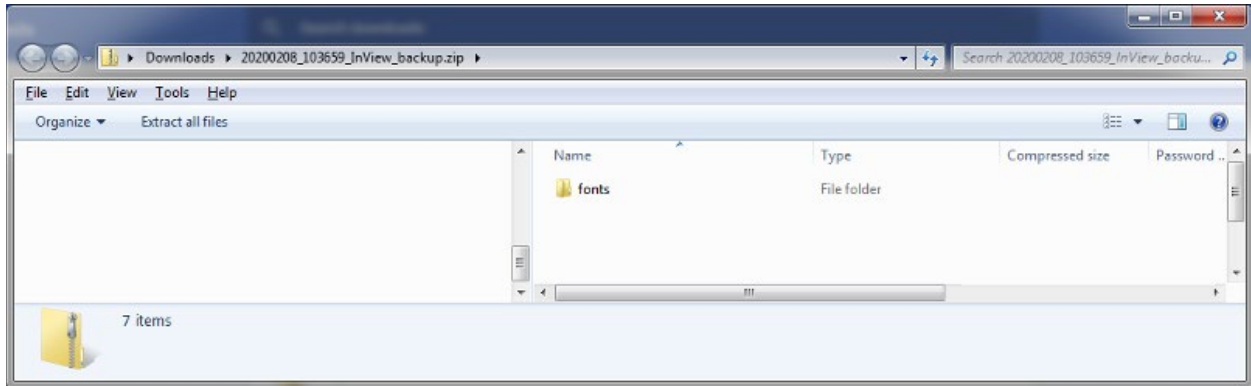


Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

- A download file is simultaneously displayed at the lower left of the dialog. Click the file name:



The following dialog appears showing where the software saved the exported files (usually to the Downloads directory, or other designated folder, on your personal computer):



4. Navigate to the directory to retrieve the saved file.
The software saves the InView Comms Module backup file with date, time, and code.

Section 3.43 Updating Firmware

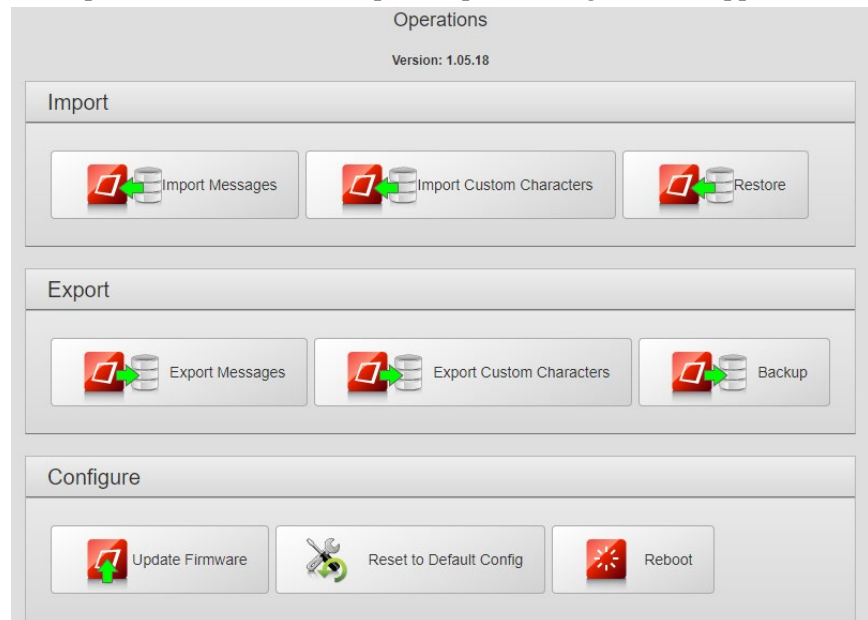
Replaces firmware on the InView Comms Module. The firmware is the software that runs your InView Comms Module. Replacing firmware does not change or replace your data or settings on the InView Comms Module. While you install the firmware, the software informs you what is happening during the installation, and lets you know whether the process is successful. This takes several minutes.

To replace firmware:

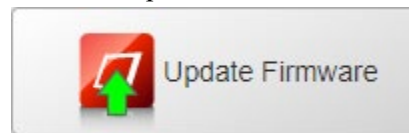
1. From the Configuration Work Area, select the following icon:



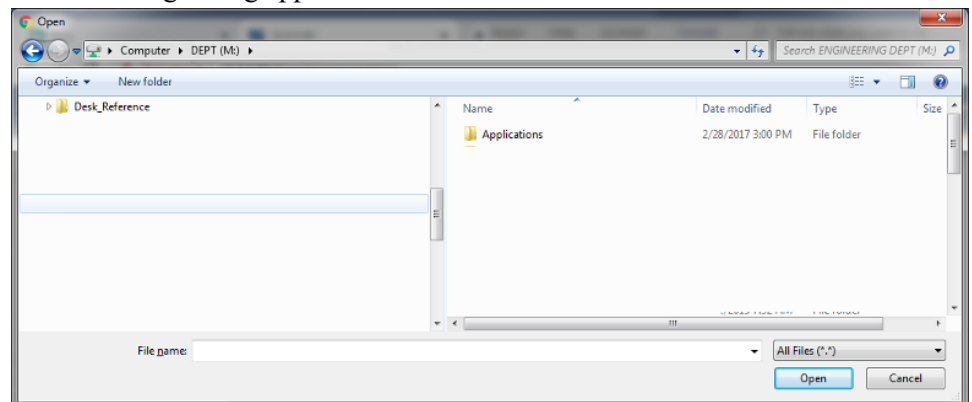
The Operations screen with Import/Export/Configure areas appears:



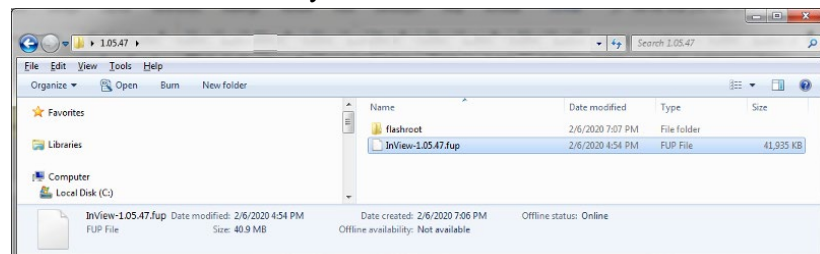
2. Click the Update Firmware icon:



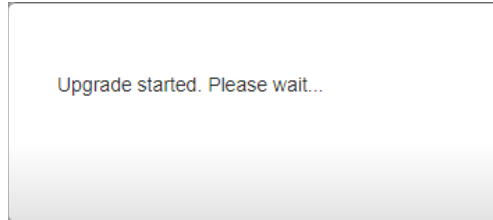
The following dialog appears:



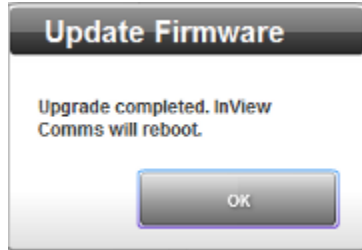
3. Navigate to the directory in which your firmware file is located. This directory can be on a personal computer drive or a network server. Select the correct file. Example: **InView Comms-*n.n*.fup** where *n.n* is the version. Your version may be different.



The software downloads the selected firmware to the InView Comms Module. It installs the firmware, displaying a progress bar during the installation:



The software informs you **Firmware upgrade is completed** when done:



Section 3.44 Resetting the InView Comms Module to Default Configuration

If the InView Comms Module has stopped functioning for some reason, you may not need to reset an InView Comms Module to its default configuration. First try restarting the InView Comms Module using the software. This restarts the Comms Module using the current configuration. To reset the InView Comms Module and retain its current configuration, you may also press the **Reset** switch gently and briefly (less than 5 seconds) on the InView Comms Module board. You can now either remove power or wait a short period. If you do not remove power, the InView Comms Module reboots itself after a short period.

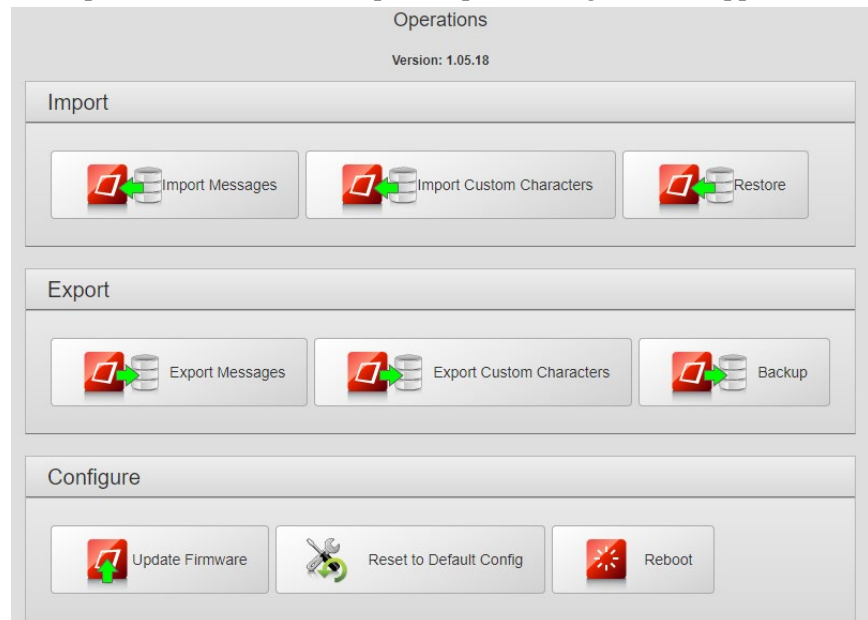
If either a software reboot or a hardware reset fails to restart the InView Comms Module normally, you can reset the InView Comms Module to its default configuration using either the software or the **Reset** switch on the InView Comms Module board. If you wish to reset the InView Comms Module to its factory default settings using the hardware, press the **Reset** switch for an interval of 30 seconds. The InView Comms Module resets itself to its factory configuration settings. If the reset fails, call Technical Support for further help. Pressing the Reset button for less than 5 seconds also shows the IP address of the Comms Module on the attached display.

To reset the InView Comms Module to these settings using software:

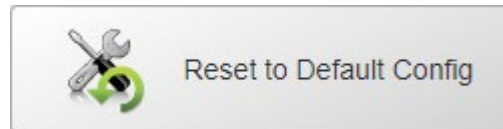
1. From the Configuration Work Area, select the following icon:



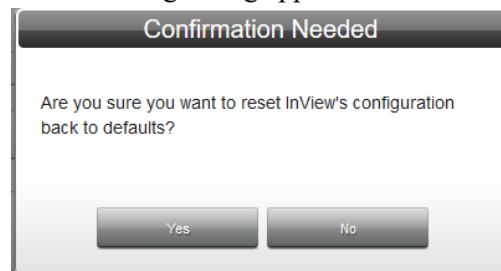
The Operations screen with Import/Export/Configure areas appears:



2. Click the Reset to Default Config icon:



The following dialog appears:



3. Confirm the reset:
 - **Yes.** Restores the factory default settings and exits.
 - **Cancel.** Exits without restoring the factory default settings.
4. The software informs you when the reset is done.
Reset completed. IP address has been changed to 192.168.1.100.
(*ProductName*) is now rebooting. You may refresh the browser in a few minutes.

The software restores the initial settings. For example, your InView Comms Module name is restored to **InView Comms Module**.

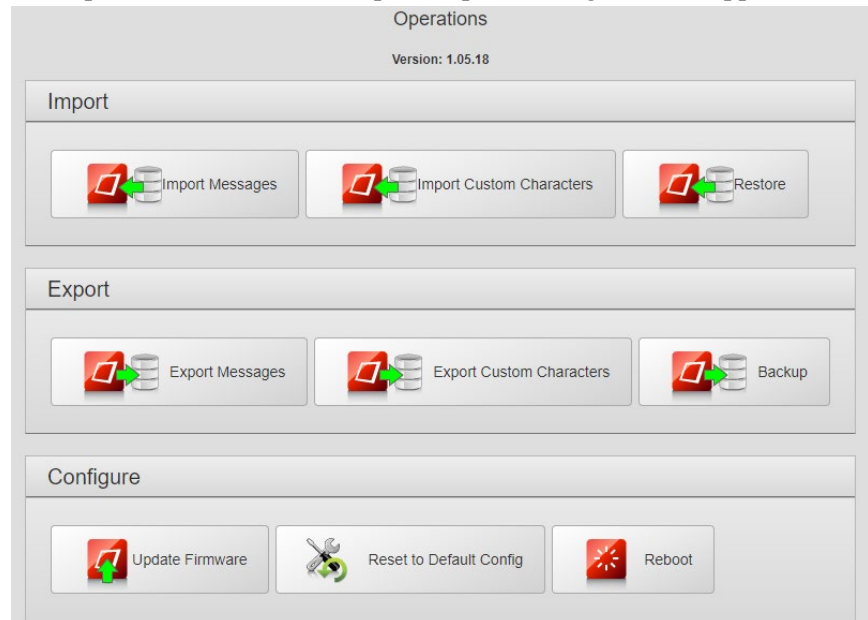
Section 3.45 Rebooting the InView Comms Module

Restarts the InView Comms Module. To reboot the InView Comms Module:

1. From the Configuration Work Area, select the following icon:



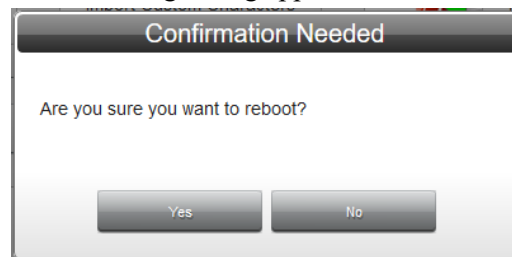
The Operations screen with Import/Export/Configure areas appears:



2. Click the **Reboot** icon:



The following dialog appears:



3. Confirm the reboot:
 - **Yes.** Reboots the InView Comms Module and exits the InView Comms Module user login.
 - **No.** Exits without rebooting the InView Comms Module.

The software informs you that it is rebooting the module:

InView is now rebooting. You may refresh the browser in a few minutes.

After a couple of minutes, reload your web browser and log back in to your InView Comms Module.

Section 3.46 Changing the InView Password

The InView Comms Module allows you to change password access for the InView Comms Module web page. To guard against unauthorized access to settings and log information, access is restricted by password. The InView Comms Module does not use user accounts or multiple passwords.

To change the password for accessing the InView Comms Module:

1. From the InView Configuration Work Area, select the following icon:



The Change Password dialog appears:

 A screenshot of a web-based dialog box titled "Change Password". It features three input fields: "Current:" with a red asterisk, "Password:" with a red asterisk, and "Confirm:" with a red asterisk. Below the fields are two buttons: "Submit" and "Cancel".

2. View or specify the following options:
 - **Current.** Enter the password you used to log onto the InView Comms Module software.
 - **Password.** Enter the new password.
 - **Confirm.** Re-enter the new password for confirmation.
 - **Submit.** Saves the new password on the InView Comms Module and exits.
 - **Cancel.** Exits without saving the new password on the InView Comms Module.

Section 3.47 Configuring Tools

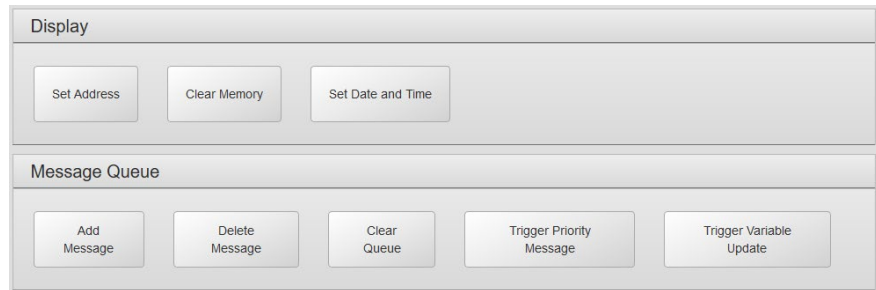
Use the Tools options to set the display's serial address, clear its memory, and set the date and time, as well as add messages to, delete messages from, or clear, the message Queue. You can also trigger Priority messages as well as variable updates.

To add, modify, clear, or delete display and message queue information, or trigger a priority message or variable update:

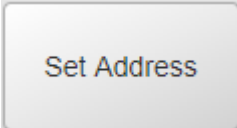
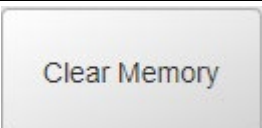
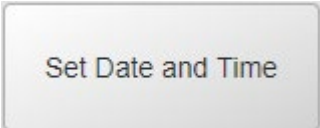
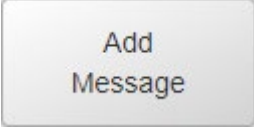
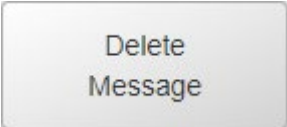
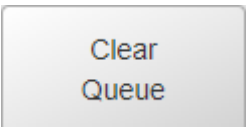
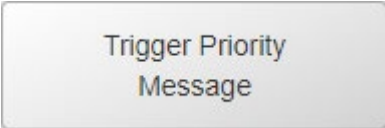
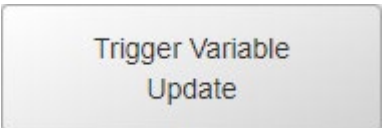
1. From the InView Configuration Work Area, select the following icon:



The Display screen appears:



2. View or specify the following options for displays and the message queue:

Icon	Function	Access
	Set a display address:	Setting a Display Address
	Clear display memory:	Clearing Display Memory
	Set date and time:	Setting Date and Time
	Add message to queue:	Adding Message to Queue
	Delete message from queue:	Deleting Message From Queue
	Clear message queue:	Clearing Message Queue
	Trigger priority message:	Triggering Priority Message
	Trigger variable update:	Triggering Variable Update

Section 3.48 Adding Message to a Queue

Once you have downloaded a message group, you can add it to a message queue. This queues a message to run on a single display, or all displays. Once queued, whether the message is visible or not depends on whether a higher priority message is already running on the display. The maximum number of messages that can run is 64. You may also add messages to a queue, delete messages from a queue, or trigger a priority message from the Messages screen.

You may add a message to a queue from the Tools option, or from the Messages option (see Adding Messages).

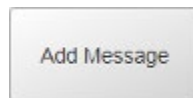
To add a message to the queue of a display:

1. From the InView Configuration Work Area, select the following icon:



The Display screen appears:

2. Select the Add Message icon:



3. The Add Message To Queue dialog appears. Enter information in the listed fields:

- **Display.** From the dropdown list, select the display for which you wish to add the message to the queue.
- **Serial Address.** Lists the current serial display address (1 to 254). If you do not know what this address is, power cycle the InView display and write down the address you see displayed on

startup.

- **Apply to All Displays.** Specify whether to apply the add message to queue instruction to all displays accessible from the InView Comms module.
 - **Message ID.** Specifies the message ID (number **1** to **n** that is associated with the message when you create the message.
4. When finished making changes, click either of the following to exit:
- **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Cancel the change to the display(s).

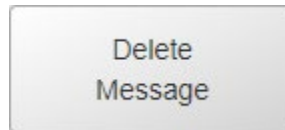
Section 3.49 Deleting Message From a Queue

To delete a message from a queue:

1. Access the Tools screen:
See Adding Message to Queue.

The Display screen appears:

2. Select the Delete Message icon:



3. The Delete Message From Queue dialog appears.
Enter information in the listed fields.

- **Display.** From the dropdown list, select the display for which you wish to delete the queued message.
- **Serial Address.** Lists the current serial display address (**1** to

- 254). If you do not know what this address is, power cycle the InView display and write down the address you see displayed on startup.
- **Apply to All Displays.** Specify whether to apply the delete message from queue instruction to all displays accessible from the InView Comms module.
 - **Message ID.** Specifies the message ID (number **1** to **n** that is associated with the message when you create the message.
4. When finished making changes, click either of the following to exit:
- **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Cancels the change to the display(s).

Section 3.50 Clearing Message Queue

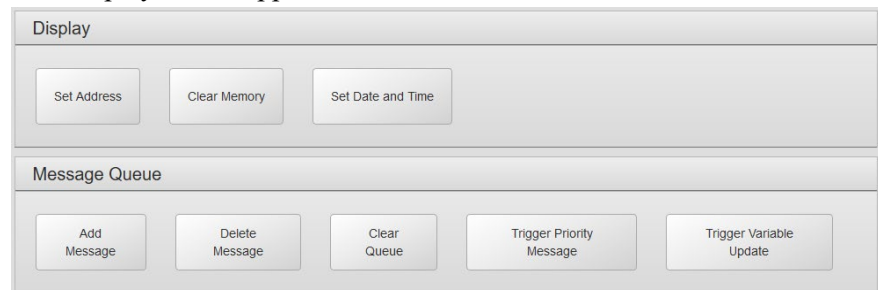
You can clear the queue of active messages that are running on a specific InView display. Once the queue is cleared, the background message (if any) is displayed. Even though the messages are cleared from the queue, they remain in the display's memory. Before clearing the message queue, the InView message display must be running, and you must know the address of the display.

To clear the message queue of a display:

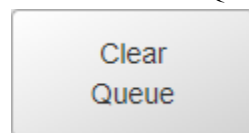
1. From the InView Configuration Work Area, select the following icon:



The Display screen appears:



2. Select the Clear Queue icon:



3. The Clear Message Queue dialog appears.

Enter information in the listed fields.



The dialog box titled "Clear Message Queue" contains the following fields and controls:

- Display:** A dropdown menu.
- Serial Address:** A text input field containing the number "1" and a red asterisk icon to its right.
- Apply to All Displays:** An unchecked checkbox.
- Buttons:** "Submit" and "Cancel" buttons at the bottom.

- **Display.** From the dropdown list, select the display for which you wish to clear the message queue.
 - **Serial Address.** Lists the current serial display address (**1 to 254**). If you do not know what this address is, power cycle the InView display and write down the serial address you see displayed on startup.
 - **Apply to All Displays.** Specify whether to apply the clear message queue to all displays accessible from the InView Comms module.
4. When finished making changes, click either of the following to exit:
- **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Exits without saving changes on InView Comms Module.

Section 3.51 Triggering a Priority Message

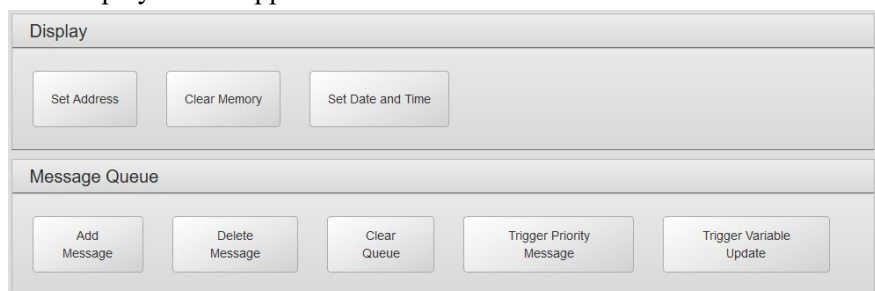
Once you have a message created, you can trigger the message as a priority message to one display, or all displays.

To trigger a priority message one or more displays:

1. From the InView Configuration Work Area, select the following icon:



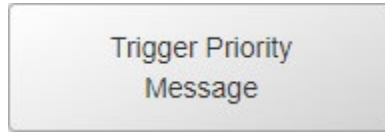
The Display screen appears:



The "Display" screen interface is divided into two main sections:

- Display Section:** Contains three buttons: "Set Address", "Clear Memory", and "Set Date and Time".
- Message Queue Section:** Contains five buttons: "Add Message", "Delete Message", "Clear Queue", "Trigger Priority Message", and "Trigger Variable Update".

2. Select the Trigger Priority Message icon:



3. The Trigger Priority Message dialog appears. Enter information in the listed fields.

 A dialog box titled "Trigger Priority Message" with a dark header bar. The dialog contains the following fields and controls:

- "Display:" followed by a dropdown menu.
- "Serial Address:" followed by a text input field containing the number "1" and a red asterisk icon to its right.
- "Apply to All Displays:" followed by an unchecked checkbox.
- "Message ID:" followed by an empty text input field and a red asterisk icon to its right.
- At the bottom, there are two buttons: "Submit" on the left and "Cancel" on the right.

- **Display.** From the dropdown list, select the **display** for which you wish to trigger the priority message.
 - **Serial Address.** Lists the current serial display address (**1** to **254**). If you do not know what this address is, power cycle on the InView display and write down the display serial address you see displayed on startup.
 - **Apply to All Displays.** Specify whether to apply the trigger priority message to all displays accessible from the InView Comms module.
 - **Message ID.** Specifies the message ID (number **1** to **n** that is associated with the message when you create the message).
4. When finished making changes, click either of the following to exit:
 - **Submit.** Saves changes on the InView Comms Module and exits.
 - **Cancel.** Cancels the change to the display(s).

Section 3.52 Triggering a Variable Update

Once you have a variable created, you can trigger an update to the variable on the display directly from the Comms Module.

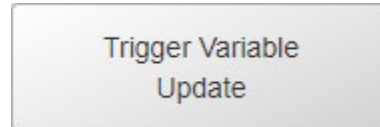
To trigger a variable update on one or more displays:

1. From the InView Configuration Work Area, select the following icon:



The Display screen appears:

2. Select the Trigger Variable Update icon:



3. The Trigger Variable Update dialog appears. Enter information in the listed fields.

- **Display.** From the dropdown list, select the display for which you wish to trigger the variable update.
- **Serial Address.** Lists the current serial display address (1 to 254). If you do not know what this address is, power cycle on the InView display and write down the display serial address you see displayed on startup.
- **Apply to All Displays.** Specify whether to apply the trigger variable update to all displays accessible from the InView Comms module.
- **Numeric or Alphanumeric.** Specifies which type of variable you are triggering.
- **Variable ID.** Specifies the ID number of the variable you are triggering.
- **Numeric/Alphanumeric Value.** This is the value of the variable that will be updated when triggered. If the variable is **Numeric**, this is a number between “0” and “32767”. If the variable is

Alphanumeric, this is a string of letters and/or numbers up to the size of the variable defined when the message was created.

4. When finished making changes, click either of the following to exit:
 - **Submit**. Saves changes on the InView Comms Module and exits.
 - **Cancel**. Exits without applying changes.

Section 3.53 Viewing System Report Information

Lists the following report information:

- Hardware Model number and Serial number.
 - Firmware and graphics user interface (GUI) revision.
 - Eth1 status and address and network information (including MAC address).
 - Eth2 status and address and network information (including MAC address).
 - Comms Card ID. Name given to Comms Module via Identification option.
 - PLC Message server PLC type, IP address, port and slot number.
 - Display profile, including names, display types, and serial addresses of all display profiles configured in the Comms Module.
1. From the InView Configuration Work Area, select the following icon:



The following screen appears:

System Report

InView Comms System Report: IvSystemReport_I42C8795.log

Hardware
 Model Number: 2706-PENETK2-SC
 Serial Number: I42C8795

Software
 Firmware Rev: InView-1.05.45
 GUI Rev: inview_gui-1.05.45-1



Network
Eth1
 Status: Connected - DHCP Client
 IP Address: 192.168.2.247
 MAC Address: 00:02:83:00:4d:52
 Subnet Mask: 255.255.255.0
 Gateway: 192.168.2.1
Eth2
 Status: Not connected

Comms Card ID
 Friendly Name: InView

PLC Message Server
 Type: ControlLogix
 IP Address: 10.10.10.10
 TCP Port: 44818
 Slot Number: 0

Display Profiles

Display Name	Display Type	Serial address
P92RGB	2706-P92C2	1
P42C	2706-P42C	1
P94RGB	2706-P94C2	1
P92C	2706-P92C	1

2. View the following options:

- **report_information**. Shows information for selected display, including hardware, software, network, PLC server, and display profile settings.
- **Refresh**. Refreshes report information. Click the following icon to update:



- **Download**. Allows you to download the report contents to a file. Click the Download icon to download:

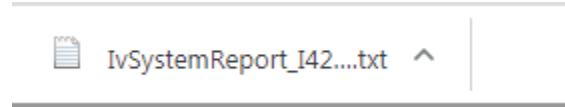


NOTE



Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

The downloaded file appears at the bottom left-hand corner of the screen:



You may either open the text document or navigate to the directory where you wish to store the report, edit the file name as needed, and click **Save**. The report saves.

Section 3.54 Viewing System Error, Engineering, and Reboot Log Data

Lists entries for error, engineering, and reboot logs for the Comms Module. The log data is timestamped. Log entries are displayed 100 rows per page, except for the last page, which may have fewer than 100 entries. Entries are displayed in newest to oldest entry order.

To access the screen, click the following icon:



See:

- Viewing Error Log Data
- Viewing Engineering Log Data
- Viewing Reboot Log Data

3.54.1 Viewing Error Log Data

Shows current InView Comms Module system engineering error details. These are a subset of engineering log listings.

You can navigate through the pages using the provided buttons. These allow individual page, next or previous, and end or beginning of file selection. Page information displays the current page and total number of pages in the selected log as page *x* of *y*. You can enter a number in the **Page** field to go directly to a page in the log file.

To view error logs:

1. Click the Logs icon:



The Errors Log appears:

Logs

Errors Page 1 of 1

Date	Module	Description
08/13/2000 00:35:08	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 110/Connection timed out
08/13/2000 00:34:48	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/13/2000 00:34:48	SKTS	xmiRRecv: 110/Connection timed out
08/12/2000 19:52:36	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/12/2000 19:52:36	SKTS	xmiRRecv: 110/Connection timed out
08/12/2000 02:22:47	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/12/2000 02:22:47	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 110/Connection timed out
08/12/2000 02:22:47	SKTS	xmiRRecv: 110/Connection timed out
08/11/2000 23:09:33	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/11/2000 23:09:33	SKTS	xmiRRecv: 110/Connection timed out
08/11/2000 19:10:58	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/11/2000 19:10:58	SKTS	xmiRRecv: 110/Connection timed out
08/10/2000 01:35:29	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/10/2000 01:35:29	SKTS	xmiRRecv: 110/Connection timed out
08/09/2000 20:30:14	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/09/2000 20:30:14	SKTS	xmiRRecv: 110/Connection timed out
08/07/2000 00:04:10	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/07/2000 00:04:10	SKTS	xmiRRecv: 110/Connection timed out
08/06/2000 05:25:28	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/06/2000 05:25:28	SKTS	xmiRRecv: 110/Connection timed out
08/05/2000 21:24:05	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/05/2000 21:24:05	SKTS	xmiRRecv: 110/Connection timed out
08/05/2000 03:48:19	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/05/2000 03:48:19	SKTS	xmiRRecv: 110/Connection timed out
08/04/2000 02:18:01	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
08/04/2000 02:18:01	SKTS	xmiRRecv: 110/Connection timed out
07/30/2000 23:00:48	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 110/Connection timed out
07/30/2000 23:00:33	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
07/30/2000 23:00:33	SKTS	xmiRRecv: 110/Connection timed out
07/30/2000 22:59:48	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
07/30/2000 22:59:48	SKTS	xmiRRecv: 110/Connection timed out
07/30/2000 02:06:55	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 2/No such file or directory
07/30/2000 02:06:55	SKTS	xmiRRecv: 110/Connection timed out
07/29/2000 22:06:06	CRTR	0xd744cd59027d0204. (Cannot read socket) error: 110/Connection timed out

- View the following options.
 - Date.** Lists time and date stamp associated with the error as *MM/DD/YYYY HH/MM/SS* where *MM* is month, *DD* is day, *YYYY* is year, *HH* is hours, *MM* is minutes, and *SS* is seconds.
 - Module.** Lists firmware module associated with the message.
 - Description.** Lists error description.
- To refresh the snapshot of report information you are viewing, click the following icon:



- Filtering allows you to view entries from a starting date. To filter error log entries, click the following icon:

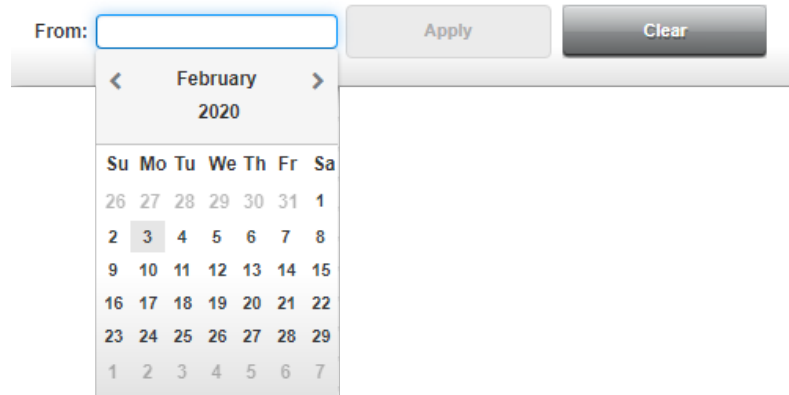


The Filter dialog appears.

- View or specify the following options:

From:

- From.** Defines a starting date. Enter a new date in the field provided or select a date from the calendar. To make changes, click the field to drop down a calendar:



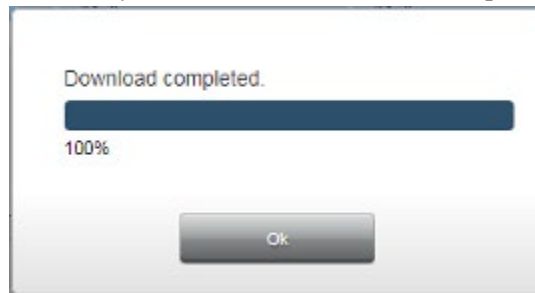
- **Apply.** Applies filtering selections. When data is filtered, the icon changes to show that the data is filtered. (You use the Clear icon to clear the filtering):



- **Clear.** Cancels filtering selections (and/or closes dialog).
6. To export and download the error data to a storage device, click the following icon:



The software informs you that it is gathering the information and informs you when the download is complete:



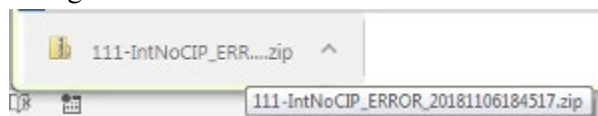
7. Click **OK**.

NOTE

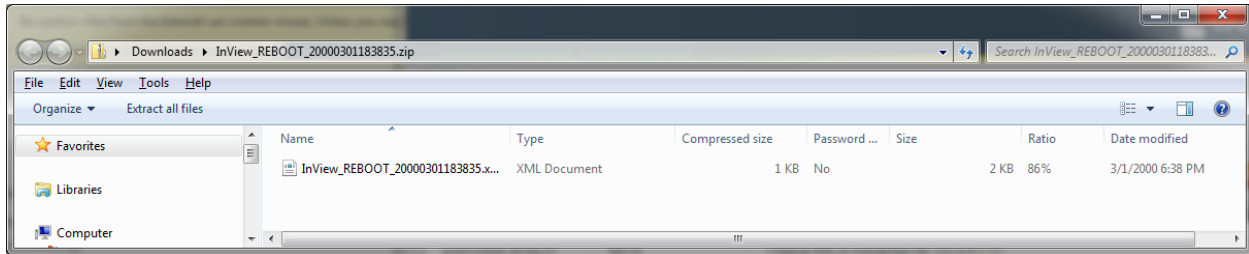


Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

8. A download file is simultaneously displayed at the lower left of the dialog. Click the file name:



The following dialog appears showing where the software saved the exported files (usually to the Downloads directory, or other designated folder, on your personal computer):



9. Navigate to the directory to retrieve the saved file.

3.54.2 Viewing Engineering Log Data

Shows current Comms Module engineering log details. This log is an overall look at Comms Module operations including detail about Comms Module processes.

You can navigate through the pages using the provided buttons. These allow individual page, next or previous, and end or beginning of file selection. You can also enter a number in the **Page** field to go directly to a page in the log file.

To view the Engineering log:

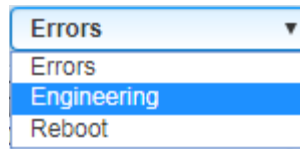
1. Click the Logs icon:



The Errors Log appears:

Errors		
Date	Module	Description
02/03/2000 17:06:49	CIL	error 27 on setDateTime
02/03/2000 05:29:05	CIL	error 27 on setDateTime

2. From the dropdown list, select **Engineering**:



The following updated list appears:

 A screenshot of a log viewer interface. At the top, there is a dropdown menu set to 'Engineering'. Below it is a table with three columns: 'Date', 'Module', and 'Description'. The table contains multiple rows of log entries. At the bottom right, there is a 'Show all' button.

Date	Module	Description
03/01/2000 20:29:29	SKTS	Opening WS UI connection for 127.0.0.1:17
03/01/2000 20:09:27	SKTS	Closing WS UI connection for 127.0.0.1:17
03/01/2000 19:39:16	EXP	Successfully exported log 'ENG'
03/01/2000 18:38:35	EXP	Successfully exported log 'REBOOT'
03/01/2000 18:03:06	SKTS	Opening WS UI connection for 127.0.0.1:17
03/01/2000 06:19:36	SKTS	Closing WS UI connection for 127.0.0.1:17
03/01/2000 05:49:34	SKTS	Opening WS UI connection for 127.0.0.1:17
03/01/2000 05:49:19	SKTS	Closing WS UI connection for 127.0.0.1:20
03/01/2000 00:09:14	SKTS	Opening WS UI connection for 127.0.0.1:17
03/01/2000 00:09:12	SKTS	Opening WS UI connection for 127.0.0.1:17
02/29/2000 23:13:58	SKTS	Opening WS UI connection for 127.0.0.1:17
02/27/2000 07:12:14	SKTS	Closing WS UI connection for 127.0.0.1:20
02/27/2000 01:32:25	SKTS	Closing WS UI connection for 127.0.0.1:17
02/27/2000 01:32:09	SKTS	Opening WS UI connection for 127.0.0.1:20
02/27/2000 00:47:39	SKTS	Opening WS UI connection for 127.0.0.1:17
02/27/2000 00:46:40	SKTS	Closing WS UI connection for 127.0.0.1:20
02/26/2000 19:52:32	SKTS	Closing WS UI connection for 127.0.0.1:17
02/26/2000 19:52:13	SKTS	Opening WS UI connection for 127.0.0.1:20
02/26/2000 17:57:26	SKTS	Opening WS UI connection for 127.0.0.1:17
02/26/2000 17:48:03	CLDN	WebPort Ready
02/26/2000 17:48:03	CLDN	Launching Maint Threads
02/26/2000 17:48:00	PTHR	Starting Passthrough
02/26/2000 17:47:57	TAGR	Message Server polling is disabled. Waiting...
02/26/2000 17:47:51	CLDN	Starting Apps
02/26/2000 17:47:31	CLDN	Configuring Network
02/26/2000 17:47:30	TIME	System is not configured for NTP time updates
02/26/2000 17:47:24	CLDN	Registering Listeners
02/26/2000 17:47:24	SOLD	SQL Maint complete
02/26/2000 17:47:23	SOLD	SQL Maint beginning
02/26/2000 17:47:21	CLDN	Database Init
02/26/2000 17:47:20	CLDN	MM InView Startup... 127.0.0.1:17

3. View the following options.

- **Date.** Lists time and date stamp associated with the engineering entry as *MM/DD/YYYY HH/MM/SS* where *MM* is month, *DD* is day, *YYYY* is year, *HH* is hours, *MM* is minutes, and *SS* is seconds.
- **Module.** Lists firmware module associated with message.
- **Description.** Lists engineering message with description.

4. To refresh the information you are viewing, click the following icon:



5. Filtering allows you to view entries from a starting date. To filter engineering log entries, click the following icon:

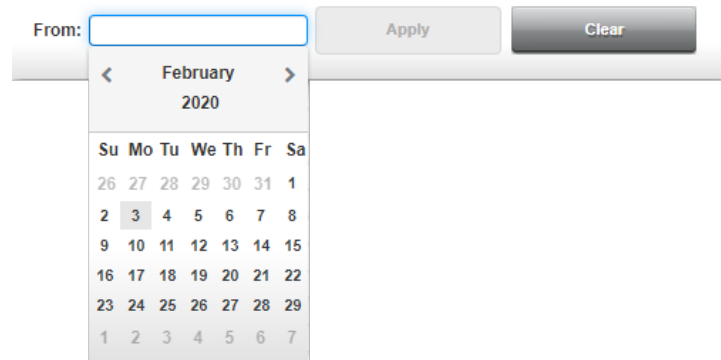


6. The Filter dialog appears. View or specify the following options:

 A screenshot of a filter dialog box. It contains a 'From:' label followed by an empty text input field. To the right of the input field are two buttons: 'Apply' and 'Clear'.

- **From.** Defines a starting date. Enter a new date in the field provided or select a date from the calendar.

To make changes, click the field to drop down a calendar:



- **Apply.** Applies filtering selections. When data is filtered, the icon changes to show that that the data is filtered. (You use the Clear icon to clear the filtering):

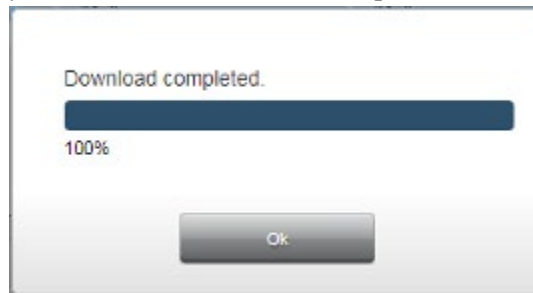


- **Clear.** Cancels filtering selections (and/or closes dialog).

7. To export and download the error data to a storage device, click the following icon:



The software informs you that it is gathering the information and informs you when the download is complete:



8. Click **OK**.

NOTE

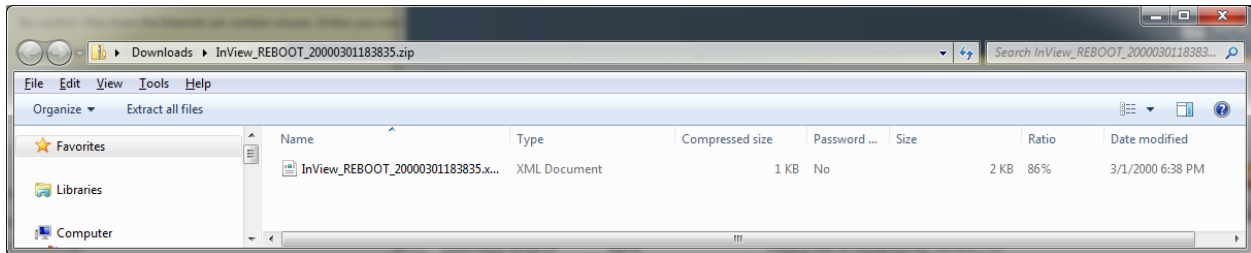


Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

9. A download file is simultaneously displayed at the lower left of the dialog. Click the file name:



The following dialog appears showing where the software saved the exported files (usually to the Downloads directory, or other designated folder, on your personal computer):



10. Navigate to the directory to retrieve the saved file.

3.54.3 Viewing Reboot Log Data

Lists messages logged during a reboot of the InView Comms Module with the exception of a reboot caused by a power failure. When the Comms Module experiences a power failure, it restarts once it has power again. During the restart, database integrity is also checked.

You can navigate through these pages using the provided buttons. These allow individual page, next or previous, and end or beginning of file selection. You can also enter a number in the Page field to go directly to a page in the log file.

To view the Reboot log:

1. Click the Logs icon:

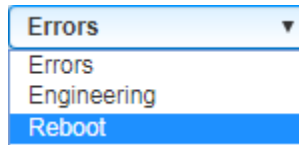


The Error Log appears:

Errors		
Date	Module	Description
02/03/2000 17:06:49	CIL	error 27 on setDateTime
02/03/2000 05:29:05	CIL	error 27 on setDateTime

Page 1 of 1

2. From the dropdown list, select **Reboot**:



The following updated list appears:

 A screenshot of a log window titled 'Reboot'. The window has a dropdown menu at the top left set to 'Reboot' and a 'Page 1 of 1' indicator at the top right. The log contains a table with three columns: 'Date', 'Module', and 'Description'. The table lists several reboot events, all with the module 'RBOOT' and descriptions such as 'Upgrade complete. Rebooting' and 'WebPort is rebooting by user request'.

Date	Module	Description
02/26/2000 17:46:29	RBOOT	Upgrade complete. Rebooting
02/24/2000 19:04:03	RBOOT	Upgrade complete. Rebooting
02/18/2000 06:56:13	RBOOT	WebPort is rebooting by user request
02/18/2000 06:50:24	RBOOT	WebPort is rebooting by user request
02/18/2000 06:12:32	RBOOT	Upgrade complete. Rebooting
02/17/2000 02:38:03	RBOOT	WebPort is rebooting by user request
02/12/2000 02:14:08	RBOOT	Upgrade complete. Rebooting
02/06/2000 19:44:03	RBOOT	Upgrade complete. Rebooting
02/03/2000 22:01:55	RBOOT	Upgrade complete. Rebooting
02/02/2000 20:50:29	RBOOT	Upgrade complete. Rebooting
01/29/2000 22:03:21	RBOOT	Upgrade complete. Rebooting
01/29/2000 21:06:15	RBOOT	Upgrade complete. Rebooting
01/26/2000 21:10:15	RBOOT	Upgrade complete. Rebooting
01/15/2000 00:41:18	RBOOT	Upgrade complete. Rebooting

3. View the following options.

- **Date.** Lists time and date stamp associated with the reboot entry as *MM/DD/YYYY HH/MM/SS* where *MM* is month, *DD* is day, *YYYY* is year, *HH* is hours, *MM* is minutes, and *SS* is seconds.
- **Module.** Identifies the RBOOT module.
- **Description.** Lists reboot entry description.

The *refresh* icon is disabled for the Reboot log as entries only get added to the log during a reboot:



4. Filtering allows you to view entries from a starting date. To filter reboot log entries, click the following icon:

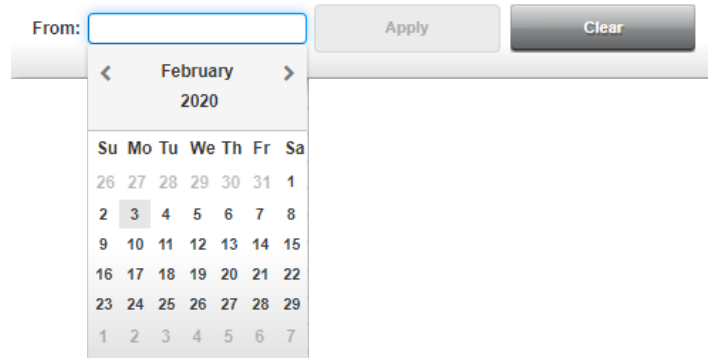


5. The Filter dialog appears. View or specify the following options:

 A screenshot of a filter dialog box. It contains a label 'From:' followed by an empty text input field. To the right of the input field are two buttons: 'Apply' and 'Clear'.

- **From.** Defines a starting date. Enter a new date in the field provided or select a date from the calendar.

To make changes, click the field to drop down a calendar:



- **Apply.** Applies filtering selections. When data is filtered, the icon changes to show that that the data is filtered. (You use the Clear icon to clear the filtering):

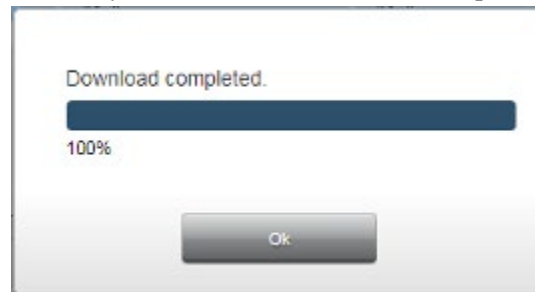


- **Clear.** Cancels filtering selections (and/or closes dialog).

6. To export and download the reboot data to a storage device, click the following icon:



The software informs you that it is gathering the information, and informs you when the download is complete:



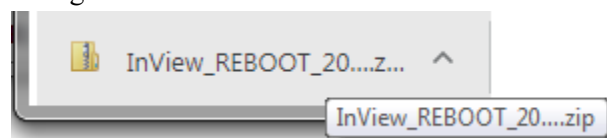
7. Click **OK**.

NOTE

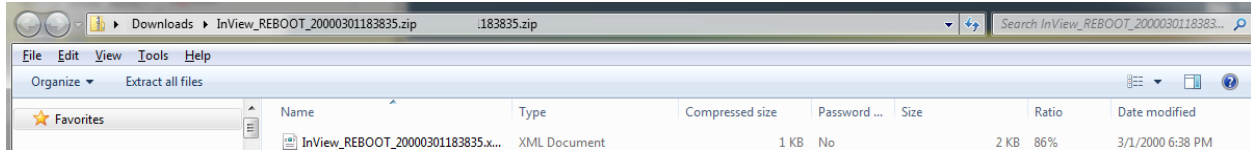


Different web browsers have different procedures for downloading and saving files. Chrome Web Browser function is described throughout this manual.

8. A download file is simultaneously displayed at the lower left of the dialog. Click the file name:



The following dialog appears showing where the software saved the exported files (usually to the Downloads directory, or other designated folder, on your personal computer):



9. Navigate to the directory to retrieve the saved file.

Section 3.55 Configuring Serial Communications Setup

The InView Comms Module provides RS-232/RS-485 serial communications via terminal block J5.

InView Comms Modules replace previous versions as follows:

Pinout	RS-232	RS-485
1		
2	TXD	T-/R-
3	RXD	
4		
5	Isolated Common/Signal Ground	Isolated Common/Signal Ground
6		N/C
7		
8		T+/R+
9		
10	Frame/Shield Ground	

To configure the serial port for the InView Comms Module:

1. From the InView Configuration Work Area, select the following icon:



The following dialog appears:

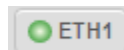
2. View or specify the following options:
 - **Serial Out to InView Display.** Specify:
 - *Connection Type.* Defines whether to use the InView Comms Module's RS-232 or RS-485 serial communication. RS-232 is a single-drop protocol (can only connect one device per port) that usually runs on cables shorter than fifty feet and may be susceptible to noise. Select this option for point-to-point communication on the serial port. RS-485 is a multi-drop protocol (up to thirty-two devices per port), that runs up to five hundred feet (or more with repeaters) and is noise resistant. Select this option for multi-point network communication.
 - *Baud Rate.* Specifies the speed at which the serial port sends data. Rates are **9600**, **19200**, and **38400**. All displays except for the 2706-9x-SC use only the 9600 baud rate. Select the desired rate from the dropdown menu.
 - **Submit.** Saves the entered connection data on InView Comms Module. The software informs you that the data settings were successfully modified. Click **OK**.
 - **Cancel.** Exits without saving selections.

Section 3.56 Viewing Eth1 Communications Status Information

You may view the Eth1 local network static or DHCP connection status (from the Network Setup screen) on the title bar.

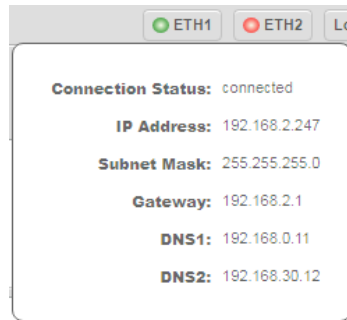
To view the information:

1. Mouse over the following icon on the menu bar:



- When green, the ETH1 connection is configured with an IP address.
- When red, the ETH1 connection is not active.

The following dialog appears:



2. View the following options:

- **Connection Status.** Identifies whether, and how, the InView Comms Module communicates via the Internet:
 - *connected.* InView Comms Module is connected to the Internet.
 - *not connected.* InView Comms Module is not connected via the Internet.
- **IP Address.** Lists InView Comms Module IP Address.
- **Subnet Mask.** Lists the subnet mask for the Eth1 setting. The default value is **255.255.255.0**.
- **Gateway.** Lists Gateway address.
- **DNS1.** Enter the primary DNS value (optional). This option is enabled only if you select Static IP addressing. Example: **8.8.8.8**
- **DNS2.** Lists a secondary DNS value. For the InView Comms Module, this value may be set to a different value. If the primary connection fails, the secondary is available. This option is enabled only if you select Static IP addressing. If you do not wish to use the Google DNS address, try Google's Namebench to determine which public DNS server will best suit your purposes.

3. To modify connection information, double click the popup menu. This opens the Network Setup screen:

See Configuring Eth1 Settings for the InView Comms Module.

Section 3.57 Viewing Eth2 Communications Status Information

You may view the InView Comms Module DHCP or Static IP Eth2 settings (from the Network Setup screen) on the title bar:

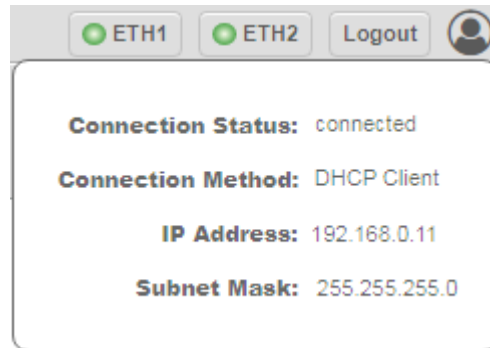
To view the information:

1. Mouse over the following icon on the menu bar:



- When green, the Eth2 connection is active.
- When red, the Eth2 connection is not active.

The following dialog appears:



2. View the following options:
 - **Connection Status.** Identifies whether, and how, the InView Comms Module communicates via the Eth2:
 - *connected.* InView Comms Module is connected via Eth2.
 - *not connected.* InView Comms Module is not connected via Eth2.
 - **IP Address.** Lists InView Comms Module IP Address.
 - **Subnet Mask.** Lists the subnet mask for the WAN setting. The default value is **255.255.255.0**.
3. To modify connection information, double click the popup menu. This opens the Network Setup screen:
See Configuring Eth2 Settings for the InView Comms Module.

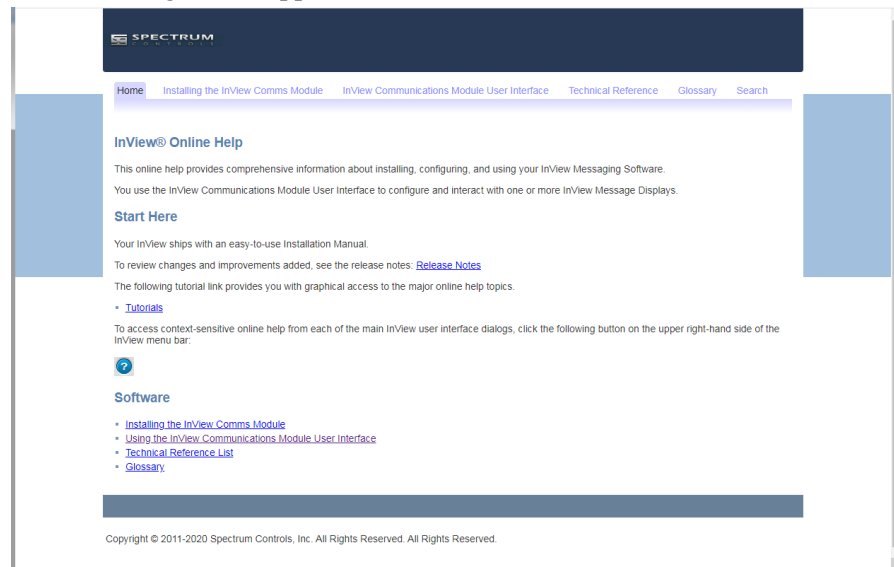
Section 3.58 Viewing Help Information

To view help information:

1. Click the following icon on the menu bar:



The following screen appears:



2. Either navigate to the topic of interest using the provided links, or search for a term using the search capability:
 - For context-sensitive help, select the help icon from the screen that is currently displayed.
 - For a software table of contents, see [Using the InView Comms Module User Interface](#).

Chapter 4

Technical Reference

The technical reference contains reference material that provides greater detail about some of the InView functions than you find in the general body of the documentation.

Section 4.1 InView Comms Modules Messages

InView Comms Modules Messages appear when a user enters incorrect information or makes an incorrect selection. Most messages are self-explanatory:

Message	Explanation	Possible Cause
Addresses must be unique.	You specified an address for a message server that matched another address.	Specify a unique address.
Address Word Offset cannot be '8'	You entered a word offset of 8 and this is not a valid offset for an SLC or MicroLogix PLC	Change the offset.
ALL the current messages and configured displays will be replaced. Do you wish to continue?	If you continue with the import of a new set of messages, all the existing messages and configured display data on the InView Comms Module will be replaced by the incoming message and display data. Confirm that you wish to do this or cancel the import.	Choose whether to continue and delete your existing data or cancel to retain the data.
A Memory range conflict exists in the <i>named_offset</i>	You see this message when there is a range overlap in the Message Trigger, or Message Data offset value, or the Message Data Array size.	Change the relevant value to one where no range overlap exists.
An error occurred during download process	The firmware was trying to download, and an error occurred.	You may need to reboot your Comms Module before retrying this process.
Are you sure you want to reboot the InView Comms Module?	You see this message when you choose the option to reboot the InView Comms Module.	This will shut down and then reboot the InView Comms Module. Confirm that this is what you wish to do or cancel the reboot.

Message	Explanation	Possible Cause
Are you sure you want to reset <i>device</i> configuration back to defaults?	You see this message when you choose the option to reset the InView Comms Module to factory default settings.	The reset will erase all user-defined data on the module. Confirm that this is what you wish to do or cancel the reset.
Array Size must be an even number.	You see this error because you entered an odd number in the array size field.	Enter an even number for the array size.
Array Size must be between 16 and 254	You entered a number below 16 or above 254.	Enter a value in the stated range.
Blank spaces are not allowed	You entered a password with a blank space in the Password field.	Remove the blank space(s).
Connection Lost!	<ul style="list-style-type: none"> • Power to the Comms Module was interrupted. • The network connection was interrupted. • The Network IP Address was changed. 	<ul style="list-style-type: none"> • Confirm a stable power source is connected to the module. • Confirm the network connection between the module and PC. If possible, connect directly to the module (rather than going through a network). • Change the address used to access the module in the web browser's address bar. • Confirm the PC's subnet mask matches the current subnet mask of the module.
Connection re-established	The user interface tries to re-establish the connection, with a series of informative messages letting you know what is happening. This message lets you know that the GUI was able to re-connect to the module.	No further action needed.

Message	Explanation	Possible Cause
Custom character library not found: <i>library name</i> . Any references to the missing custom characters will be stripped from the message.	You wish to delete a library that is currently being referenced in a message.	If you do this, the characters from the library that are currently being used in messages will be removed from the messages.
Data Length must be between 16-128	The iv_AlphaVarUpdate_Val SINT value is editable. You see this message if you enter a value outside the valid range.	Enter a value within the range.
Data successfully modified	You see this message when you change information in a dialog and the software successfully adds your changes.	No further action is needed.
Display Name ' <i>name display data</i> ' already exists.	You see this message because you entered a display name that already exists.	Enter a different name.
Display Specs not found for <i>display_type</i>	You should never see this message. If you do, essential device information is missing from the configuration.	Try deleting the device from the software and adding it back in. If the problem continues, call Technical Services.
Downgrade not supported' during upgrade. InView is still running.	You see this message because you tried to install an earlier version of the firmware over a later version.	You cannot complete this operation. You can only install the same, or later versions of firmware.
Invalid characters: <i>invalid_character_list</i>	Do not use these characters as part of a text entry. Invalid characters are Ampersand, Angle brackets, Back-quote, Backslash, Caret, Braces, Double-quote, Percent sign, Semicolon, and Single-quote.	Remove any invalid characters.

Message	Explanation	Possible Cause
Invalid Eth1 Subnet Mask	<p>The Eth1 subnet mask entry must be from the following list:</p> <ul style="list-style-type: none"> 255.128.0.0, 255.192.0.0, 255.224.0.0, 255.240.0.0, 255.248.0.0, 255.252.0.0, 255.254.0.0, 255.255.0.0, 255.255.128.0, 255.255.192.0, 255.255.224.0, 255.255.248.0, 255.255.252.0, 255.255.254.0, 255.255.255.0, 255.255.255.128, 255.255.255.192, 255.255.255.224, 255.255.255.240, 255.255.255.248, 255.255.255.252 	You see this message if your Eth1 subnet mask does not match one of these entries.
Invalid Eth2 Subnet Mask	<p>The Eth2 subnet mask entry must be from the following list:</p> <ul style="list-style-type: none"> 255.128.0.0, 255.192.0.0, 255.224.0.0, 255.240.0.0, 255.248.0.0, 255.252.0.0, 255.254.0.0, 255.255.0.0, 255.255.128.0, 255.255.192.0, 255.255.224.0, 255.255.248.0, 255.255.252.0, 255.255.254.0, 255.255.255.0, 255.255.255.128, 255.255.255.192, 255.255.255.224, 255.255.255.240, 255.255.255.248, 255.255.255.252 	You see this message if your Eth2 subnet mask does not match one of these entries.
Invalid IP address	Must be <i>octet.octet.octet.octet/1-3</i> digits. Each IP address must be between 0 and 255.	Enter valid values.
Invalid MAC address	Must be <i>octet-octet-octet-octet-octet-octet</i> . Characters must be 0 - 9, a-f, A-F, dash and colon.	Enter valid values.
<i>library name</i> already exists	You see this message when you entered a library name that matches one that already exists.	Enter a different library name.
MAC address already exists	You cannot enter a duplicate address.	Enter a different, valid
Maximum length of limit characters has been exceeded	Range is 0 to 200 characters	Reduce the number of characters.

Message	Explanation	Possible Cause
Message Base Address and Variable Base Address cannot have the same value.	You see this message if you enter the same value in both fields.	You must enter a different value in each field.
Message ID is not an integer: <i>id</i>	You see this message if you entered any other value than a whole number for a message ID.	Use a whole number for your message ID.
Message ID must be between 1 and 4000, or 4095	You see this message if you enter a message ID that is beyond this range during an add, delete, clear, or trigger a message.	Check for the correct ID in your list of messages.
Messages import completed. Restarting InView services.	You see this message when you have successfully imported an .ivp, .ivl, or .csv message group file into the software.	No further action is needed. You will shortly see a message group appear in the GUI.
Message Trigger Offset and Message Data Offset cannot have the same value	You see this message if you enter the same value in both fields.	You must enter a different value in each field.
Modified data has not saved. Are you sure you wish to navigate away from this screen?	You usually see this message when you have made changes in a dialog but have not chosen to save them.	Confirm that you wish to exit without saving your changes or save the changes.
Must be between 0 and 99	Variable ID range is 0 to 99.	Enter a number within the range.
Must be between -32768 and 32767	Number value range is -32768 to 32767	Enter a number within the range.
New password is same as current password New password cannot be spectrum	You see this message, if you enter spectrum as the new password.	Change the password.
New Password must be at least eight letters	You entered a new password that is not eight letters long.	Add enough letters to the new password to make it at least eight letters long. Longer is stronger.
Old Password is incorrect	While trying to change an existing password to a new password, you entered an incorrect password for the existing (old) password.	You will have to enter the correct existing password before you can change the password.
Out of space during upgrade. InView is still running.	You see this message if you try to upgrade with a full disk on the module.	You will need to remove some of your message groups to make space for the upgrade.

Message	Explanation	Possible Cause
Password and Confirmation do not match	The characters entered in the new password and confirmation fields were not an exact match.	Enter a new password and confirmation that match exactly.
Reconnecting...	Message shown while the Comms Module User Interface tries to reconnect to the module after an unexpected loss of connection. This can happen in the case of power loss, network loss, or a process crash.	No further action is needed unless you cannot reconnect to the module.
The following new message IDs are duplicates: <i>id1</i> , <i>id2</i>	You see this error when you entered the same values as existing messages.	Enter different message IDs.
The gateway address is not on the same subnet defined by the IP address and subnet mask	You see this message if you have the IP address, and the subnet address on a different subnet from the gateway address.	Ensure your addresses are on the same subnet.
The Message Block size is <i>block_size</i> . Trigger and Data must fit within a block of <i>number</i> bytes.	You have entered a value that exceeds the valid number of bytes allowed in the block (128).	Reduce the value entered so that it is equal to, or less than, the value shown in the error message, keeping in mind that the upper limit shown applies to a combined total of the Trigger and Data bytes.
The Variable Block size is <i>blocksize</i> . Trigger and Data must fit within a block of 128 bytes.	Identifies number of bytes in the block of interest. If the block size is greater than the block limit, you will see an additional error message showing the actual range.	Reduce the block size to a valid value.
The Variable's Trigger location overlaps with the Message's Data. The Variable Trigger must be at least: $(msgData.offset + msgData.arraySize + 1)$	This is not allowed.	Change the variable trigger to correct the error.
This message cannot be downloaded for one of the following reasons: There are messages that reference custom character libraries that cannot be found. This includes the following libraries: <i>library_names</i> ; You must either upload the missing libraries or remove any references to them in the messages.	You see a message when you have imported existing messages that require characters such as bitmaps from libraries that are not already in libraries in the software.	Use the InView Comms Module software to import the missing library or edit the messages to remove any obsolete characters.

Message	Explanation	Possible Cause
This message cannot be previewed. It contains an element that does not fit within the display.	If you try to preview a message containing too long an embedded object in a 40H font, the software warns you it cannot display the object and does not show the preview:	Remove the embedded object or separate the letters.
Unable to connect to InView	If a connection cannot be made when the browser is started or refreshed, you see this message.	Check all connections to ensure they are properly made.
Value must be between <i>lower_bound</i> and <i>upper_bound</i> .	Allowed values are: 0-9: 1-2 digits, Range=1-12 Minutes: 2 digits, Range=00-59. Dropdown menu values are: AM, PM.	Enter a value that is within the allowable range.
Variable Trigger Offset and Variable Data Offset cannot have the same value.	You see this message if you enter the same value in both fields.	You must enter a different value in each field.
You can only import bitmaps that are 16 × 16, 24 × 24, 32 × 32, or 40 × 40	You tried to import a bitmap that did not fit the stated pixel counts.	Use a graphics software package to re-size your bitmap to fit the valid pixel counts.
You entered an incorrect password	You see this message if you entered one or more characters incorrectly in the Password field.	Re-enter the password correctly.

Section 4.2 Concepts

The following list contains further information about concepts that you may encounter when setting up and using your InView Comms Modules:

Concept	Information
Application service provider (ASP)	Application service provider. Software that is provided over a network as a service to businesses that do not wish to, or cannot afford to, provide the software services for themselves.
API	Application Programmer Interface. Software that provides source code specifications intended for use by developers to create interfaces that communicate with each other using the code routines, data structures, and object classes that may be provided by the API.
CPU	Central Processing Unit. Carries out the instructions provided by a computer program. Normally these are basic logical, input/output, and arithmetical operations that form the basis of most software operations on a computer.
Domain Name Server (DNS)	This is the value that is associated with the Domain Name Server that your system interacts with on the Internet. Domain name servers convert text names that are easy to remember (google.com, spectrumcontrols.com) to IP address values.

Concept	Information
DHCP Client	Dynamic Host Configuration Protocol Client. When you connect a new device such as a computer, or an InView Comms Module to a network that has a DHCP Server set up, the client device gets its IP address and other configuration information such as default gateway and domain name from a group of IP addresses maintained by the DHCP server for a defined time period.
Flash	A type of non-volatile memory that can be electronically erased and re-written.
FTP/FTPS	File Transfer Protocol/Secure File Transfer Protocol. A standard network protocol standard used to transfer files from one computer or host to another over a network that uses the TCP/IP communications protocol. FTP is therefore frequently used to transfer files over the Internet.
FSF	Free Software Foundation. A non-profit foundation that supports free software. It wrote an operating system, GNU, which is similar to Unix but is free to all users. The General Public License (GPL) was written for distribution with the operating system but is frequently used for other free software packages.
Gateway Address	A gateway address is the default address of your network or web site. This is usually the next address in line when connecting to the Internet from a local area network and is usually the address assigned to a router or a firewall. Communications traffic goes out and comes in through the gateway.
GPL	GNU Public License. A license offered by the Free Software Foundation that covers licensing and distribution of free software.
HTTP/HTTPS	Hypertext Transfer Protocol. Communication protocols that access the world-wide web. HTTP protocol is not secure. HTTPS is secure. The S designation means that the transfer protocol is combined with the Secure Socket Layer/Transport Security Layer (SSL/TLS) protocol to provide secure communication for transactions such as payments across the Internet.
Internet Protocol (IP) Address	An IP address is a unique number that every device that connects to the Internet must have. Devices include personal computers, printers, removable hard drives, routers such as the InView Comms Module, and hardware firewalls. The addresses are assigned by your system administrator or by the protocol that is running on your device. The connection method you choose defines how that address is assigned.
Local Area Network (LAN)	A local area network (LAN) is a network that is normally made of devices such as personal computers that are located near to each other, such as in the same office building or plant.
LED	Light-emitting diode. Photons emitted from a semi-conductor provide indicator signals for electronic devices and various forms of lighting. An LED can emit light photons in different colors, including red, green, and purple, and different frequencies (visible, infrared, and ultraviolet). InView has no LEDs visible outside the InView Comms Module case enclosure.
MAC	Media Access Control address. A unique set of numbers assigned to a network interface card and stored in the read-only memory. A MAC address may also be called the Ethernet hardware address or the physical address of a device.
NAT	Network Address Translation. Used for port forwarding and 'masquerading'.

Concept	Information
PLC	Programmable logic controller. A digital computer used to automate industrial processes such as controlling electrical turbine operation, assembly lines, and manufacturing machinery. The controllers are frequently ruggedized to withstand difficult operating environments.
Static IP Address	A permanent IP address assigned to a computer by the network administrator or a domain name server.
Transmission Control Protocol, Internet Protocol (TCP/IP)	Transmission Control Protocol, Internet Protocol. A group of communications protocols used to communicate between computers on the Internet or other networks. Also called The Internet protocol suite. The suite sends data across the Internet in packets.

Section 4.3 Calculating Message Size

By calculating the message size, you can determine the maximum number of messages allowed for messages of a set length.

To calculate message size, use the following table:

Message Attribute	Size	Note
Heading*	9	A heading adds 9 bytes to a message.
Message*	11	A message always uses a minimum of 11 bytes
Char(0×0D)	1	Carriage return adds 1 byte to a message
Char(0×20-0×7F)	2	Standard ASCII characters add 1 byte to a message
Char(0×E0-0×FF)	2	Most international characters add 2 bytes to a message
Symbol	3	Select international characters add 3 bytes
Time	5	Inserting the time adds 1 byte to a message
Date	1	Inserting the date adds 2 bytes to a message.
Color	2	Each color added to a message (over and above the message attribute color) adds 2 bytes to the message.
Flash	2	Add 2 bytes each time flash is enabled for text and 2 bytes for each line that has flash enabled.
Font Style	4	Each font style added to a message adds 4 bytes to message.
Variable	9	Inserting a variable adds 9 bytes to a message

* The Heading and Message include settings for mode, font, color, and justification. If using a font size of 24 or 32, add 2 bytes to the minimum message size.

The formula for maximum number of messages is:

$$200,000/\text{Message Size} = \text{Maximum Number of Messages}$$

- If the default message size is 100 bytes, then the maximum number of messages is 2,000:
 $200,000/100=2000$
- If the default message size is 50 bytes, then the maximum number of messages is 4,000:
 $200,000/50=4,000$
- If the default message size is 200 bytes, then the maximum number of messages is 1,000:
 $200,000/200=1,000$

Section 4.4 About Communication Tags

You must define tag parameters for the InView message data and variable that is transferred to/from the controller for each communication protocol. The tags must be ASCII or Integer.

Tags are as follows:

Tag	Description
Message Trigger Address	The controller address that triggers a message to display.
Message Data Address	The starting address of the message data to be displayed.
Message Array Size	The size of the array is dependent on the PLC message server containing the message data. The maximum array size is dependent on the controller and must be an even integer.
Message Data Swap Bytes	(DeviceNet not available at present.) For DeviceNet, each message data tag can be set to swap (or not swap) the order of bytes within a 16-bit word. To enable swapping, select the check box. To disable swapping, uncheck the box.
Variable Trigger Address	The controller address that will trigger a message variable to display.
Variable Data Address	The starting address of the variable data to be displayed.
Variable Array Size	The size of the array, (16 to 254 characters for ControlLogix and CompactLogix, 16 to 78 for MicroLogix, PLC5, and SLC), containing the variable data. The maximum array size is dependent on the controller and must be an even integer.
Variable Data Swap Bytes	(DeviceNet not available at present.) For DeviceNet, each variable data tag can be set to swap, or not swap, the order of bytes within a 16-bit word. To enable swapping, select the check box. To disable swapping, uncheck the box.

The maximum array size for the Ethernet protocol is as follows:

Controller Type	Array Size
SLC	80
MicroLogix	80
PLC	230
Compact with ENI	230
ControlLogix with ENI	230
FlexLogix with ENI	254

Section 4.5 How Message Priorities Work

Message priority specifies the importance of a message. You can assign low, medium, or high priority to a message. Messages of a lower priority will not run if any message of a higher priority is running.

The second column of each row in the message list shows the priority assigned to a message: **Low**, **Medium**, or **High**.

The following table shows a sample of priorities set for messages:

Message Number	Priority
5	Low
4	Low
3	Medium
2	High
1	High

The result of sending these sample priority messages is as follows:

Message queue	Message number shown on display	Highest priority message displayed
5	5	Low
4,5	4,5 both messages toggle	Low
5,4,3	3	Medium
5,4,3,2	2	High
5,4,3,2,1	1,2	High
5,4,2,1	1,2	High
4,3,2,1	1,2	High
4,3,1	1	High
3,4	3	Medium
4	4	Low
-	-	Background Message

The following example shows a more complicated set of priorities:

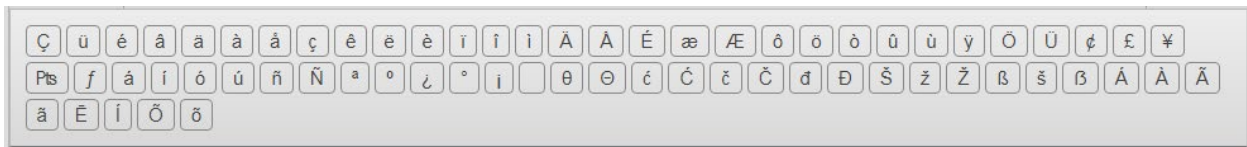
Message Number	Priority
1	Low
2	Low
3	Low
4	Medium
5	Medium
6	Medium
7	High
8	High
9	High

The following example shows a more complicated set of priorities (XX means 'does not matter'):

Message Number in Activation Register	Message Number in Deactivation Register	Message queue	Number of messages displayed	Highest priority message displayed
1	XX	1	1	Low
2	XX	1,2	1	Low
3	XX	1,2,3	1	Low
5	XX	1,2,3,5	5	Medium
4	XX	1,2,3,5,4	5,4	Medium
6	XX	1,2,3,5,4,6	5,4,6	Medium
9	XX	1,2,3,5,4,6,9	9	High
8	XX	1,2,3,5,4,6,9,8	9,8	High
8	XX	2,3,5,4,6,9,8	9,8	High
7	1	2,3,5,4,6,9,8,7	9,8,7	High
7	5	2,3,4,6,9,8,7	9,8,7	High
XX	7	2,3,4,6,9,8	9,8	High
XX	9	2,3,4,6,8	8	High
XX	8	2,3,4,6	4,6	Medium
XX	4	2,3,6	6	Medium
XX	6	2,3	2,3	Low
XX	2	3	3	Low
XX	3	-	-	Background Message

Section 4.6 Extended ASCII Character Set

The following table lists the extended ASCII character set and hexadecimal and decimal values associated with the ASCII character:



Character	Hex	Dec	Character	Hex	Dec
Ç	80H	128	í	A1H	161
ü	81H	129	ó	A2H	162
é	82H	130	ú	A3H	163
â	83H	131	ñ	A4H	164
ä	84H	132	Ñ	A5H	165
à	85H	133	ª	A6H	166
á	86H	134	º	A7H	167
ç	87H	135	¿	A8H	168
ê	88H	136	º	A9H	169
ë	89H	137	ì	AAH	170
è	8AH	138	(thin space)	ABH	171
ï	8BH	139	θ	ACH	172
î	8CH	140	Θ	ADH	173
ì	8DH	141	ć	AEH	174
Ā	8EH	142	Ć	AFH	175
Ă	8FH	143	č	B0H	176
Ę	90H	144	Č	B1H	177
æ	91H	145	đ	B2H	178
Æ	92H	146	Đ	B3H	179
ô	93H	147	Š	B4H	180
ö	94H	148	ž	B5H	181
ò	95H	149	Ž	B6H	182
û	96H	150	β	B7H	183
ù	97H	151	š	BH8	184
ÿ	98H	152	β	B9H	185
Ŏ	99H	153	Á	BAH	186
Ū	9AH	154	À	BBH	187
ø	9BH	155	Ã	BCH	188
£	9CH	156	ã	BDH	189

Character	Hex	Dec	Character	Hex	Dec
¥	9DH	157	É	BEH	190
Pts	9EH	158	Í	BFH	191
<i>f</i>	9fH	159	Ï	C0H	192
à	AOH	160	ð	C1H	193

Section 4.7 How InView LEDs Work

InView Comms Module LEDs function as follows:

LED1 Operation	Function Indication
Green	Blinks when UART is transmitting characters to display.
Red	Blinks when UART is receiving characters.

LED2 Operation	Function Indication
Green	Power on indication-always on when power is applied.
Red	Blinks rapidly only during reset countdown.

Section 4.8 Easy Tags Summary

Tag Name	Description	Function
iv_DisSerAddr	Display Serial Address	Used in conjunction with all other Easy Tags to specify the target display.
iv_PriorityMesg_Trig==	Priority Message Trigger	When the value for iv_PriorityMesg_Trig changes then the Message Number contained in tag iv_PriorityMesg_Num will be activated on the display specified by iv_DisSerAddr.
iv_PriorityMesg_Nummmj	Priority Message Number	Message Number to be activated whenever the value for iv_PriorityMesg_Trig is changed.
iv_AddMesg2Q_Trig	Add Message to Message Queue Trigger	When the value for iv_AddMesg2Q_Trig changes then the Message Number contained in tag iv_AddMesg2Q_Num will be added to the Message Queue for the display specified by iv_DisSerAddr.

Tag Name	Description	Function
iv_AddMesg2Q_Num	Add Message to Message Queue Number	Message Number to be added to the Message Queue whenever the value for iv_AddMesg2Q_Trigger is changed.
iv_DelMesgFromQ_Trigger	Delete Message from Message Queue Trigger	When the value for iv_DelMesgFromQ_Trigger changes then the Message Number contained in tag iv_DelMesgFromQ_Num will be deleted from the Message Queue for the display specified by iv_DispatchAddr.
iv_DelMesgFromQ_Num	Delete Message from Message Queue Number	Message Number to be deleted from the Message Queue whenever the value for iv_DelMesgFromQ_Trigger is changed.
iv_ClearMesgQ_Trigger	Clear Message Queue Trigger	When the value for iv_ClearMesgQ_Trigger changes then the Message Queue will be cleared for the display specified by iv_DispatchAddr.
iv_NumVarUpdate_Trigger	Update Numeric Variable Trigger	When the value for iv_NumVarUpdate_Trigger changes then the Numeric Variable Number contained in tag iv_NumVarUpdate_Num will be updated with the Numeric Variable value contained in tag iv_NumVarUpdate_Val for the display specified by iv_DispatchAddr.
iv_NumVarUpdate_Num	Numeric Variable Update Number	Numeric Variable ID number to be updated whenever the value for iv_NumVarUpdate_Trigger is changed.
iv_NumVarUpdate_Val	Numeric Variable Update Value	Numeric Variable value to be updated whenever the value for iv_NumVarUpdate_Trigger is changed.
iv_AlphaVarUpdate_Trigger	Update Alphanumeric Variable Trigger	When the value for iv_AlphaVarUpdate_Trigger changes then the Alphanumeric Variable Number contained in tag iv_AlphaVarUpdate_Num will be updated with the Alphanumeric Variable text string contained in array iv_AlphaVarUpdate_Val for the display specified by iv_DispatchAddr.
iv_AlphaVarUpdate_Num	Alphanumeric Variable Update Number	Alphanumeric Variable ID number to be updated whenever the value for iv_AlphaVarUpdate_Trigger is changed.
iv_AlphaVarUpdate_Val	Alphanumeric Variable Update Value	Alphanumeric Variable text string to be updated whenever the value for iv_AlphaVarUpdate_Trigger is changed.

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Corporate Headquarters

Spectrum Controls Inc.
1705 132nd Avenue NE
Bellevue, WA 98005 USA
Fax: 425-641-9473
Tel: 425-746-9481

