



INSTALLATION AND OPERATION MANUAL

CNFE3FX1TX2C[/M] Series

CONTACT OVER ETHERNET MODULES

This manual serves the following ComNet Model Numbers:

CNFE3FX1TX2C8TX
CNFE3FX1TX2C8RX
CNFE3FX1TX2C4DX
CNFE3FX1TX2C8TX/M
CNFE3FX1TX2C8RX/M
CNFE3FX1TX2C4DX/M

The ComNet CNFE3FX1TX2C[/M] series is an industrially hardened three-port intelligent switch with light management functionality and an integrated contact closure server. The 100BASE-FX port supports conventional CAT-5e/CAT-6 copper or optical transmission media by selection of the appropriate ComNet SFP* module. A summary fault alarm provides indication via a form c relay in the event of loss of optical link or operating power. The 10/100BASE-TX ports support both auto-negotiation and automatic MDI/MDI-X crossover for full and half-duplex operation; manual MDI/MDI-X switching is not required. The integrated contact closure server is available with 4 or 8 channels and supports individual user selectable wet or dry inputs. Form A relay outputs feature individual user selection of normally open or normally closed operation via the built-in web GUI. The contact server supports 4 modes of operation including one-to-one, one-to-many, many-to-one and stand-alone.

The internal/self-contained 9 to 36 VDC or 24 VAC power supply features redundant power inputs, for the highest possible reliability. The simple to install, CNFE3FX1TX2C/M Series is DIN-rail or panel-mountable, and is ideal for mission-critical applications where very high levels of reliability and network availability are of the utmost importance.

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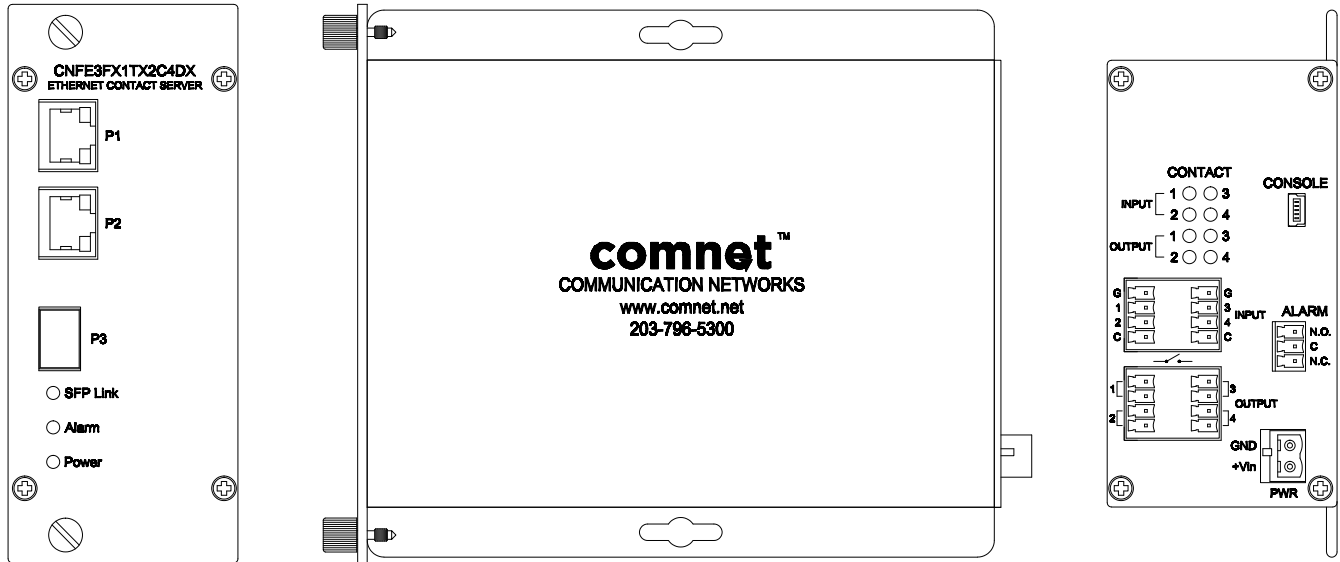
Hardware description

The ComNet CNFE3FX1TX2C/M series is an industrially hardened three-port intelligent switch with light management functionality and an integrated contact closure server. The 100BASE-FX port supports conventional CAT-5e/CAT-6 copper or optical transmission media by selection of the appropriate ComNet SFP module. A summary fault alarm provides indication via a form c relay in the event of loss of optical link or operating power. The 10/100BASE-TX ports support both auto-negotiation and automatic MDI/MDI-X crossover for full and half-duplex operation; manual MDI/MDI-X switching is not required. The integrated contact closure server is available with 4 or 8 channels and supports individual user selectable wet or dry inputs. Form A relay outputs feature individual user selection of normally open or normally closed operation via the built-in web GUI. The contact server supports 4 modes of operation including one-to-one, one-to-many, many-to-one and stand-alone.

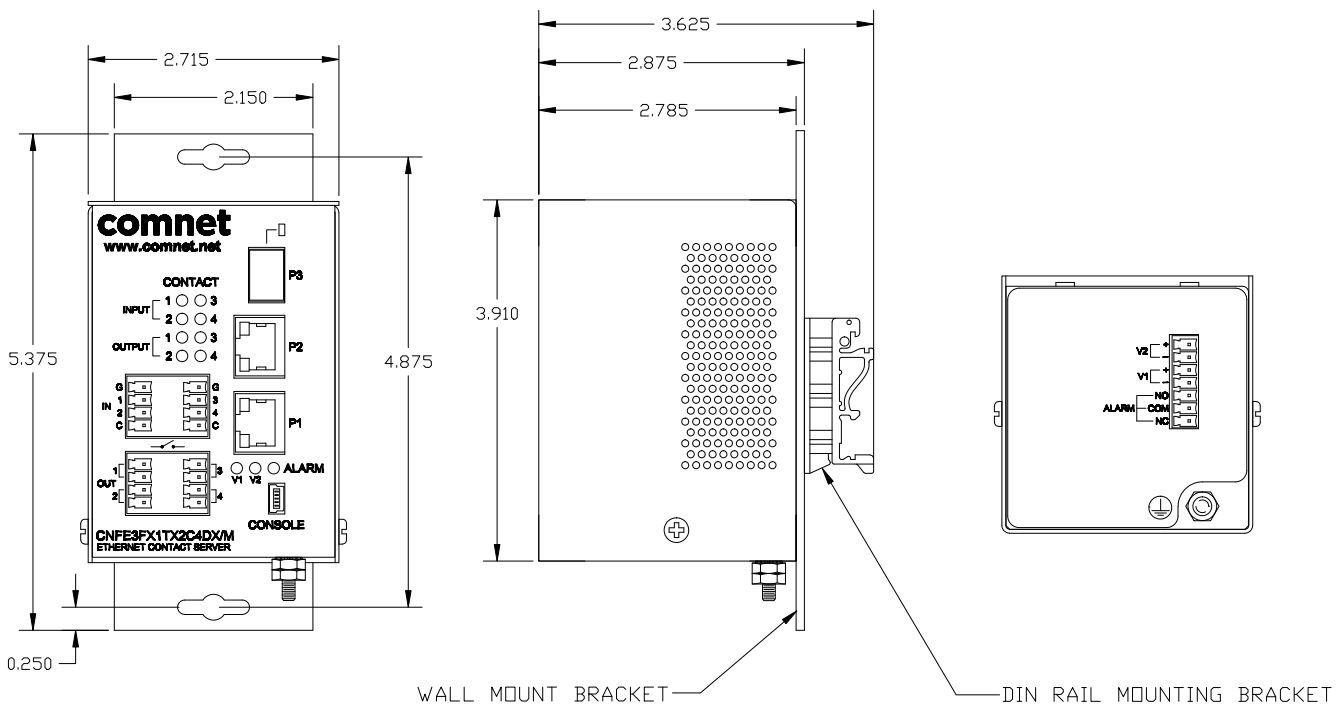
Distances depend on which SFP (Small Form Pluggable) module is used. The two RJ45 Ethernet connectors auto-negotiate or the configuration may be forced. The optical interface is fixed at 100 Mbps.

Hardware Features

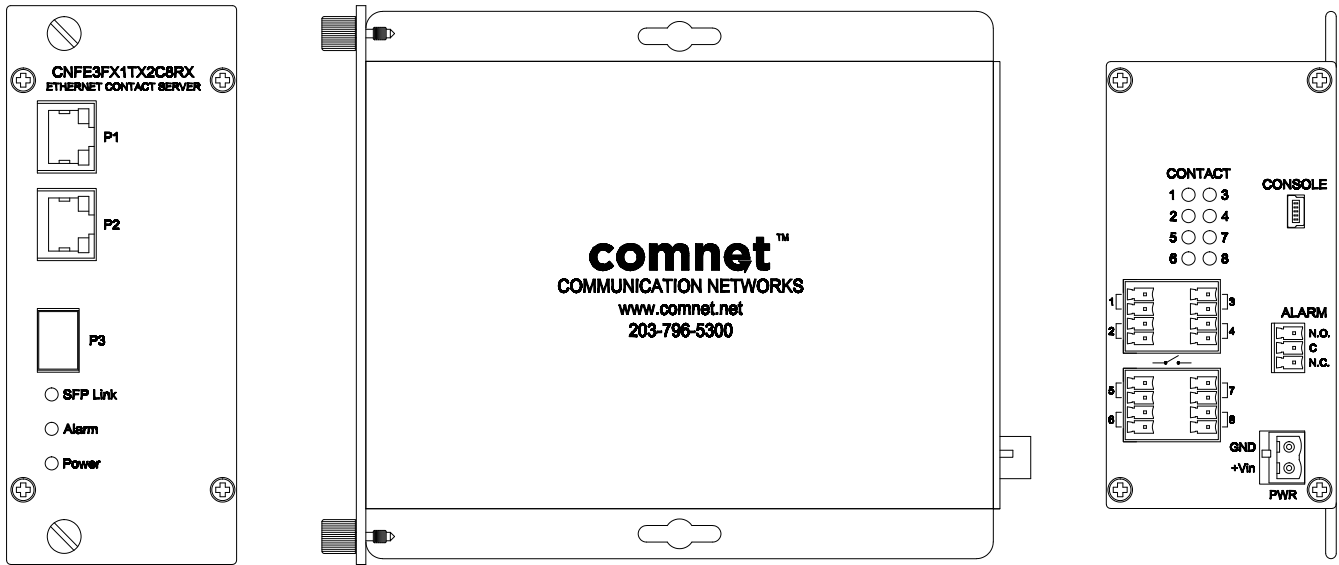
- » 2 × Redundant DC power inputs
- » Operating Temperature: -40 - 75°C
- » Storage Temperature: -40 - 85°C
- » Operating Humidity: 5% - 95%, non-condensing
- » 2 × 10/100Base-T(X) Fast Ethernet port
- » 1 × 100 Base-X SFP
- » 4 or 8 × Dry Contact Inputs, Wet Contact inputs 9-50VDC (number of contacts is model dependent)
- » 4 or 8 × Form A Relays (model dependent)
- » 1 × Form C Alarm Relay
- » USB Console Port 115.2K baud 8N1
- » Dimensions: Mini units w/ wall mount adapter plate 5.4 × 2.7 × 2.9 in (13.7 × 6.7 × 7.4 cm)
Mini units w/ DIN rail mount clips 3.9 × 2.7 × 3.6 in (9.9 × 6.7 × 9.1 cm)



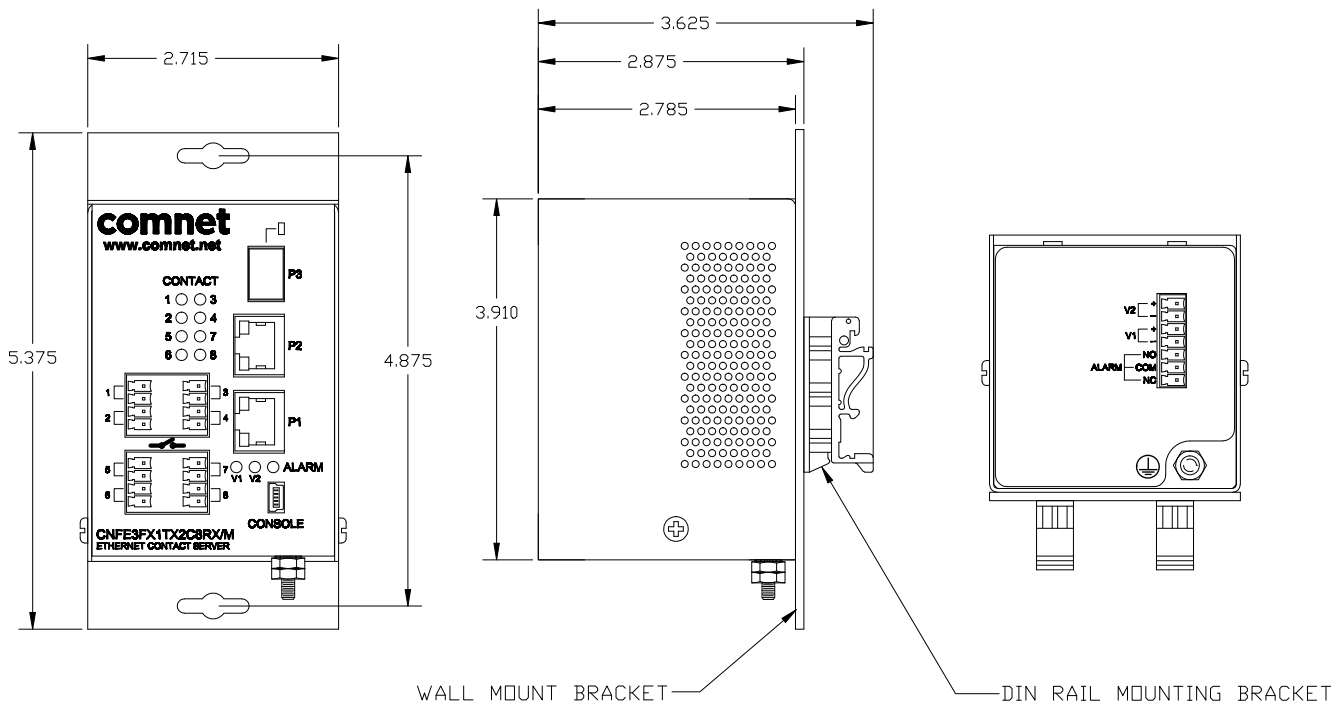
Mechanical Drawing of ComFit CNFE3FX1TX2C4DX MODULE including contact connector pin-out



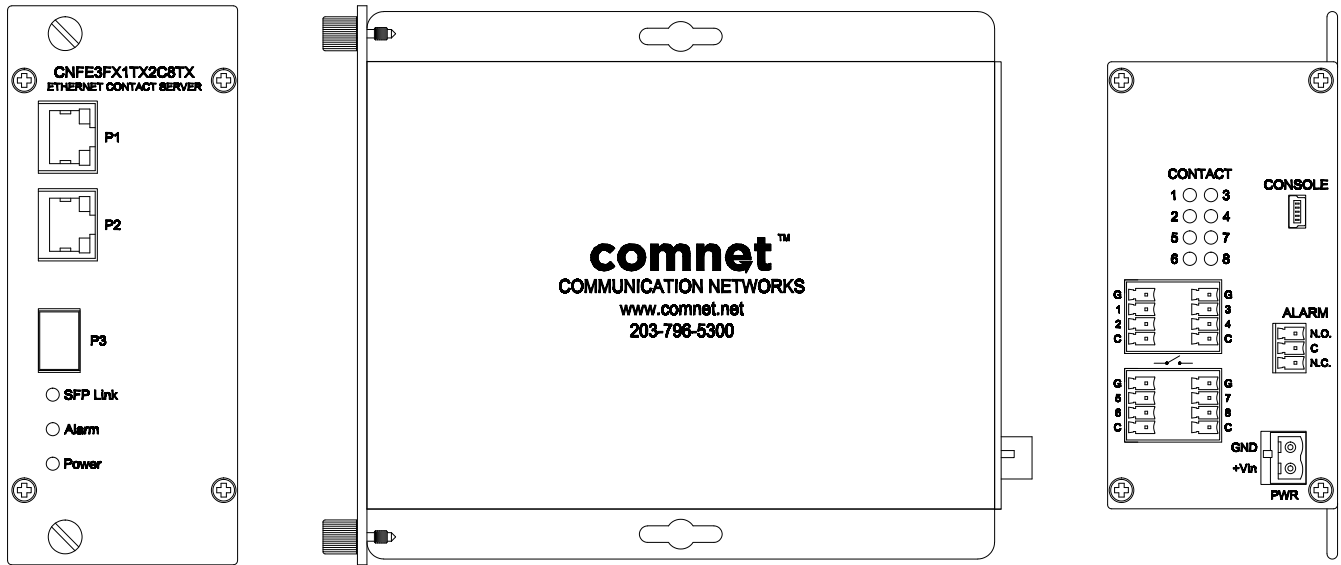
Mechanical Drawing of Mini CNFE3FX1TX2C4DX/M MODULE including contact connector pin-out



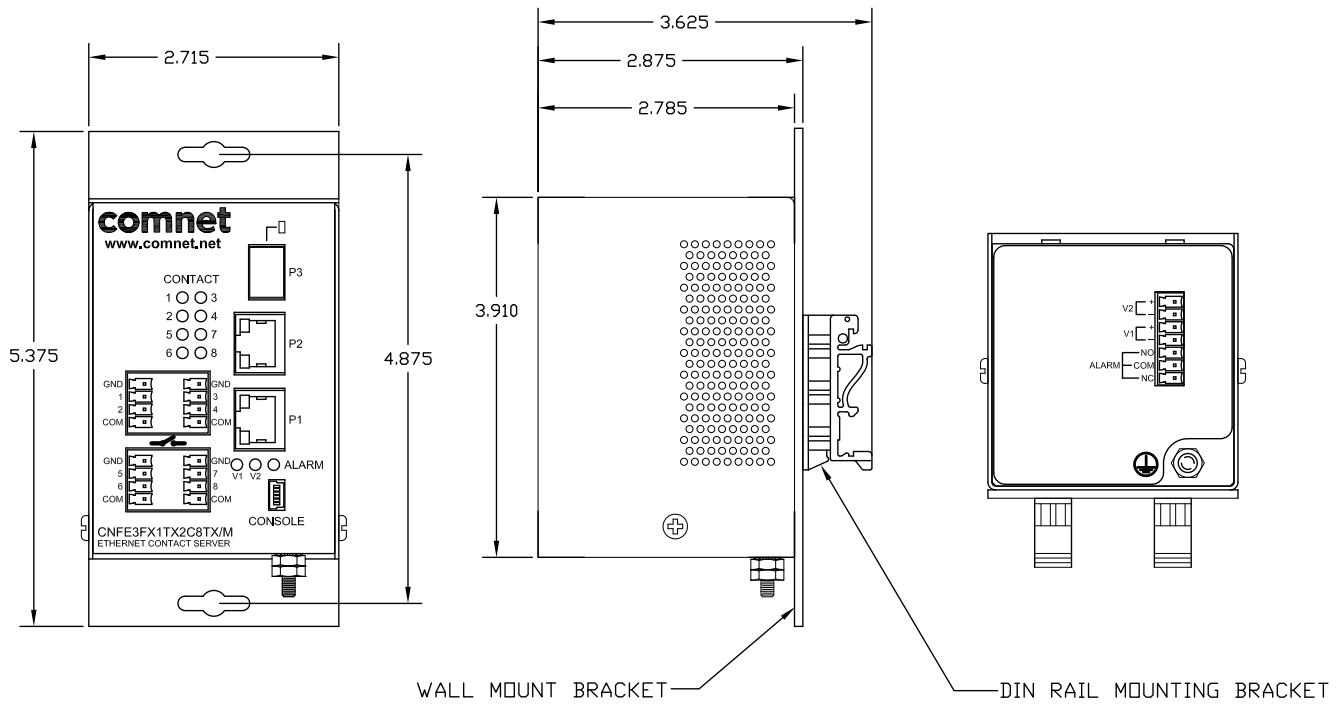
Mechanical Drawing of ComFit CNFE3FX1TX2C8RX MODULE including contact connector pin-out



Mechanical Drawing of Mini CNFE3FX1TX2C8RX/M MODULE including contact connector pin-out



Mechanical Drawing of ComFit CNFE3FX1TX2C8TX MODULE including contact connector pin-out



Mechanical Drawing of Mini CNFE3FX1TX2C8TX/M MODULE including contact connector pin-out

Module Input/Output Mapping

Module LEDs

LED	Color	Status	Description
PWR1	Green	On	DC Power Input 1 Good
		Off	No power detected
PWR2	Green	On	DC Power Input 2 Good
		Off	No power detected
STATUS	Green	On	Initialization passed
	Red	On	Failed
10/100Base-T(X) Ethernet ports			
LNK/ACT	Green	On	Port link up
		Blinking	Data transmitting
100 Mbps indicator	Amber	On	Port speed is 100 Mbps
SFP			
LNK/ACT	Green	On	Port link up
		Blinking	Data transmitted

Software Features

- » Supports SNMPv1/v2c
- » Event notification by SNMP trap and Alarm Relay Output
- » Web-based GUI and USB Console CLI configuration
- » Enable/disable ports
- » IGMPv3 Multicast host
- » Static MAC lock (per port)
- » Static multicast MAC routing
- » Field firmware upgrade capable
- » Port Guardian physical port lockout feature
- » Active ping check with SNMP trap & port shutdown capability
- » Port Statistics
- » Remote Reset
- » Factory default reset

Cables

Ethernet Cables

The CNFE3FX1TX2C series switches have standard Ethernet ports. According to the link type, the switches use CAT 3, 4, 5, & 5e UTP cables to connect to any other network device (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100Ω	UTP 100m (328ft)	RJ-45
100BASE-TX	Cat. 5 100Ω UTP	UTP 100m (328ft)	RJ-45
1000BASE-TX	Cat. 5/Cat. 5e 100Ω UTP	UTP 100m (328ft)	RJ-45

10/100BASE-T(X) Pin Assignments

With 100BASE-T(X)/10BASE-T cable, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data.

10/100 Base-T RJ-45 Pin Assignments

Pin Number	Assignment
1	TD+
2	TD-
3	RD+
4	Not used
5	Not used
6	RD-
7	Not used
8	Not used

Console Cable

Each CNFE3FX1TX2C series switch can have the initial network settings configured by the management console port. You can connect them to a PC with USB Ports using the supplied USB to USB Mini B male plug cable.



SFP

The CNFE3FX1TX2C series switch has a fiber optic port that utilizes an SFP connector. ComNet offers a wide selection of SFP modules that offer different fiber type, connector type and distances. Please remember that the TX port of Switch A should be connected to the RX port of Switch B.

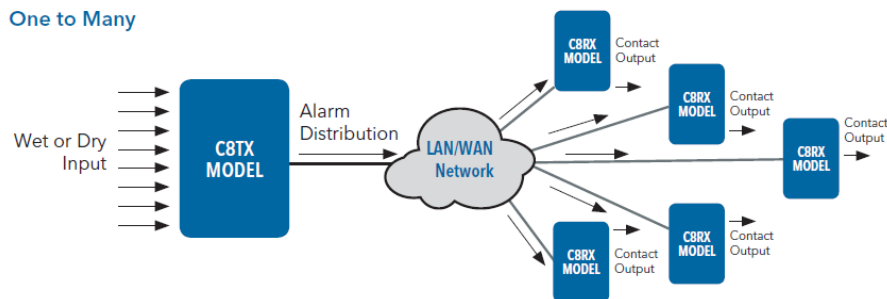


Application Examples

One to One UDP connection

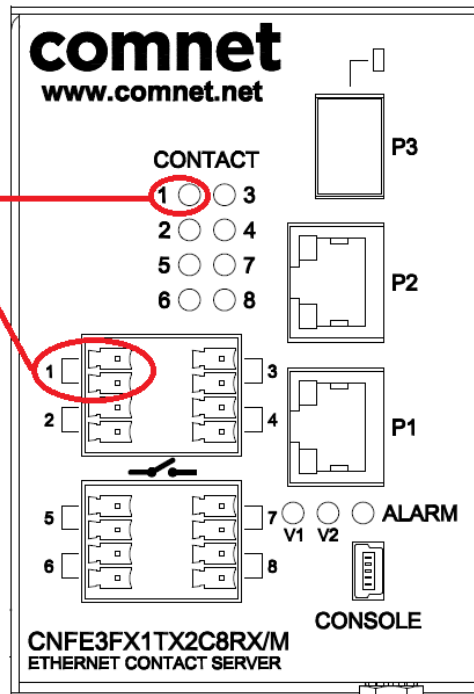


One to Many Multicast UDP example



The contact output on the RX units are form A mechanic relay contacts. They are either opened or closed depending on the commanded state from the remote unit. The output contact connections are configured to use the two adjacent pins. The LED status indications follow the state of the contact status as described in the table below.

Contact Status	LED Status
OPEN	OFF
CLOSED	ON

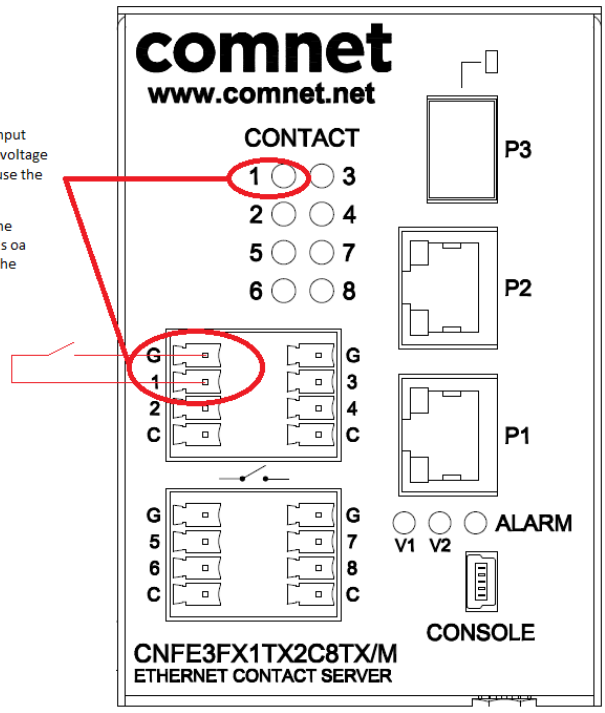


8 RX Connection

The input contacts on the RX units can be connected in dry contact connection (no input voltage) or wet contact connection (input voltage supplied). This section describes how to use the contacts for dry input connections.

Dry input connections are referenced to the ground "G" pin, the expected connection is oa open or a short. The status LED indicates the state of the input.

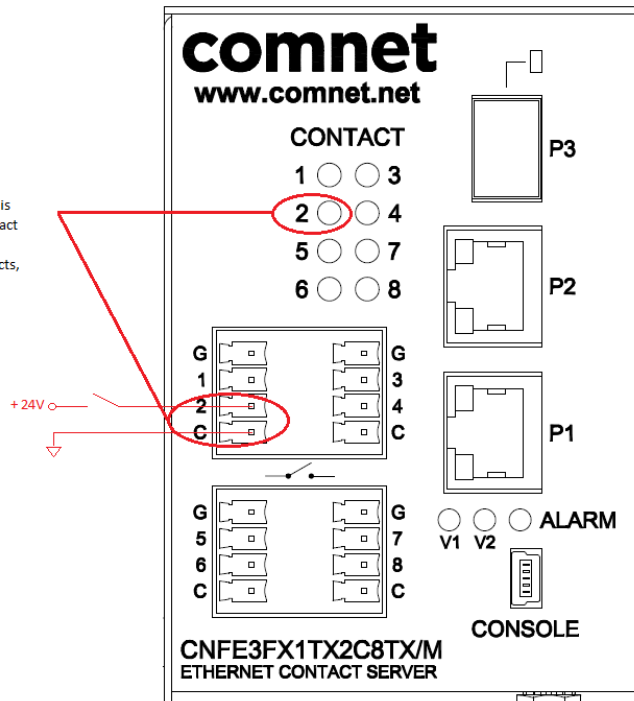
Contact Status	LED Status
OPEN	OFF
CLOSED	ON



8TX Dry Contact Connection

This section describes how to use the contacts for wet input connections. The wet input connections are referenced to the common "C" pin, the input circuit is bidirectional and will accept either ground or +VCC. This example shows common connected to ground and contact 2. The status LED will indicate the state of the input voltage when VCC and ground are present on the contacts, the LED will indicate Green.

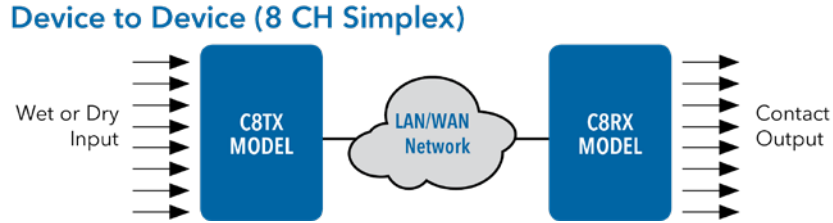
Contact Status	LED Status
No VCC & GND	OFF
VCC & GND	ON



8TX Wet Contact Connection

8CH Simplex connection example

This Step by Step procedure will walk thru the process for creating an 8CH Simplex connection between a C8TX (IP 192.168.11.1) unit with a C8RX (IP 192.168.11.2) unit.



C8TX unit configuration

1. From the webpage click on the "In Contact Ethernet Link" to open the following page.
2. Check the one to one enable checkbox to allow connection to a remote unit.
3. Set the IP address to the remote output device in our example the IP is 192.168.11.2. Make sure the port number is set to the exact same number on both the RX and TX units.
4. Check the selected input contacts that you would like to connect to the remote output device. If a contact is left unchecked, it will be ignored at the remote unit.
5. Hit apply to apply and save your settings

CNFE3FX1TX2C8TX
System
Port Config
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Firmware Upgrade
Factory Defaults
System Reset
Network Configuration
SNMP Configuration
Alarm Contact
IN Contact Ethernet Link

Input Contact Ethernet Link

This page allows for enabling a link between Input Contacts on this device to Output Contacts on a Remote device(s)

Input Contact Config

<input checked="" type="checkbox"/> One to One enable	Status: Connected
Remote Output IP: 192.168.11.2	Port No.: 6565

Selected Input Contacts

<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4
<input checked="" type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input checked="" type="checkbox"/> 8

<input type="checkbox"/> One to Many enable	Status: Not Connected
Multicast Group: 235.168.10.1	Port No.: 6565

C8RX unit configuration

1. From the webpage click on the "Out Contact Ethernet Link" to open the following page.
2. Check the one to one enable checkbox to allow connection to a remote unit.
3. Set the IP address to the remote output device in our example the IP is 192.168.11.1. Make sure the port number is set to the exact same number on both the RX and TX units.
4. Hit apply to apply and save your settings
5. An optional setting to retain remote data will save the last known transmitted value upon loss of connection with remote sensor. Otherwise the open state will return after a timeout period.

CNFE3FX1TX2C8RX

System

Port Config

Active Ping Check

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Firmware Upgrade

Factory Defaults

System Reset

Network Configuration

SNMP Configuration

Alarm Contact

Out Contact Ethernet Link

Output Contact Ethernet Link

This page allows for enabling a link between a remote Input Contact device(s) and the local output contacts

Output Contact Config

Retain remote data

<input checked="" type="checkbox"/> One to One enable	Status: Not Connected
Remote Input IP: 192.168.11.1	Port No.: 6565

<input type="checkbox"/> One to Many enable	Status: Not Connected
Multicast Group: 235.168.10.1	Port No.: 6565

WEB Management

Attention: While installing and upgrading firmware, please DO NOT power off equipment while the firmware is upgrading!

Configuration by Web Browser

This section provides instruction on configuration through the Web browser.

About Web-based Management

An embedded HTML web site resides in the flash memory on the CPU board. It contains advanced management features and allows you to manage the switch from anywhere on the network through a standard web browser such as Microsoft Internet Explorer.

The Web-Based Management function supports Internet Explorer 5.0 or later.

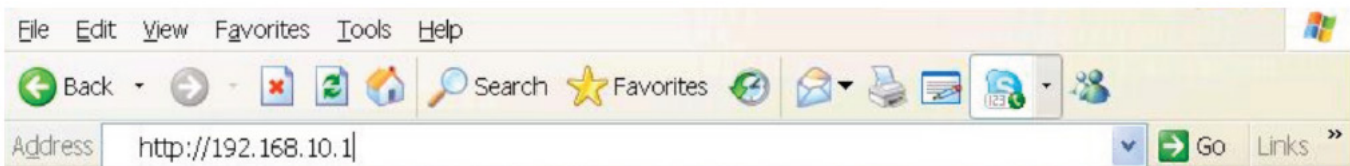
Preparing for Web Management

The default value is as below:

IP Address: 192.168.10.1 Subnet Mask: 255.255.255.0 Default Gateway: 192.168.10.254 User Name: admin Password: admin

System Login

1. Launch your Web Browser.
2. Type http:// and the IP address of the switch. Press Enter.



3. The login screen appears.
4. Enter username and password. The default username and password is admin.
5. Select Enter or OK button, then the main interface of the Web-based management appears.



Main Index page



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- Firmware Upgrade
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- Network Configuration
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- Alarm Contact
- IN Contact Ethernet Link
- Out Contact

Comnet CNFE3FX1TX2C4DX

Build Version: 1.0.4
Build Date: Feb 12 2021 11:44:39

This website is used for management and status of the CNFE3FX1TX2C4DX device

All pages include a help page that describes page options

The apply button on each page will save the displayed configuration in persistent storage to maintain the configuration between power cycles

The USB port CLI is also available to configure the network options, the terminal settings are 115,200 baud 8,N,1 no flow control

To avoid resubmitting switch configuration, please do not refresh the page. Instead, use the side navigation menu to reload the page.

System Information

The switch system information is provided here



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CNFE3FX1TX2C4DX

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System Information

CNFE3FX1TX2C4DX Enabled Protocols

Active Ping Check	not enabled
-------------------	-------------

CNFE3FX1TX2C4DX On Board Temperature Status

30.0 ° C

CNFE3FX1TX2C4DX Port Link Status

P1 link state: Link up	<input type="checkbox"/> Port Disabled
P2 link state: Link dn	<input type="checkbox"/> Port Disabled
P3 link state: Link dn	<input type="checkbox"/> Port Disabled

Label	Description
Enabled protocols	Summary table of enabled protocols
Temperature	Unit's internal board temperature reading
Port link status	Link status and port disable

TECH SUPPORT: 1.888.678.9427

INS_CNFE3FX1TX2C[/M] Series

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Switch Port Configuration

Unless you have reason to change this setting, it is recommended to leave the negotiation set to auto. The link segment requires forcing the settings. Both ends of the link need to have the same selection.



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CNFE3FX1TX2C4DX

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SwitchPort Configuration

Port	Negotiation	Speed	Duplex	Flow Control
Port1 ▾	Auto ▾	100 ▾	full ▾	none ▾

With forced half duplex mode, flow control ON is recommended

Please perform a System Reset after applying any changes.

SwitchPort Status

Port	Link State	Negotiation	Speed	duplex	flow control
1	Link up	Auto	100mbps	Full	Auto
2	Link dn	-	-	-	-
3	Link dn	-	-	-	-

Active Ping Check Configuration

The active ping check function allows the switch to check that a configured IP address is alive on each of the RJ45 ports. If the specified IP address becomes unreachable then the switch will perform the action selected in the Failure Action menu.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX

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Active Ping Check Configuration

Enable Active Ping Check 10 Interval(10~240)Sec

Port	RemoteIP	Failure Action	Retries 1~5
1	192.168.10.3	No Action ▾	1
2	192.168.10.4	No Action ▾	1

Label	Description
Enable	Select to enable the active ping check function
Interval	Active ping check interval in seconds
Remote IP	Configure IP addresses of remote device to ping
Failure action	Configure action to take upon failure No Action - No action taken SNMP Trap - Issue an SNMP trap Power Down - Turn off the RJ45 port PwrDwn & Trap - Issue an SNMP trap and then turn off the RJ45 port
Retries	Number of times to retry the ping check on failure before proceeding with the selected failure action.

Authentication Username and Password Configuration

The username and password entered here are also used in the CLI.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX	Authentication Username and Password Configuration
System	Username and password apply to both the CLI and Webpage login
Port Config	<div style="margin-bottom: 5px;">System Location: <input type="text" value="Location"/></div> <div style="margin-bottom: 5px;">System Contact: <input type="text" value="contact"/></div> <div style="margin-bottom: 5px;">Admin Username: <input type="text" value="admin"/></div> <div style="margin-bottom: 5px;">Admin Password: <input type="password" value="....."/></div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Apply"/> <input type="button" value="Help"/> </div>
Active Ping Check	
Authentication	
Firmware Upgrade	
Factory Defaults	
System Reset	
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Out Contact Ethernet Link	

Firmware Upgrade

Upgrade Firmware allows you to update the firmware of the switch. Before updating, have your Windows firmware update application ready and the firmware image is available. Many features are not available during the firmware update process so please, observe the network topology before upgrading.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX	Firmware Image Upgrade
System	<p>The image upload will re-initialize the CNFE3FX1TX2C4DX to the version listed in the hex file supplied by Comnet. This page will cause the device to reset, the webpage will stop responding and the device will be ready for image upload. DO NOT POWER CYCLE THE DEVICE DURING THIS OPERATION Before proceeding, make sure you have the Comnet provided UBL application and Comnet supplied firmware upgrade image. Use the windows UBL PC application to connect to the device and follow the directions in the user manual for using the application. Record the IP address of the device, the PC application will use that same IP address.</p> <p>After applying a new firmware version, it is recommended that a Factory Default Reset is performed to ensure that all new or adjusted settings take effect. Please note that performing a Factory Default reset will erase all the devices settings except for the IP address.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px auto; width: fit-content;"> <input type="checkbox"/> Enable Image Upgrade <input type="button" value="Apply"/> </div>
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Details on how to upload the new image is located in Firmware Upgrade section.

After applying a new firmware version, it is recommended that a Factory Default Reset is performed to ensure that all new or adjusted settings take effect. Please note that performing a Factory Default reset will erase all the devices settings except for the IP address.

Warning: Do not enable the firmware update process unless you have a firmware file available and are ready to upgrade the unit. Once this processed is started it cannot be cancelled and if a new firmware is not uploaded to the unit it will be necessary to return the unit to the factory for re-programming.

Factory Defaults



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Factory Defaults Reset

The Factory Defaults Reset will re-initialize the defaults as shipped from the factory with the exception of the Network settings. The factory default administrative password is shown in the product literature.

A Factory Defaults Reset is required following a firmware upgrade

Enable Factory Default Reset

[Apply](#)

This function restores the system configuration back to the factory default values. All parameters will revert back to the original factory default values except the network configuration settings.

System Reset



CNFE3FX1TX2C4DX Contact Over

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System Reset

A system Reset is Required for the following Configuration changes

- Network Configuration
- Static multicast route
- Static MAC Lock

The enable check box and apply button will reset the switch

Apply your configuration changes prior to resetting the switch

Enable System Reset

This feature will perform a system reset.

Some system configuration changes require a system reset to take effect:

- File System updates
- Network configuration changes
- Static Mac Lock changes
- Static Mcast routing

After a system reset there may be a delay of up to 15 seconds before the device becomes responsive again.

Network Interface Configuration



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Interface Configuration

This page allows for changing the network configuration settings.

CAUTION: Incorrect settings may cause the board to lose network connectivity. Recovery options will be provided on the next page.

Enter the new settings for the network interface below:

Please perform a System Reset after applying any Network Interface changes.

MAC Address:	00:22:3b:16:16:16
Host Name:	<input type="text" value="CNFE3FX1TX2C4DX"/>
	<input type="checkbox"/> Enable DHCP
IP Address:	<input type="text" value="192.168.11.16"/>
Gateway:	<input type="text" value="192.168.11.1"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Primary DNS:	<input type="text" value="192.168.11.1"/>
Secondary DNS:	<input type="text" value="0.0.0.0"/>
<input type="button" value="Apply"/> <input type="button" value="Help"/>	

Label	Description
Host Name	Assign a name to the device (this is used for CLI and SNMP functions)
Enable DHCP	To enable or disable the DHCP client function. When DHCP client function is enabled, the switch will be assigned the IP address from the network DHCP server. The default IP address will be replaced by the IP address which the DHCP server has assigned.
IP Address	Assign the IP address that the switch will use. If DHCP client Function is enabled, you do not need to assign the IP address.
Gateway	Assign the network gateway for the switch.
Subnet Mask	Assign the subnet mask for the switch.
Primary DNS	Assign the primary DNS IP address
Secondary DNS	Assign the secondary DNS IP address
Apply	Select Apply to set the configurations.

Note: A system reset must be performed after making changes to the network settings.

SNMP

Simple Network Management Protocol (SNMP) is the protocol developed to manage nodes (servers, workstations, routers, switches and hubs etc.) on an IP network. SNMP enables network administrators to manage network performance, find and solve network problems, and plan for network growth. Network management systems learn of problems by receiving traps or change notices from network devices implementing SNMP.

SNMP - Config

comnet

CNFE3FX1TX2C4DX Contact Over

SNMP Community Configuration

Read/Write Community String configuration for SNMPv2c Agent.

Configure read and write community names. To enable the SNMP agent to respond to the NMS/SNMP manager with traps, they can be enabled and the management IP can be set.

Community String Names are Limited to 8 Characters

Read Comm1 : public

Write Comm1: private

Enable SNMP Traps

192.168.10.1 Manager IP

Apply Help

Label	Description
SNMP V1/V2c Community	The switch supports one Read and one Write SNMP community string. Community string names are limited to 8 characters. To disable a community string leave its entry blank.
SNMP trap enable	Enable SNMP traps to be sent to the manager
Manager IP address	IP address of the management software
Apply	Select Apply to activate the configurations.
Help	Show help file.

Alarm Contact



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CNFE3FX1TX2C4DX

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Alarm Contact Configuration

CNFE3FX1TX2C4DX Alarm Contact Configuration

<input type="checkbox"/> PS1 Fault	<input type="checkbox"/> PS2 Fault	<input type="checkbox"/> ActPing 1 loss	<input type="checkbox"/> ActPing 2 loss	<input type="checkbox"/> Port 1 loss	<input type="checkbox"/> Port 2 loss	<input type="checkbox"/> Port 3 loss
---------------------------------------	---------------------------------------	--	--	---	---	---

CNFE3FX1TX2C4DX Alarm Contact Override

<input type="checkbox"/> Con ovrd	<input type="checkbox"/> NC_Con Closed
-----------------------------------	--

CNFE3FX1TX2C4DX Alarm Contact Status

NC Contact: NC Contact Closed

Label	Description
Contact Configuration	Allows for the setting of what happens when specific instances occur during the operation of the unit allowing for the triggering of the alarm contact.
Contact Override	Allows for the override and force setting of the alarm contact for testing and troubleshooting purposes.
Contact Status	Shows the current status of the output of the alarm contact.

In Contact Ethernet Link

Allows for enabling a link between Input Contacts on a Host device to Output Contacts on a Remote device(s). Device’s input contacts can be configured either One to One, or One to Many.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX
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Alarm Contact
IN Contact Ethernet Link
Out Contact Ethernet Link

Input Contact Ethernet Link

This page allows for enabling a link between Input Contacts on this device to Output Contacts on a Remote device(s)

Input Contact Config

<input type="checkbox"/> One to One enable	Status: Not Connected
Remote Output IP: 192.168.10.1	Port No.: 6565

Selected Input Contacts

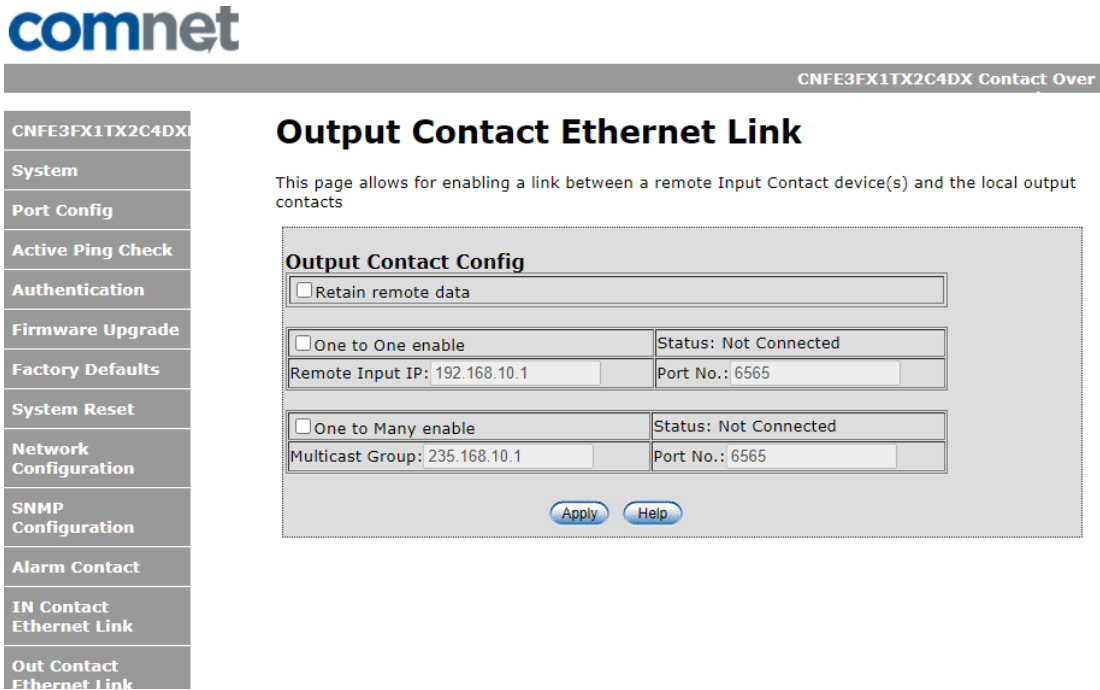
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
----------------------------	----------------------------	----------------------------	----------------------------

<input type="checkbox"/> One to Many enable	Status: Not Connected
Multicast Group: 235.168.10.1	Port No.: 6565

Label	Description
One to One	Enabling this option, the Remote Output IP must match the IP Address of the device you wish to communicate with. This is also true for the Port Number. As well as enabling the One to One option the desired input contacts must be selected from the Selected Input Contacts section.
One to Many	Enabling this option, allows for the use of multicasting the contacts between a group of devices within the same multicast group. For this work the Multicast Group and Port Number must match the same Multicast Group and Port Number as the Output Contact Configuration. As well as enabling the One to Many option the desired input contacts must be selected from the Selected Input Contacts section.
Selected Input Contacts	These check boxes allow for the enabling and disabling of the input contacts on the Host device.

Out Contact Ethernet Link

Allows for enabling a link between a remote Input Contact device(s) and the local output contacts. Device's output contacts can be configured either One to One, or One to Many.



One to One:

Enabling this option, the Remote Output IP must match the IP Address of the device you wish to communicate with. This is also true for the Port Number.

One to Many:

Enabling this option, allows for the use of multicasting the contacts between a group of devices within the same multicast group. For this work the Multicast Group and Port Number must match the same Multicast Group and Port Number as the Input Contact Configuration.

Retain Remote Data:

Enabling this option allows for the retention of the last data state when a link is lost and will hold until a new link is enabled.

Contact Status

Allows for a display of the current overview of the current states for the input and output contacts.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX	System Contact Status																
System	<div style="border: 1px solid gray; padding: 10px; margin: 0 auto; width: 80%;"> <p style="text-align: center; font-weight: bold; font-size: small;">CNFE3FX1TX2C4DX Input Contacts</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <td>Contact In 1</td><td>Contact In 2</td><td>Contact In 3</td><td>Contact In 4</td></tr> <tr> <td>Contact Open</td><td>Contact Open</td><td>Contact Open</td><td>Contact Open</td></tr> </table> <p style="text-align: center; font-weight: bold; font-size: small;">CNFE3FX1TX2C4DX Output Contacts</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <td>Contact Out 1</td><td>Contact Out 2</td><td>Contact Out 3</td><td>Contact Out 4</td></tr> <tr> <td>Contact Open</td><td>Contact Open</td><td>Contact Open</td><td>Contact Open</td></tr> </table> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="refresh"/> <input type="button" value="Help"/> </div> </div>	Contact In 1	Contact In 2	Contact In 3	Contact In 4	Contact Open	Contact Open	Contact Open	Contact Open	Contact Out 1	Contact Out 2	Contact Out 3	Contact Out 4	Contact Open	Contact Open	Contact Open	Contact Open
Contact In 1		Contact In 2	Contact In 3	Contact In 4													
Contact Open		Contact Open	Contact Open	Contact Open													
Contact Out 1		Contact Out 2	Contact Out 3	Contact Out 4													
Contact Open		Contact Open	Contact Open	Contact Open													
Port Config																	
Active Ping Check																	
Authentication																	
Firmware Upgrade																	
Factory Defaults																	
System Reset																	
Network Configuration																	
SNMP Configuration																	
Alarm Contact																	
IN Contact Ethernet Link																	
Out Contact Ethernet Link																	

Contact Configuration

This page shows the local contact status.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX	Contact Configuration																
System	<div style="border: 1px solid gray; padding: 10px; margin: 0 auto; width: 80%;"> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <th style="width: 25%;">Input1</th><th style="width: 25%;">Input2</th><th style="width: 25%;">Input3</th><th style="width: 25%;">Input4</th></tr> <tr> <td style="text-align: center;">No Action ▾</td><td style="text-align: center;">No Action ▾</td><td style="text-align: center;">No Action ▾</td><td style="text-align: center;">No Action ▾</td></tr> <tr> <th style="text-align: center;">Output1</th><th style="text-align: center;">Output2</th><th style="text-align: center;">Output3</th><th style="text-align: center;">Output4</th></tr> <tr> <td> <input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults </td><td> <input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults </td><td> <input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults </td><td> <input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults </td></tr> </table> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Apply"/> <input type="button" value="Help"/> </div> </div>	Input1	Input2	Input3	Input4	No Action ▾	No Action ▾	No Action ▾	No Action ▾	Output1	Output2	Output3	Output4	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults
Input1		Input2	Input3	Input4													
No Action ▾		No Action ▾	No Action ▾	No Action ▾													
Output1		Output2	Output3	Output4													
<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults		<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults	<input checked="" type="checkbox"/> Ethernet Link Control <input checked="" type="checkbox"/> SNMP Control Local Override <input type="radio"/> Open <input type="radio"/> Closed <input type="checkbox"/> defaults													
Port Config																	
Active Ping Check																	
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Firmware Upgrade																	
Factory Defaults																	
System Reset																	
Network Configuration																	
SNMP Configuration																	
Alarm Contact																	
IN Contact Ethernet Link																	
Out Contact Ethernet Link																	

Input contact configuration can be set to send an SNMP trap to the NMS.

The output contacts can be controlled by a remote input or local override. When in local override mode, the input options are ignored.

The input options include an ethernet link from a remote input sensor or by an SNMP NMS.

Static Multicast Routing Per Port



CNFE3FX1TX2C4DX Contact Over

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Out Contact Ethernet Link

Multicast MAC Routing

This page allows for enabling multicast traffic routing to a specific port

Enable Static Routing

Static MAC Addr.	Port 1	Port 2	Port 3	Delete
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Label	Description
Enable	Enable static multicast MAC routing
MAC Addr.	Destination Multicast MAC address of the stream
Port Number	Ports to be included in the multicast route
Apply	Select Apply to activate the configurations.
Help	Show help file.

Note: A system reset must be performed after making changes to the MAC routing settings.

Static MAC Lock Configuration



CNFE3FX1TX2C4DX Contact Over

- CNFE3FX1TX2C4DX
- System
- Port Config
- Active Ping Check
- Authentication
- Firmware Upgrade
- Factory Defaults
- System Reset
- Network Configuration
- SNMP Configuration
- Alarm Contact
- IN Contact Ethernet Link
- Out Contact Ethernet Link

Static MAC Lock

This page allows for assigning static MAC addresses to a specific participating ports. Changes to the MAC lock must be applied to save in the startup configuration and **a reboot is required for changes to take effect.**

Enable Static MAC Lock

Static MAC Addr.	Port 1	Port 2	Port 3	Delete
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00:00:00:00:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Label	Description
Enable	Enable static MAC locking
MAC Addr.	MAC address of the device that is allowed to forward and receive traffic. Packets will be dropped for MAC addresses not listed in the table stream
Port Number	Ports to be included in the locked list
Apply	Select Apply to activate the configurations.
Help	Show help file.

Note: A system reset must be performed after making changes to the static MAC lock settings.

Port Guardian

The Port Guardian feature provides a high security managed port lock out mode and when enabled will power down the port as soon as a link loss status is detected when a cable is disconnected. This provides high security against network attack by an intruder who accesses the edge device and disconnects it to then try and connect their own intrusion device (laptop, network sniffer etc.).

To reset a port from a lock out state the network administrator can issue an SNMP reset or can reset a port by using the CLI via the USB serial port. In PoE models a reset can also be initiated by using one of the contact inputs.



CNFE3FX1TX2C4DX Contact Over

CNFE3FX1TX2C4DX

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Port Guardian

This page allows for enabling a Port lock feature on any ports

Enable Port Guardian

Port Enable

Port 1	Port 2	Port 3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Initial Port Power Down Enable

Power Cycle Reset

Port Fault Status

Port 1	Port 2	Port 3
-	-	-

Clear Port Fault Status

Port 1	Port 2	Port 3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TECH SUPPORT: 1.888.678.9427

INS_CNFE3FX1TX2C[/M] Series

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Port Guardian - CLI Reset

A screenshot of a terminal window titled 'COM7 - Tera Term VT'. The window contains the following text: 'username: admin', 'password: ****', 'Login success', 'CNFE3FX1TX2C4DX>portguardian show', 'Port 3 is in fault state', and 'CNFE3FX1TX2C4DX>'. The terminal has a menu bar with 'File', 'Edit', 'Setup', 'Control', 'Window', and 'Help'.

Command	Description
portguardian show	Will display any ports that are currently in port lockout fault state.

A screenshot of a terminal window titled 'COM7 - Tera Term VT'. The window contains the following text: 'username: admin', 'password: ****', 'Login success', 'CNFE3FX1TX2C4DX>portguardian clear', 'Clearing Faults', and 'CNFE3FX1TX2C4DX>'. The terminal has a menu bar with 'File', 'Edit', 'Setup', 'Control', 'Window', and 'Help'.

Command	Description
portguardian clear	Will clear any ports that were previously in port lockout fault state.

Command Line Interface Management

Configuration by Command Line Interface (CLI).

About CLI Management

Besides WEB-base management, the CNGE4+2SMS also supports CLI management for network configuration. You can use USB console to manage the switch by CLI.

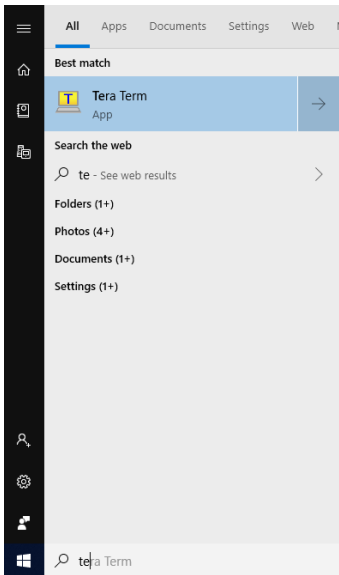
CLI Management by USB Console (115200, 8, none, 1, none)

Before configuring by USB console, use a USB mini B cable to connect the switch's Console port to your PC's USB port.

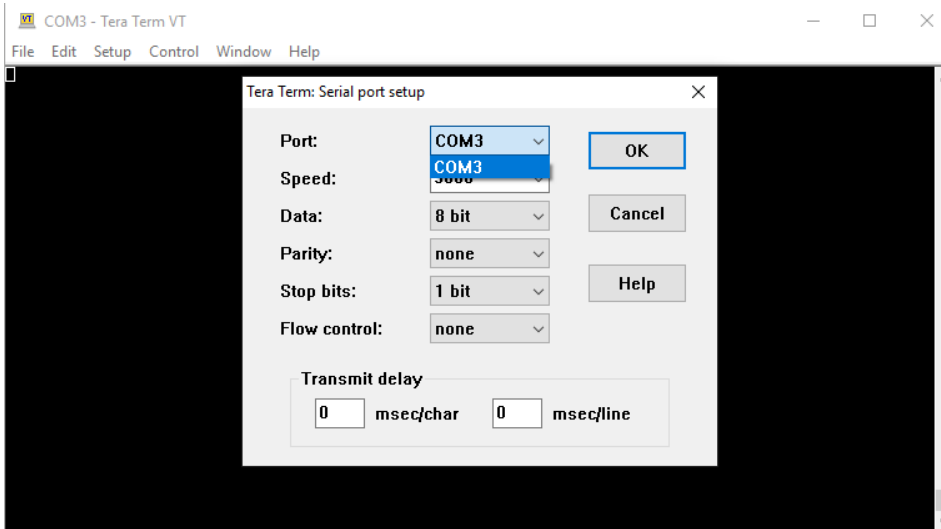
Follow the steps below to access the console via USB mini B cable.

Step 1. Connect the USB cable between the PC and the CNGE4+2SMS. If the device driver is not found, the product CD includes the windows .inf driver.

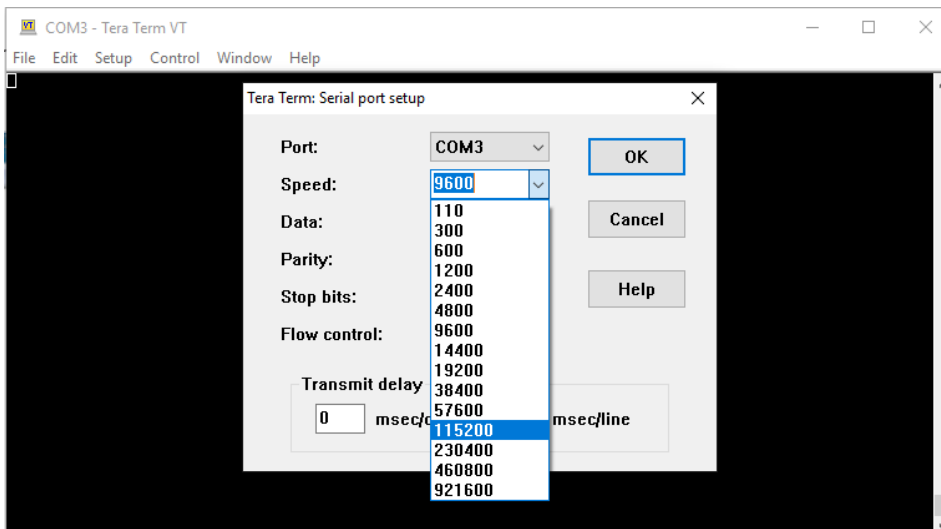
Step 2. From the Windows desktop, select on Start -> Tera Term



Step 3. Select the COM port number



Step 4. The COM port properties setting, 115200 for Bits per second, 8 for Data bits, None for Parity, 1 for Stop bits and none for Flow control.



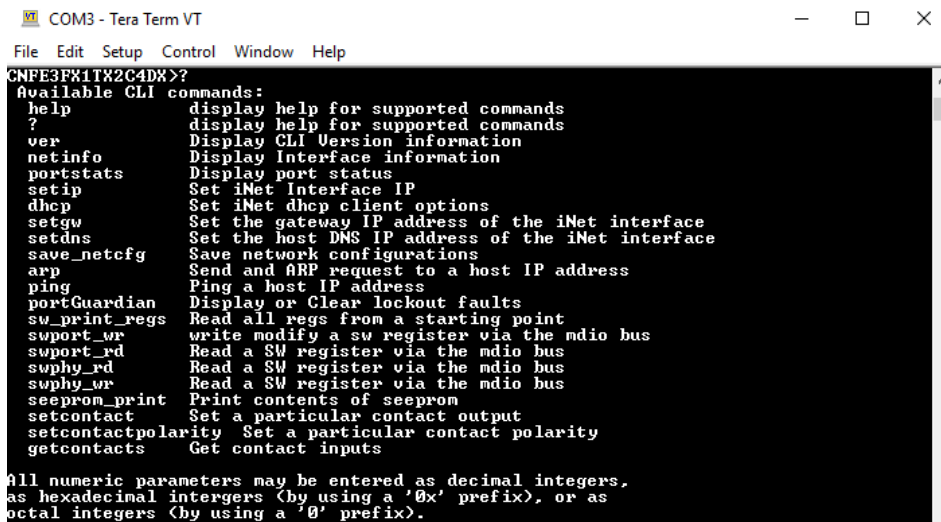
Step 5. Hit enter to initiate the connection and receive the username prompt. After entering the username and password the console will be presented with a CLI prompt.



```
COM3 - Tera Term VT
File Edit Setup Control Window Help
username: admin
password: ****
Login success

CNFE3FX1TX2C4DX>
```

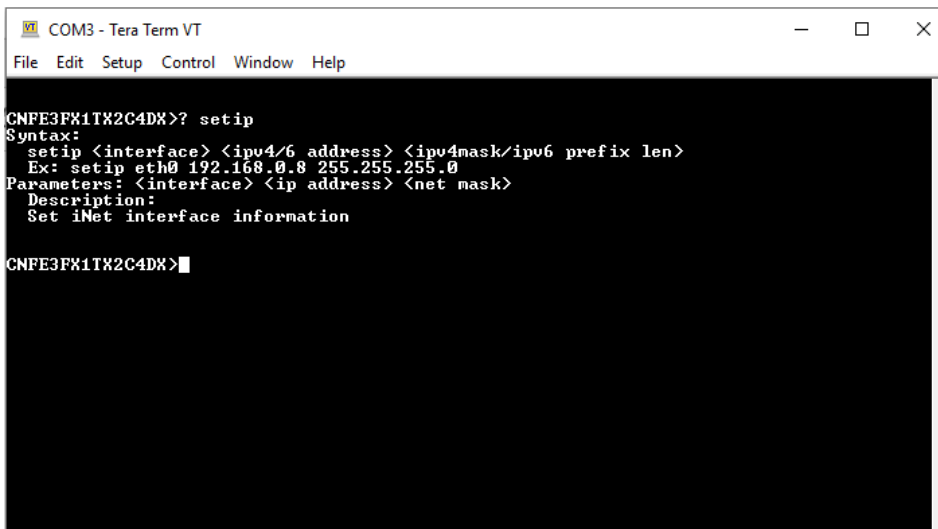
Enter "?" or "help" to list the commands



```
COM3 - Tera Term VT
File Edit Setup Control Window Help
CNFE3FX1TX2C4DX>?
Available CLI commands:
help          display help for supported commands
?            display help for supported commands
ver          Display CLI Version information
netinfo      Display Interface information
portstats    Display port status
setip        Set iNet Interface IP
dhcp         Set iNet dhcp client options
setgw        Set the gateway IP address of the iNet interface
setdns       Set the host DNS IP address of the iNet interface
save_netcfg  Save network configurations
arp          Send and ARP request to a host IP address
ping         Ping a host IP address
portGuardian Display or Clear lockout faults
sw_print_regs Read all regs from a starting point
swport_wr    write modify a sw register via the mdio bus
swport_rd    Read a SW register via the mdio bus
swphy_rd     Read a SW register via the mdio bus
swphy_wr     Read a SW register via the mdio bus
seeprom_print Print contents of seeprom
setcontact   Set a particular contact output
setcontactpolarity Set a particular contact polarity
getcontacts  Get contact inputs

All numeric parameters may be entered as decimal integers,
as hexadecimal integers (by using a '0x' prefix), or as
octal integers (by using a '0' prefix).
```

More detailed help for each command is available using help in front of the command name.

A screenshot of a terminal window titled 'COM3 - Tera Term VT'. The window has a menu bar with 'File', 'Edit', 'Setup', 'Control', 'Window', and 'Help'. The terminal content shows the command 'setip' being entered, followed by its syntax: 'setip <interface> <ipv4/6 address> <ipv4mask/ipv6 prefix len>'. An example is provided: 'Ex: setip eth0 192.168.0.8 255.255.255.0'. The parameters are listed as '<interface> <ip address> <net mask>'. A description follows: 'Description: Set iNet interface information'. The prompt 'CNFE3FX1TX2C4DX>' is shown at the end of the terminal output.

```
COM3 - Tera Term VT
File Edit Setup Control Window Help
CNFE3FX1TX2C4DX>? setip
Syntax:
  setip <interface> <ipv4/6 address> <ipv4mask/ipv6 prefix len>
  Ex: setip eth0 192.168.0.8 255.255.255.0
Parameters: <interface> <ip address> <net mask>
Description:
  Set iNet interface information
CNFE3FX1TX2C4DX>█
```

Issuing a “netinfo” command will display the ip address of the switch

To change the network configuration using the CLI, the following commands must be used:

-setip

-setgw

-setdns

Save_netcfg if you want to save these changes in the startup configuration. Not using this command will not save the changes persistently.

Firmware Upgrade Procedure

The steps for upgrading the unit with the push boot loader are as follows;

1. Bring up the web server and open the FileSystem Upload page click the Enable Image upload check box and hit apply.
2. Open the Windows bootloader application, click the enable Ethernet check box and adjust the IP address to the target IP
3. Click the “Load Hex File” and select the new firmware file. - Click Erase - Click Program - Click Verify - Click run application Note: The “Erase-Program-Verify” button is not supported at this time. Please use the individual buttons.

Warning: Do not enable the firmware update process unless you have a firmware file available and are ready to upgrade the unit. Once this process is started it cannot be cancelled and if a new firmware is not uploaded to the unit it will be necessary to return the unit to the factory for re-programming.

MECHANICAL INSTALLATION INSTRUCTIONS

ComNet Customer Service

Customer Care is ComNet Technology's global service center, where our professional staff is ready to answer your questions at any time.

Email ComNet Global Service Center: customercare@comnet.net



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T: 203.796.5300 | F: 203.796.5303 | TECH SUPPORT: 1.888.678.9427 | INFO@COMNET.NET

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