Contents

Overview

ComNet item numbers CNFE2MC2C (standard size device) and CNFE2MC2C/m (compact size device) are designed to pass 10/100BASE-T(X) (Fast Ethernet) via optical fiber. An SFP port is used as the optical port. These devices have two bi-directional dry contact closure channels, as well. The Ethernet and the contact closures share the same optical fiber path.

These devices work in pairs, referred to in this document as Device 1 and Device 2. The device at each end of the fiber path may be the standard size version or the compact size version as needed.

These devices will operate as simple fiber optic Fast Ethernet transceivers right out of the box with no configuration needed. The following detailed procedure is required only if any of the contact closure channels will be used. This procedure applies to the CNFE2MC2C and to the CNFE2MC2C/m. It is assumed that appropriate 100BASE-X SFP transceivers have been selected for use with these devices.

If the contact closure channels will be used, please review the following before beginning:

A unique IP address must be assigned to each of the two devices. Connect one device at a time to a computer to perform the configuration. The default IPv4 address of each device is 192.168.10.1. Please have the computer configured with an IP address on the 192.168.10 network and as needed, please have the computer configured with an IP address on each additional network that will be used, as well. Refer to the procedure in this document – ***Adding multiple IP addresses to a Windows machine*** – as needed.

Refer to the procedure in this document – ***Starting and stopping a continuous PING*** – as needed, if assistance is needed to start or stop a continuous PING.

Detailed Configuration Procedure

Configuration for Device 1

[1] Connect a computer's Ethernet port to the Ethernet port on Device 1.

Start a continuous PING to 192.168.10.1

If Device 1 will not have an IP address on the 192.168.10 network, please start a continuous PING to the IP address that will be used, as well.

[2] Apply operating power to Device 1.

CNFE2MC2C/m 8 to 24 VDC or 22 to 27 VAC

CNFE2MC2C 8 to 24 VDC

[3] Open a browser window to login.

Login to Device 1 using its IP address, username, and password.

As needed, the factory default information follows:

default IPv4 address is 192.168.10.1

default username is admin.

default password is admin.

Click the Login button.

[4] On the vertical menu on the left, click the Configurations menu item.

At the bottom of the Configurations page, click the Restore Defaults button.

Click OK to confirm.

[5] After 20 seconds, cycle operating power to Device 1.

Look for successful PING replies from 192.168.10.1

[6] On the vertical menu on the left, click the Configurations menu item.

Change the static IPv4 address as needed.

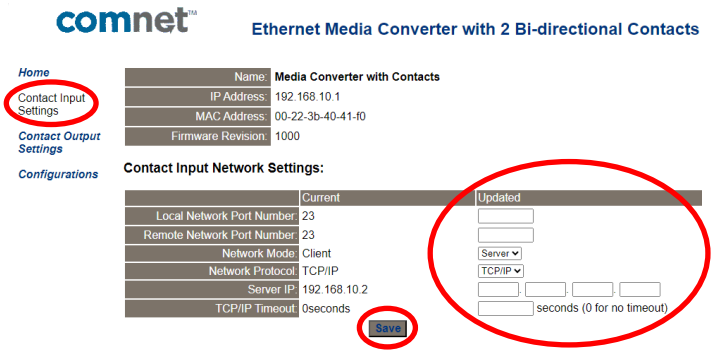
Click the Update Settings button.

After 20 seconds, cycle operating power to Device 1.

Look for successful PING replies from the new IP address.

Open a new bowser window using the new IP address and login.

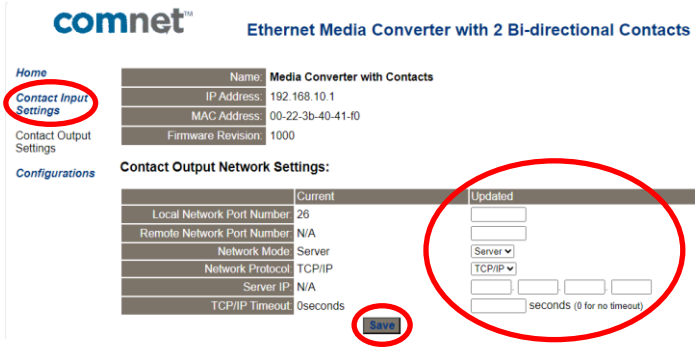
[7] In the vertical menu on the left, click the Contact Input Settings menu item.



In the Updated column fields, enter the information shown in red, then click the Save button:

	Contact Inputs
Local Network Port Number	23
Remote Network Port Number	23
Network Mode	Client
Network Protocol	TCP/IP
Server IP	IP address of Device 2
TCP/IP Timeout	0

[8] In the vertical menu on the left, click the Contact Output Settings menu item.



In the Updated column fields, enter the information shown in red, then click the Save button:

	Contact Outputs
Local Network Port Number	**26**
Remote Network Port Number	
Network Mode	**Server**
Network Protocol	**TCP/IP**
Server IP	
TCP/IP Timeout	**0**

[9] Cycle power on Device 1.

Configuration for Device 2

[1] Connect a computer's Ethernet port to the Ethernet port on Device 2.

Start a continuous PING to 192.168.10.1

If Device 2 will not have an IP address on the 192.168.10 network, please start a continuous PING to the IP address that will be used, as well.

[2] Apply operating power to Device 2.

CNFE2MC2C/m 8 to 24 VDC or 22 to 27 VAC

CNFE2MC2C 8 to 24 VDC

[3] Open a browser window to login.

Login to Device 2 using its IP address, username, and password.

As needed, the factory default information follows:

default IPv4 address is 192.168.10.1

default username is admin.

default password is admin.

Click the Login button.

[4] On the vertical menu on the left, click the Configurations menu item.

At the bottom of the Configurations page, click the Restore Defaults button.

Click OK to confirm.

[5] After 20 seconds, cycle operating power to Device 2.

Look for successful PING replies from 192.168.10.1

[6] On the vertical menu on the left, click the Configurations menu item.

Change the static IPv4 address as needed.

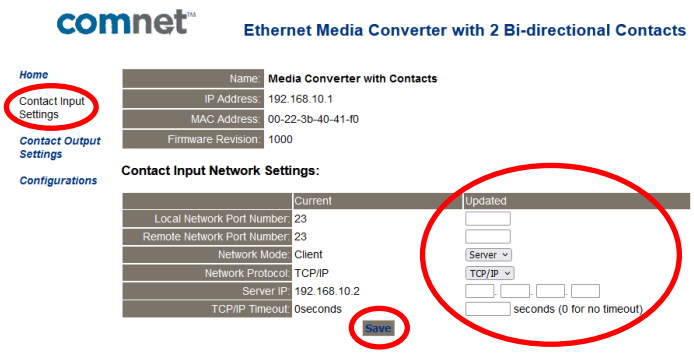
Click the Update Settings button.

After 20 seconds, cycle operating power to Device 2.

Look for successful PING replies from the new IP address.

Open a new bowser window using the new IP address and login.

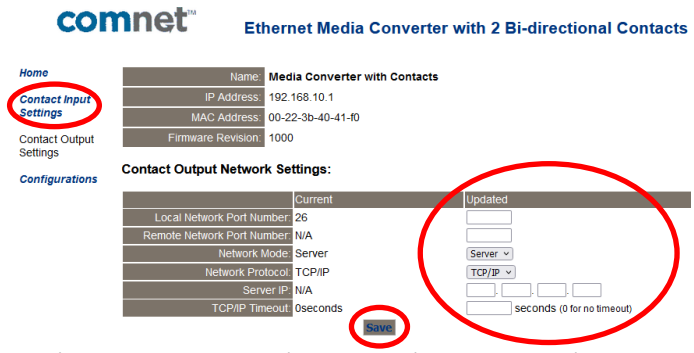
[7] In the vertical menu on the left, click the Contact Input Settings menu item.



In the Updated column fields, enter the information shown in red, then click the Save button:

	Contact Inputs
Local Network Port Number	23
Remote Network Port Number	
Network Mode	Server
Network Protocol	TCP/IP
Server IP	
TCP/IP Timeout	0

[8] In the vertical menu on the left, click the Contact Output Settings menu item.



In the Updated column fields, enter the information shown in red, then click the Save button:

	Contact Outputs
Local Network Port Number	**26**
Remote Network Port Number	**26**
Network Mode	**Client**
Network Protocol	**TCP/IP**
Server IP	**IP address of Device 1**
TCP/IP Timeout	**0**

[9] Cycle power on Device 2.

Connect optical fiber between the SFP transceivers in Device 1 and Device 2.

Reference Material

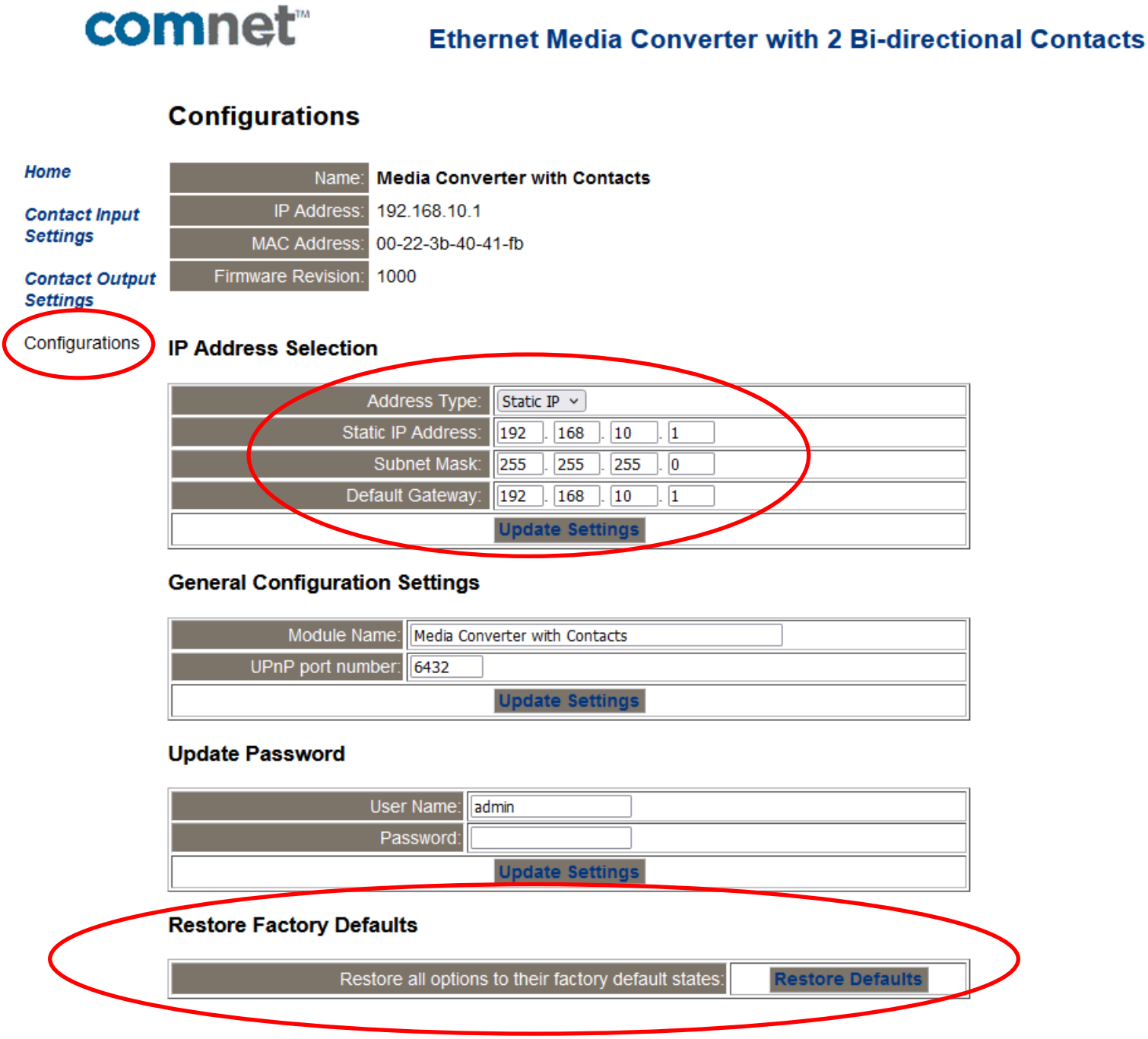
Restoring Factory Defaults and Changing the IP Address

Default information:

Default IPv4 address: 192.168.10.1

Username: admin

Password: admin



Tables of Contact Inputs and Outputs for a General Configuration

Settings for contact inputs and contact outputs for Device 1

Device 1		
	Contact Inputs	**Contact Outputs**
Local Network Port Number	23	26
Remote Network Port Number	23	
Network Mode	Client	Server
Network Protocol	TCP/IP	TCP/IP
Server IP	IP address of Device 2	
TCP/IP Timeout	0	0

Settings for contact inputs and contact outputs for Device 2

Device 2		
	Contact Inputs	**Contact Outputs**
Local Network Port Number	23	26
Remote Network Port Number		26
Network Mode	Server	Client
Network Protocol	TCP/IP	TCP/IP
Server IP		IP address of Device 1
TCP/IP Timeout	0	0

Quick Start Procedure Using 192.168.10.1 and 192.168.10.2

Default information:

Default IPv4 address: 192.168.10.1
Username: admin
Password: admin

[1] Factory default a CNFE2MC2C or CNFE2MC2C/m device, then cycle power.

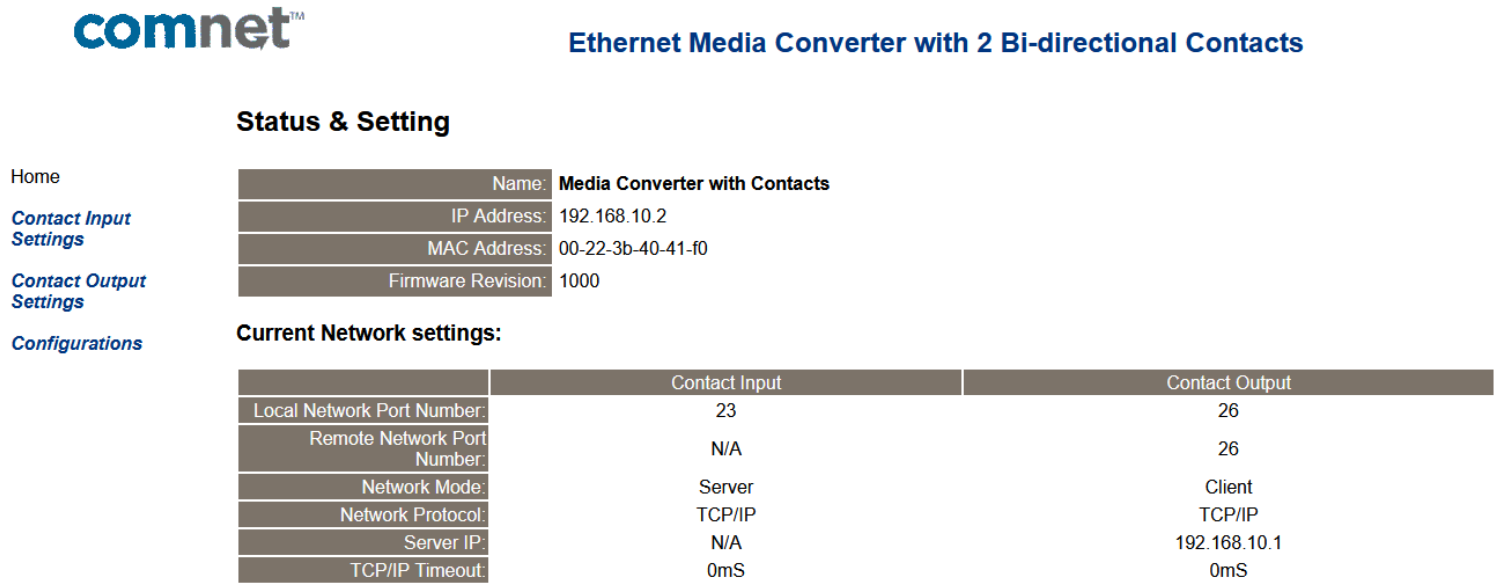
- This will be Device 1.

[2] Factory default a second CNFE2MC2C or CNFE2MC2C/m device.

- This will be Device 2.
- Give this device an IP address of 192.168.10.2
- Cycle power.
- Configure this device using the following table:

	Contact Inputs	Contact Outputs
Local Network Port Number	23	26
Remote Network Port Number		26
Network Mode	Server	Client
Network Protocol	TCP/IP	TCP/IP
Server IP		192.168.10.1
TCP/IP Timeout	0	0

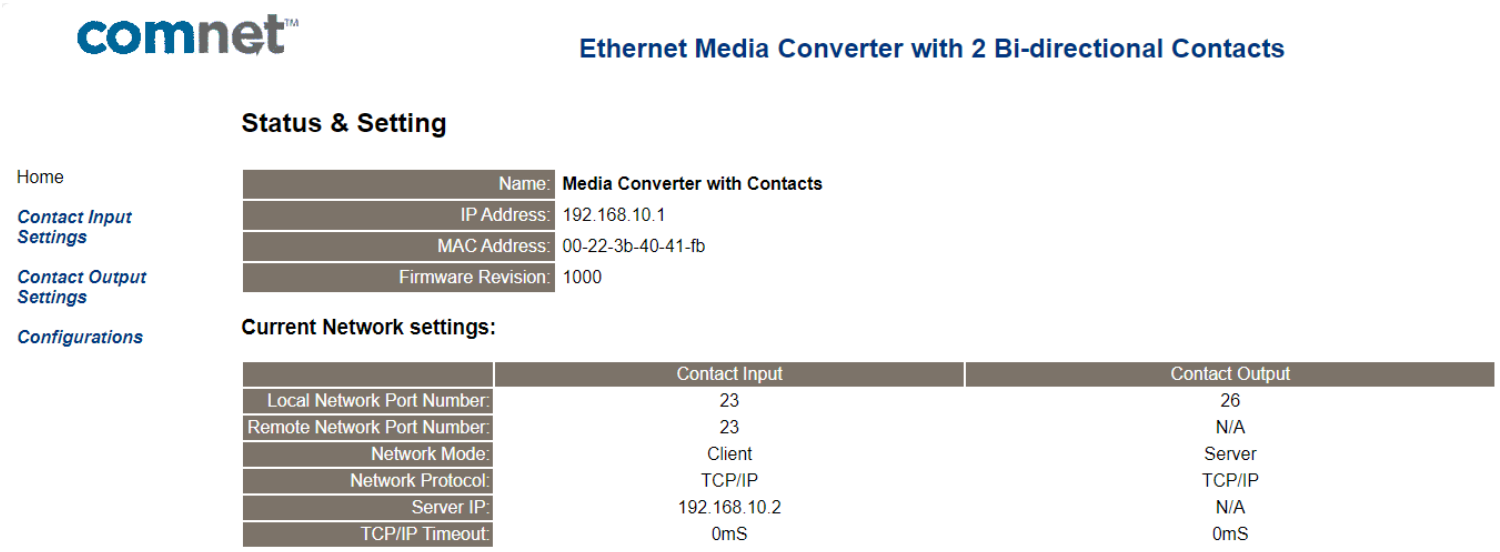
- After configuring the Contact Input Settings and the Contact Output Settings, the Home page for Device 2 should look like the following:



[3] Cycle power on the device and connect the two devices with optical fiber.

Screen shots for the quick start procedure using 192.168.10.1 and 192.168.10.2

Device 1



comnet™

Ethernet Media Converter with 2 Bi-directional Contacts

Status & Setting

Home

Contact Input Settings

Contact Output Settings

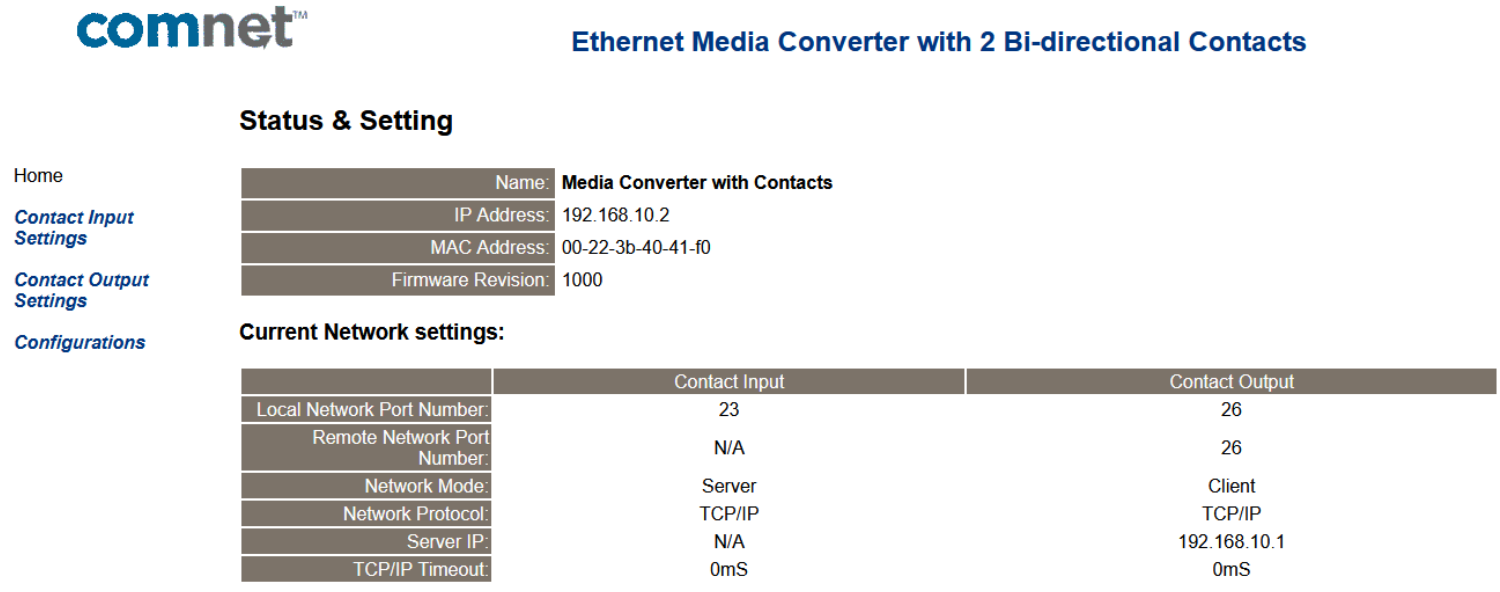
Configurations

Name:	**Media Converter with Contacts**
IP Address:	192.168.10.1
MAC Address:	00-22-3b-40-41-fb
Firmware Revision:	1000

Current Network settings:

	Contact Input	Contact Output
Local Network Port Number:	23	26
Remote Network Port Number:	23	N/A
Network Mode:	Client	Server
Network Protocol:	TCP/IP	TCP/IP
Server IP:	192.168.10.2	N/A
TCP/IP Timeout:	0mS	0mS

Device 2



comnet™

Ethernet Media Converter with 2 Bi-directional Contacts

Status & Setting

Home

Contact Input Settings

Contact Output Settings

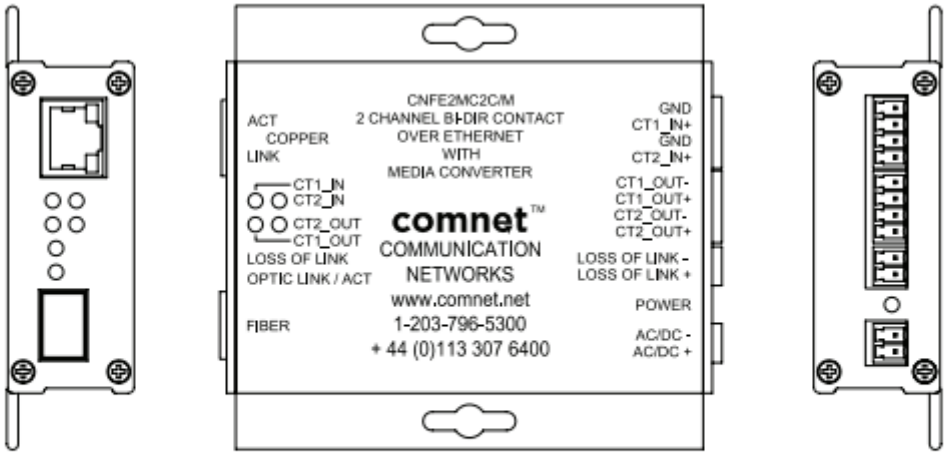
Configurations

Name:	**Media Converter with Contacts**
IP Address:	192.168.10.2
MAC Address:	00-22-3b-40-41-f0
Firmware Revision:	1000

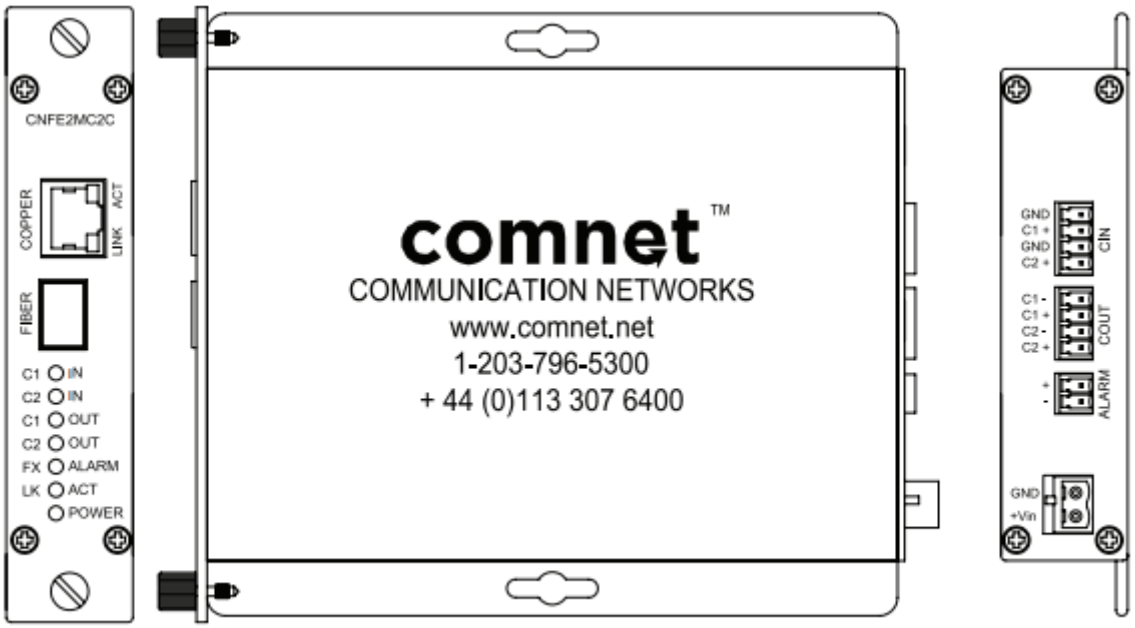
Current Network settings:

	Contact Input	Contact Output
Local Network Port Number:	23	26
Remote Network Port Number:	N/A	26
Network Mode:	Server	Client
Network Protocol:	TCP/IP	TCP/IP
Server IP:	N/A	192.168.10.1
TCP/IP Timeout:	0mS	0mS

Mechanical Drawings



Mechanical Drawing of CNFE2MC2C/M MODULE



Mechanical Drawing of CNFE2MC2C MODULE

Indicator LED's and Fault Relay Status

CNFE2MC2C Indicator LED's and Fault Relay Status	
POWER	Off – proper operating power not detected Solid green – proper operating power detected (CNFE2MC2C 8 to 24 VDC)
RJ-45 – LINK	Off – Ethernet link not detected Solid yellow – Ethernet link detected
RJ-45 – ACT	Off or solid green – Ethernet activity not detected Solid green – Ethernet activity detected
C1 IN	Off – closure not detected across C1+IN and GND on this device Solid green – closure detected across C1+IN+ and GND on this device
C2 IN	Off – closure not detected across C2+IN and GND on this device Solid green – closure detected across C2+IN and GND on this device
C1 OUT	OFF – closure not detected across input pair 1 on the opposite end device Solid green – closure detected across input pair 1 on the opposite end device
C2 OUT	OFF – closure not detected across input pair 2 on the opposite end device Solid green – closure detected across input pair 2 on the opposite end device
FX ALARM and Form A fault relay	Off – optical link detected between the two CNFE2MC2C devices (Form A fault relay open) Solid red – optical link not detected between the two CNFE2MC2C devices (Form A fault relay closed)
LK ACT	Off – optical link not detected between the two CNFE2MC2C devices Off – SFP plugged in but optical link is not detected between the two CNFE2MC2C devices One quick green flicker when an SFP transceiver is plugged in without fiber attached Flashing green – optical link and optical activity detected between the two CNFE2MC2C devices

CNFE2MC2C/m Indicator LED's and Fault Relay Status	
POWER	Off – proper operating power not detected Solid green – proper operating power detected (CNFE2MC2C/m 8 to 24 VDC or 22 to 27 VAC)
RJ-45 – LINK	Off – Ethernet link not detected Solid yellow – Ethernet link detected
RJ-45 – ACT	Off or solid green – Ethernet activity not detected Solid green – Ethernet activity detected
CT1_IN	Off – closure not detected across CT1_IN+ and GND on this device Solid green – closure detected across CT1_IN+ and GND on this device
CT2_IN	Off – closure not detected across CT2_IN+ and GND on this device Solid green – closure detected across CT2_IN+ and GND on this device
CT2_OUT	OFF – closure not detected across input pair 2 on the opposite end device Solid green – closure detected across input pair 2 on the opposite end device
CT1_IN	OFF – closure not detected across input pair 1 on the opposite end device Solid green – closure detected across input pair 1 on the opposite end device
LOSS OF LINK and Form A fault relay	Off – optical link detected between the two CNFE2MC2C devices (Form A fault relay open) Solid red – optical link not detected between the two CNFE2MC2C devices (Form A fault relay closed)
OPTIC LINK / ACT	Off – optical link not detected between the two CNFE2MC2C devices Off – SFP plugged in but optical link is not detected between the two CNFE2MC2C devices One quick green flicker when an SFP transceiver is plugged in without fiber attached Flashing green – optical link and optical activity detected between the two CNFE2MC2C devices

Computer-related processes

Adding multiple IPv4 addresses to a Windows machine

[1] Navigate to the computer's Network Connections page.

[2] Navigate to the network adapter's TCP/IPv4 Properties page.

[3] If the radio button next to "Use the following IP address:" is selected, continue to Step 4.

- Otherwise, DHCP is enabled and the radio button next to "Obtain an IP address automatically" will be selected.
- To set the computer to a static IPv4 address, click the radio button next to "Use the following IP address:".
- Enter a static IP address and subnet mask for the computer.
- If there will be no additional IP addresses added, click OK as needed to apply and save the changes, and exit.
- Otherwise, continue to Step [4].

[4] To add an additional IP address in a different network to the computer,

- Click the Advanced... button.
- In the section labeled IP addresses, click the Add... button.
- Add an available IPv4 address in the new network.
- Add a subnet mask and click the Add button.

[5] If there will be no additional IP addresses added,

- Click OK as needed to apply and save the changes, and exit.
- Otherwise, to add additional IP addresses, return to Step 4.

Starting and stopping a continuous PING

[1] Confirm that the computer has an IPv4 address on the same network as the device to which the PING command will be sent.
Refer to the procedure – Adding multiple IP addresses to a Windows machine – as needed.

[2] Press and release the Windows key, type cmd, then press Enter to open a Command Prompt window.

[3] Start a continuous PING as follows: into the Command Prompt window,
type the PING command followed by a space followed by –t followed by a space followed by the IP address to PING, then press Enter. A generic template is shown here:

ping –t [IP address to PING] [Enter]

[4] Multiple PING windows can be opened simultaneously and resized as needed for visibility.

[5] Ctrl C stops a continuous PING