Chapter 1
Getting Started

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Introduction

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The Purpose of this Manual

Thank you for purchasing our ***C-more***® Touch Panel family of products. This manual describes AutomationDirect.com's ***C-more*** Touch Panels, their specifications, included components, available accessories and provides you with important information for installation, connectivity and setup. The manual shows you how install, wire and use the products. It also helps you understand how to interface the panels to other devices in a control system.

This user manual contains important information for personnel who will install the touch panels and accessories, and for the personnel who will be programming the panel. If you understand control systems that make use of operating interfaces such as the ***C-more*** touch panels, our user manuals will provide all the information you need to get, and keep your system up and running.

Supplemental Manuals

If you are familiar with industrial control type devices, you may be able to get up and running with just the aide of the Quick Start Guide that is included with each touch panel. You can also refer to the On-line help that is available in the ***C-more*** programming software for more information about programming the panel.

Technical Support

We strive to make our manuals the best in the industry. We rely on your feedback to let us know if we are reaching our goal. If you cannot find the solution to your particular application, or, if for any reason you need technical assistance, please call us at:

770–844–4200

Our technical support group will work with you to answer your questions. They are available Monday through Friday from 9:00 A.M. to 6:00 P.M. Eastern Time. We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company.

http://c-more.automationdirect.com

Conventions Used



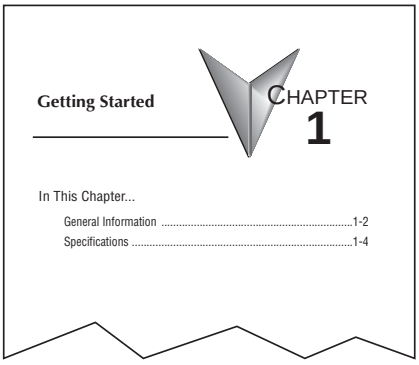
When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note. The word NOTE: in boldface will mark the beginning of the text.



When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a warning. This information could prevent injury, loss of property, or even death (in extreme cases). The word Warning: in boldface will mark the beginning of the text.

Key Topics for Each Chapter

The beginning of each chapter will list the key topics that can be found in that chapter.


Getting Started

CHAPTER 1

In This Chapter...

General Information 1-2

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Product Overview

Some of the features designed into the product to provide excellent hardware and software are listed below.

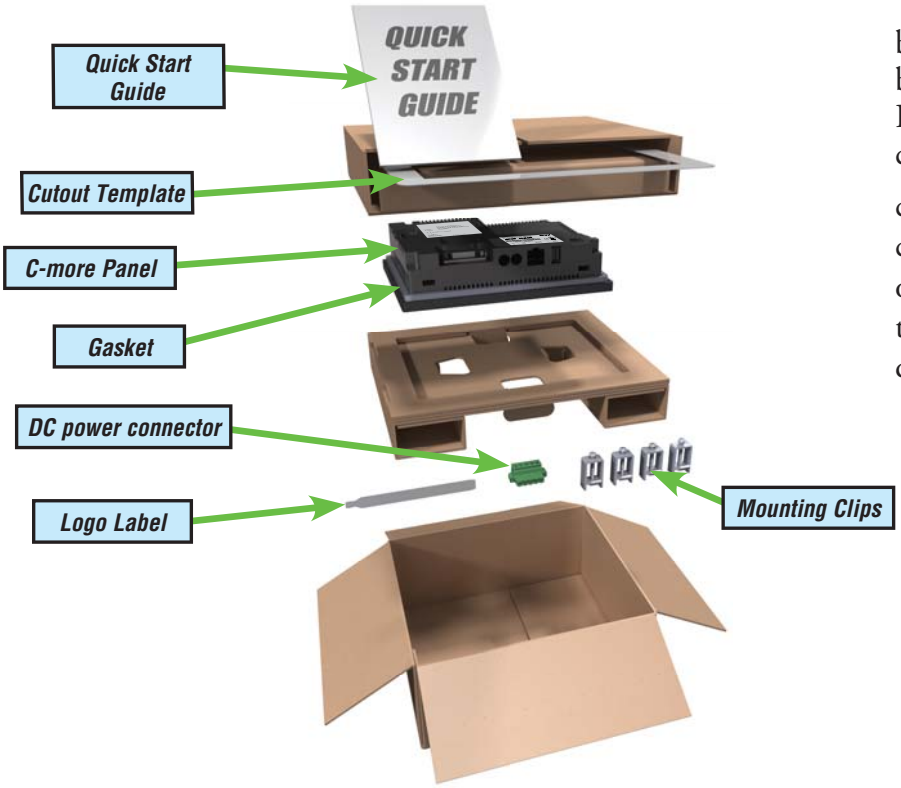
- Analog touch screen (no touch cell boundaries). The touchscreen is designed to respond to a single touch. If it is touched at multiple points at the same time, an unexpected object may be activated.
- Plenty of memory and methods to get data in/out of the panel
- Overlapping active devices on the touch screen
- 65,536 colors for enhanced graphics
- Screen resolutions up to 1024 X 768 pixels
- HDMI Video Output on 12-inch and 15-inch models.
- Audio input port
- Built-in FTP client/server, E-mail client, and Web server
- Audio output port - stereo, requires amplifier and speaker(s)
- User configurable LED on the front of the panel
- Built-in project simulation; test on PC while developing
- Ethernet 10/100Base-T communications (Ethernet available on full feature units only.)
- 15 pin serial port with RS-232, RS422/485
- 3-wire terminal block RS-485 port and RJ12 RS-232 port (full feature units only)
- Programming via USB or Ethernet (Ethernet available on full feature units only.)
- Optional AC/DC power adapter (EA-AC)
- Animation of bitmaps and objects
- Thousands of built-in symbols and Windows fonts
- PID face plate, trending, alarming and a recipe database
- Event Manager to trigger actions based on assigned state changes, schedules, PLC tag names, etc. setup in a database environment. The event can also trigger a sound byte, initiate a screen capture, send a data file (FTP), send an E-mail, etc.
- Trend Data logging
- Internet Remote Access
- Customizable label on the front of the panel

Quick Start Steps

Step 1 – Unpack and Inspect

a.) Unpack the ***C-more*** Touch Panel from its shipping carton. Included in the carton are the following:

- ***C-more*** Touch Panel
- cutout template
- mounting clips
- DC power connector
- gasket
- logo label
- Quick Start Guide



b.) Unpack any accessories that have been ordered, such as: AC/DC Power Adapter, programming cable, communications cable, etc.

c.) Inspect all equipment for completeness. If anything is missing or damaged, immediately call the AutomationDirect® returns department @ 1-800-633-0405.

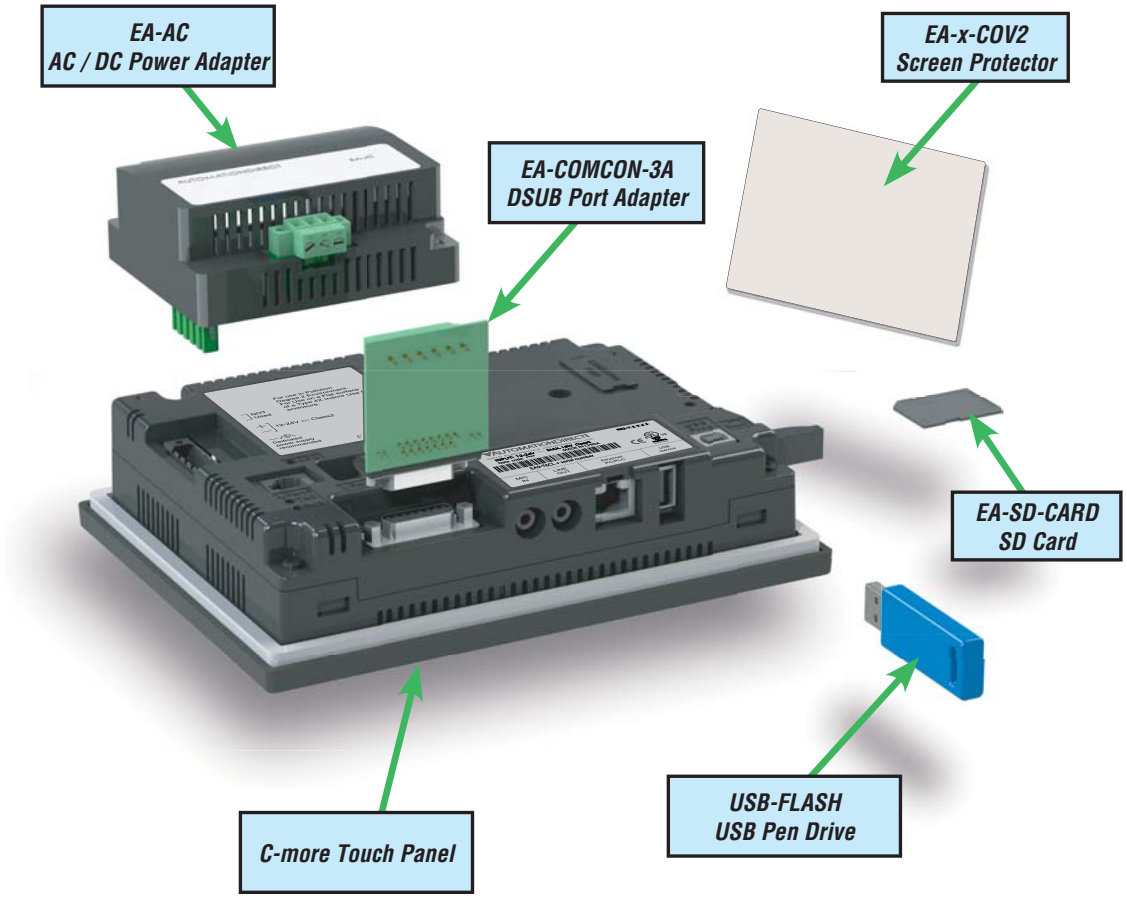
Shipping Carton Contents

Optional Accessories

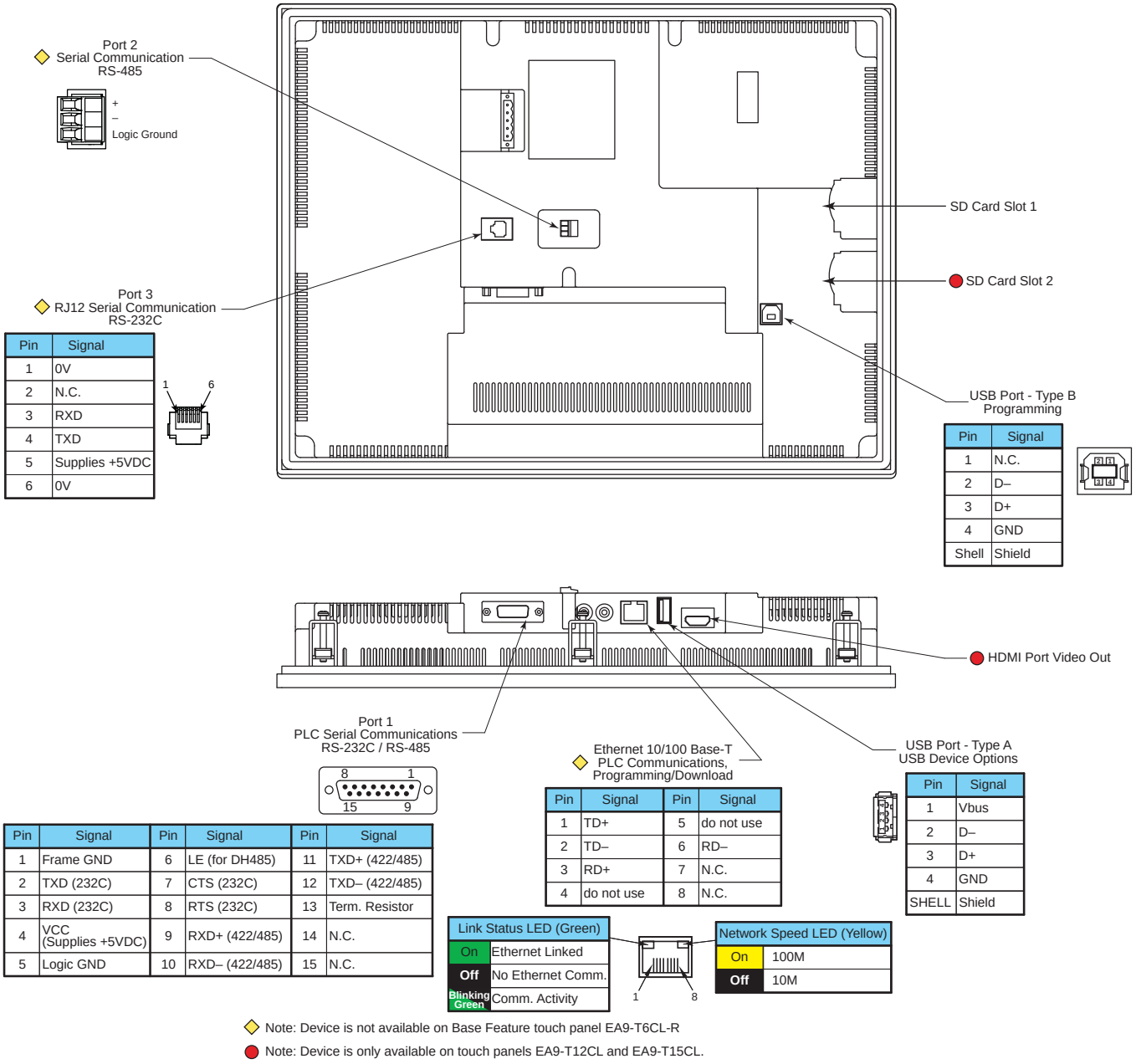


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Step 2 – Install Optional Hardware Accessories



Step 3 – Become Familiar with Available Communication Ports



Pin	Signal
1	0V
2	N.C.
3	RXD
4	TXD
5	Supplies +5VDC
6	0V

Pin	Signal
1	N.C.
2	D–
3	D+
4	GND
Shell	Shield

Pin	Signal	Pin	Signal	Pin	Signal
1	Frame GND	6	LE (for DH485)	11	TXD+ (422/485)
2	TXD (232C)	7	CTS (232C)	12	TXD– (422/485)
3	RXD (232C)	8	RTS (232C)	13	Term. Resistor
4	VCC (Supplies +5VDC)	9	RXD+ (422/485)	14	N.C.
5	Logic GND	10	RXD– (422/485)	15	N.C.

Pin	Signal	Pin	Signal
1	TD+	5	do not use
2	TD–	6	RD–
3	RD+	7	N.C.
4	do not use	8	N.C.

Pin	Signal
1	Vbus
2	D–
3	D+
4	GND
SHELL	Shield

Link Status LED (Green)	
On	Ethernet Linked
Off	No Ethernet Comm.
Blinking Green	Comm. Activity

Network Speed LED (Yellow)	
On	100M
Off	10M

Note: Device is not available on Base Feature touch panel EA9-T6CL-R

Note: Device is only available on touch panels EA9-T12CL and EA9-T15CL.

NOTE: See Chapter 2: Specifications and Chapter 6: PLC Communications for additional details on the available communication ports, protocols and cables.

Step 4 – Install the Programming Software and Develop a Project

Following are the minimum system requirements for running ***C-more*** Programming Software, p/n EA9-PGMSW, on a PC:

- Keyboard and Mouse or compatible pointing device
- Super VGA color video adapter and monitor with at least 800 x 600 pixels resolution (1024 x 768 pixels recommended) 64K color minimum
- 300 MB free hard-disk space
- CD-ROM or DVD drive for installing software from the CD
- USB port or Ethernet 10/100 Mbps port for project transfer from software to touch panel (Ethernet port not available on -R models)
- Operating System - Windows® XP Professional Edition (32 bit), Windows 7 (32 or 64 bit) or Windows 8 (32 or 64 bit)

Insert the supplied CD into the PC's CD drive and follow the instructions. If you need assistance during the software installation, call the AutomationDirect Technical Support team @ 770-844-4200.

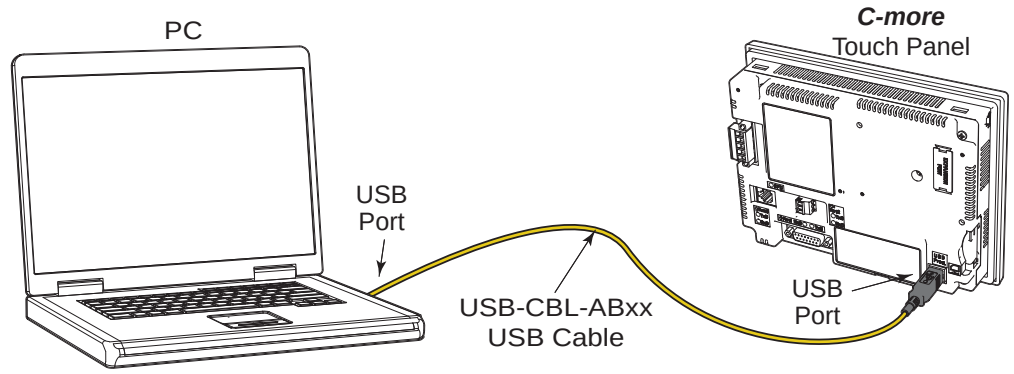


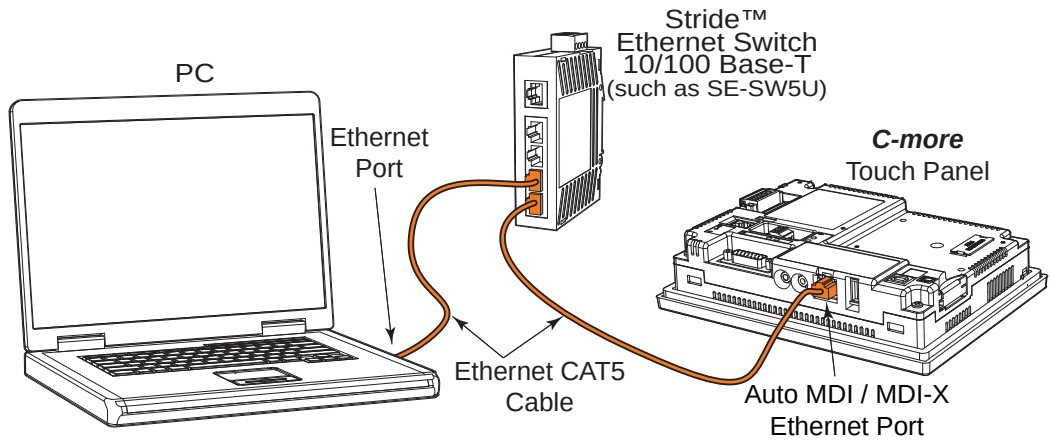
NOTES: Regarding Ethernet access to a C-more panel.
If you intend to take advantage of the methods of remote access to the panel, including the web server, PC remote access, FTP, iPhone or iPad app, you need to consider the security exposure in order to minimize the risks to your process and your C-more panel.

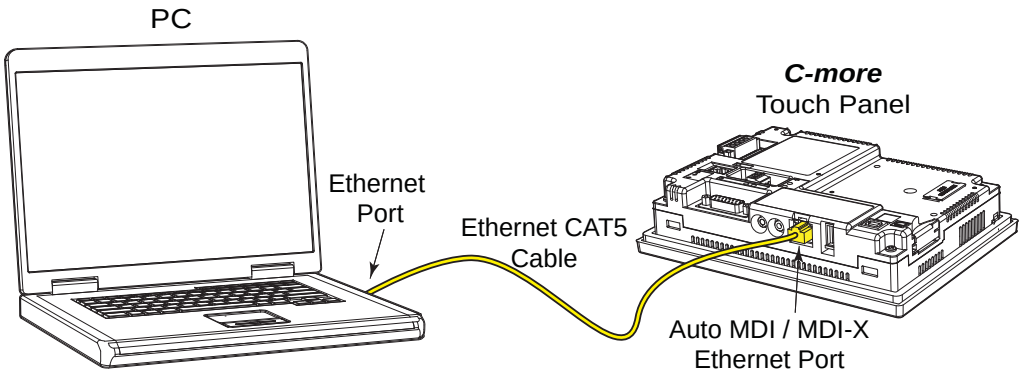
Security measures may include password protection, changing the ports exposed on your network, including a VPN in your network, and other methods. Security should always be carefully evaluated for each installation.

Step 5 – Connect Touch Panel to Computer

- **Connect** a USB Programming Cable, such as p/n USB-CBL-AB15, from a USB type A port on the PC to the USB type B programming port on the ***C-more*** touch panel
- **or** connect the ***C-more*** touch panel and PC together either directly or via an Ethernet switch, and CAT5 Ethernet cables (full feature panels only)







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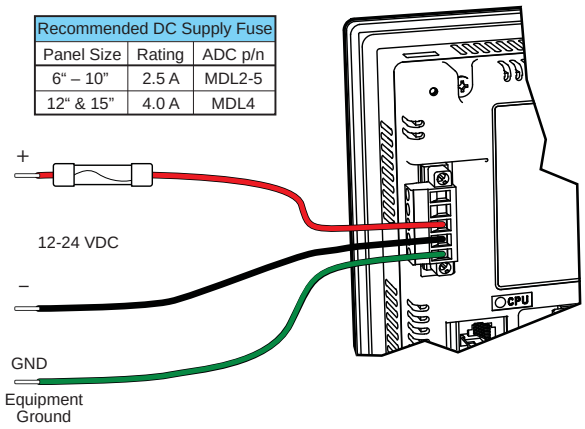
Step 6 – Provide Power to the Touch Panel

- **Connect** a **dedicated** 12-24 VDC Class 2 power supply to the DC connector on the rear of the ***C-more*** touch panel, include wiring the ground terminal to a proper equipment ground
- **or** install a ***C-more*** AC/DC Power Adapter, EA-AC, to the rear of the touch panel and connect an AC voltage source of 100-240 VAC, 50/60Hertz, to its AC connector (see note below)
- **then** turn on the power **source** and check the LED status indicators on the front and rear of the ***C-more*** touch panel for proper indication (see next page)

NOTE: The AC/DC Power Adapter, EA-AC, is for C-more touch panels only. The adapter is powered from a 100-240 VAC, 50/60 Hertz power source. The adapter provides 24 VDC @ 1.5 A. Power Fault features help protect data on an SD memory card during power failures.

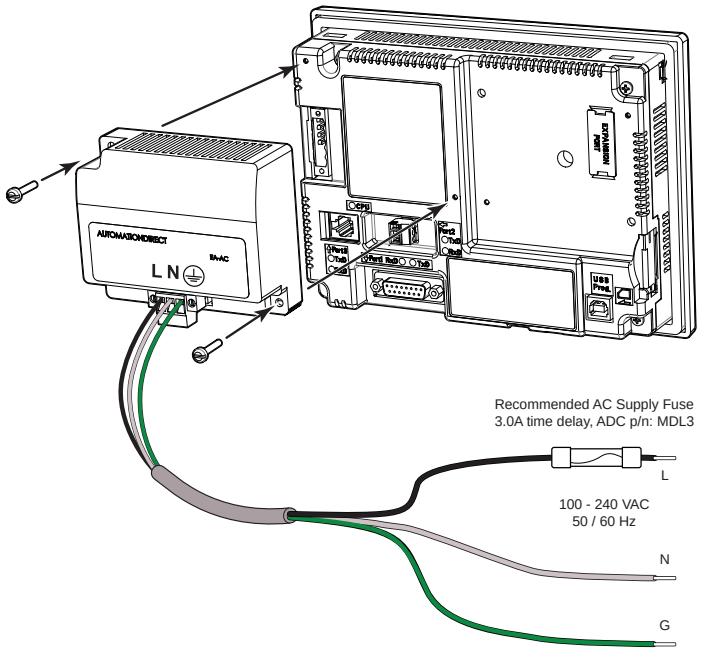
DC Wiring

Recommended DC Supply Fuse		
Panel Size	Rating	ADC p/n
6" – 10"	2.5 A	MDL2-5
12" & 15"	4.0 A	MDL4



DC-CON Tightening Torque	
Power connector screw torque	70.4 oz-in (0.5 Nm)
Power connector mounting torque	56 oz-in (0.4 Nm)

AC Wiring

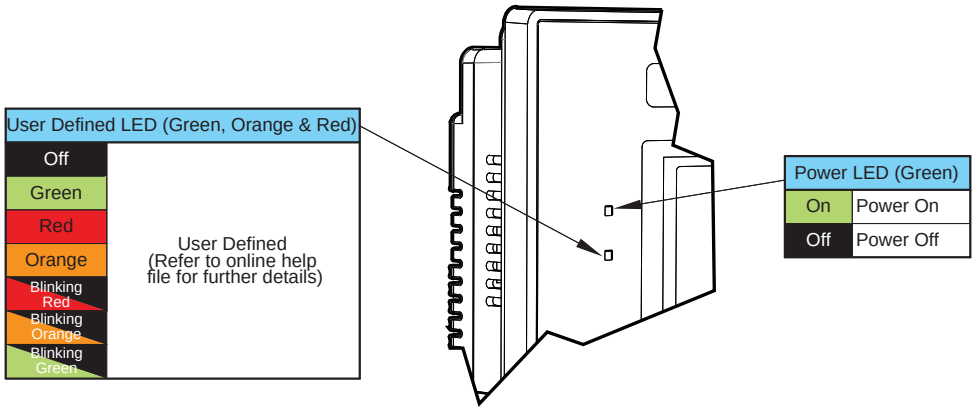


Tightening Torque	
Power supply cable torque	71 - 85 oz-in (0.5 - 0.6 Nm)
Power connector mounting torque	71 - 85 oz-in (0.5 - 0.6 Nm)
Mounting flange screw torque	57 - 71 oz-in (0.4 - 0.5 Nm)

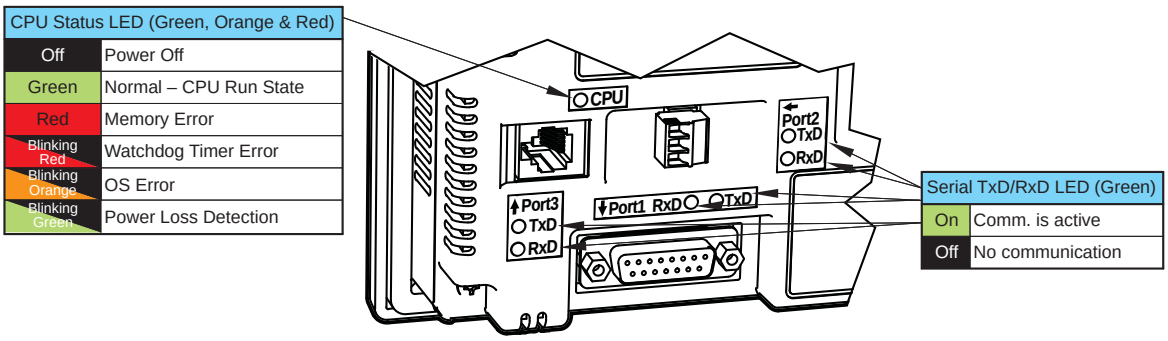
NOTE: Use 60 / 75 °C copper conductors only

Step 6 – Provide Power to the Touch Panel (cont'd)

C-more LED Status Indicators



Front View

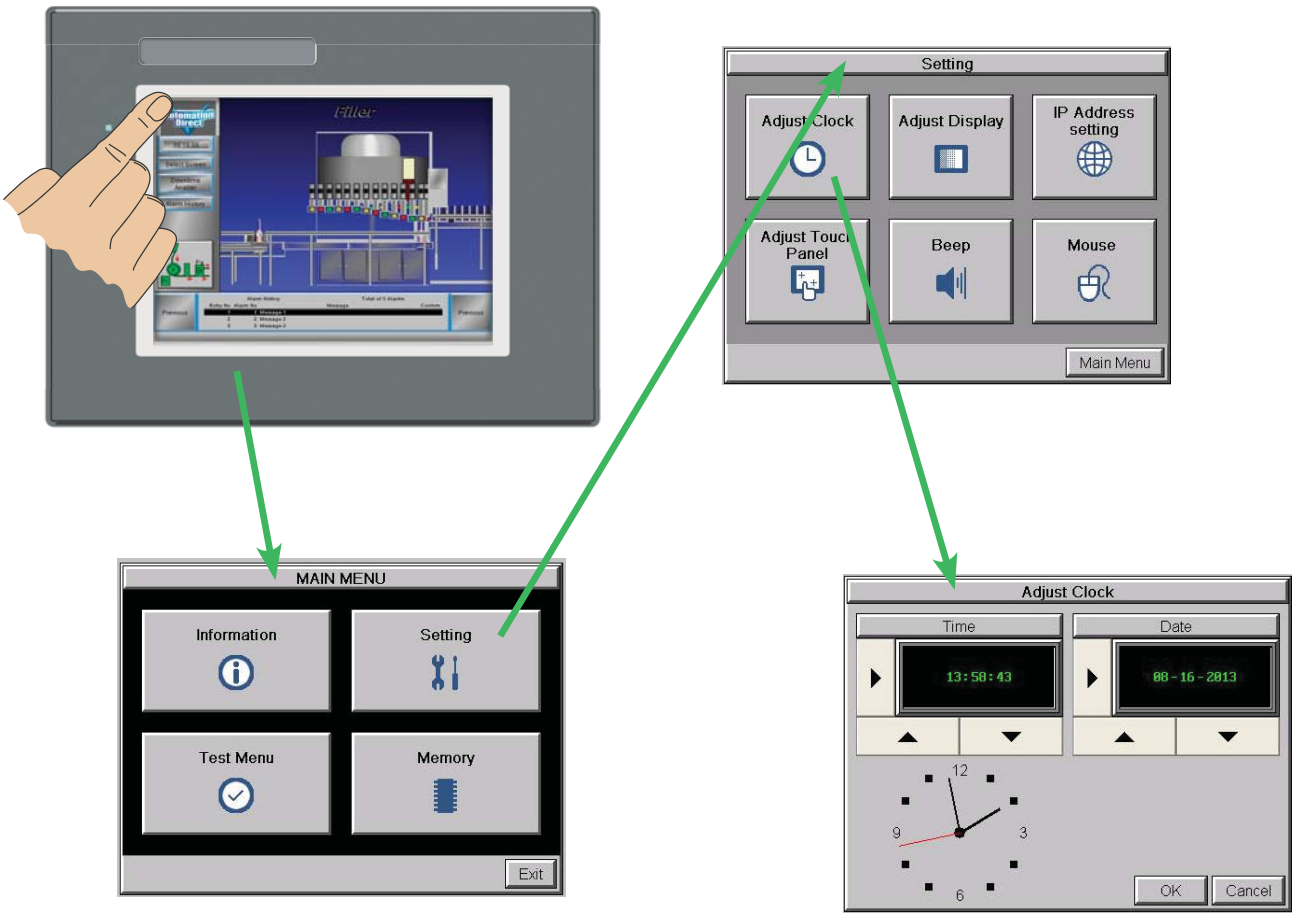


Rear View

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Step 7 – Access the Touch Panel Setup Screens

- Access the Main Menu of the touch panel System Setup Screens by pressing the extreme upper left corner of the panel display area for three (3) seconds as shown below.
- Adjust the time and date for the panel by pressing the Setting button on the Main Menu, then press the Adjust Clock button on the Setting screen.
- Use the right pointing arrows for the time or date display to select the unit to change. Use the up and down arrows to increment or decrement the value for the selected unit.
- Press OK when done to accept the changes to the time and date in the touch panel or press Cancel to exit the Adjust Clock setup screen without making any changes.
- Press the Main Menu button on the Setting screen and then the Exit button on the Main Menu screen to return to the application screen.



Step 8 – Choose Touch Panel to Device Protocol & Cables

Compatibility Table			
Model			**Protocols**
AutomationDirect	Productivity3000		P3000 Serial
			P3000 Ethernet
	Do-more	all	Do-more Serial
			Do-more Ethernet
	CLICK		Modbus (CLICK)
	DL05/DL06	all	K-Sequence
			DirectNET
			Modbus (Koyo addressing)
		H0-ECOM/H0-ECOM100	***Direct***LOGIC Ethernet
	DL105	all	K-Sequence
	DL205	D2-230	K-Sequence
		D2-240	K-Sequence
			DirectNET
		D2-250/D2-250-1/D2-260	K-Sequence
			DirectNET
			Modbus (Koyo addressing)
		D2-240/D2-250-1/D2-260 Using DCM	***Direct***NET
			Modbus (Koyo addressing)
		H2-ECOM/H2-ECOM100	***Direct***LOGIC Ethernet
	DL305	D3-330/330P (Requires the use of a Data Communications Unit)	***Direct***NET
		D3-340	***Direct***NET
		D3-350	K-Sequence
			DirectNET
			Modbus (Koyo addressing)
		D3-350 DCM	***Direct***NET
			Modbus (Koyo addressing)
	DL405	D4-430	K-Sequence
			DirectNET
		D4-440	K-Sequence
			DirectNET
		D4-450	K-Sequence
			DirectNET
			Modbus (Koyo addressing)
		All with DCM	***Direct***NET
			Modbus (Koyo addressing)
		H4-ECOM/H4-ECOM100	***Direct***LOGIC Ethernet
	H2-WinPLC (Think & Do) Live V5.2 or later and Studio any version		Think & Do Modbus RTU (serial port)
	H2-WinPLC (Think & Do) Live V5.5.1 or later and Studio V7.2.1 or later		Think & Do Modbus TCP/IP (Ethernet port)
	GS Drives		GS Drives Serial
			GS Drives TCP/IP (GS-EDRV)
	SOLO Temperature Controllers		SOLO Temperature Controller

Step 8 – Choose Touch Panel to Device Protocol & Cables (cont'd)

Compatibility Table (cont'd)		
Model		**Protocols**
Allen-Bradley	MicroLogix 1000, 1100, 1200, 1400, 1500, SLC 5-01/02/03	DH485/AIC/AIC+
	MicroLogix 1000, 1100, 1200, 1400 and 1500	DF1 Half Duplex; DF1 Full Duplex
	SLC 5-03/04/05	
	ControlLogix™, CompactLogix™, FlexLogix™	
	PLC-5	DF1 Full Duplex
	ControlLogix, CompactLogix, FlexLogix - Tag Based	DF1 Half Duplex; DF1 Full Duplex
	ControlLogix, CompactLogix, FlexLogix - Generic I/O Messaging	EtherNet/IP Server
	ControlLogix, CompactLogix, FlexLogix - Tag Based	EtherNet/IP Client
	MicroLogix 1100, 1400 and SLC 5/05, via native Ethernet port	
	MicroLogix 1000, 1100, 1200, 1400, 1500, SLC 5-03/04/05, all via ENI adapter	
GE	90/30, 90/70. Micro 90, VersaMax Micro	SNPX
Mitsubishi	FX Series	FX Direct
	Q02, Q02H, Q06H, Q12H, Q25H	Q CPU
	Q, QnA Serial	QnA Serial
	Q, QnA Ethernet	QnA Ethernet
Modicon	984 CPU, Quantum 113 CPU, AEG Modicon Micro Series 110 CPU: 311-xx, 411-xx, 512-xx, 612-xx	Modbus RTU
	Other devices using Modicon Modbus addressing	Modbus RTU
		TUModbus TCP/IP
Omron	C200 Adapter, C500	Host Link
	CJ1/CS1 Serial	FINS
	CJ1/CS1 Ethernet	
Siemens	S7-200 CPU, RS-485 Serial	PPI
	S7-200 CPU, S7-300 CPU, S7-1200 CPU; Ethernet	Ethernet ISO over TCP

Step 8 – Choose Touch Panel to Device Protocol & Cables (cont'd)

Available cables to connect from PLC to *C-more* serial Port 1

Purchased Cable Description	Cable Part Number
AutomationDirect Productivity Series, Do-more, CLICK, ***Direct***LOGIC PLC RJ-12 port, DL05, DL06, DL105, DL205, D3-350, D4-450 & H2-WINPLC (RS-232C)	**EA-2CBL**
DirectLOGIC (VGA Style) 15-pin port DL06, D2-250 (250-1), D2-260 (RS-232C)	**EA-2CBL-1**
DirectLOGIC PLC RJ-11 port, D3-340 (RS-232C)	**EA-3CBL**
DirectLOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C)	**EA-4CBL-1**
DirectLOGIC PLC 25-pin D-sub port, DL405, D3-350, DL305 DCU and all DCM's (RS-232C)	**EA-4CBL-2**
Allen-Bradley MicroLogix 1000, 1100, 1200, 1400, 1500 (RS-232C)	**EA-MLOGIX-CBL**
Allen-Bradley SLC 5-03/04/05, ControlLogix, CompactLogix, FlexLogix DF1 port (RS-232C)	**EA-SLC-232-CBL**
Allen-Bradley PLC-5 DF1 port (RS-232C)	**EA-PLC5-232-CBL**
Allen-Bradley MicroLogix, SLC 5-01/02/03, PLC5 DH485 port (RS-232C)	**EA-DH485-CBL**
GE 90/30, 90/70, Micro 90, VersaMax Micro 15-pin D-sub port (RS-422A)	**EA-90-30-CBL**
MITSUBISHI FX Series 25-pin port (RS-422A)	**EA-MITSU-CBL**
MITSUBISHI FX Series 8-pin mini-DIN (RS-422A)	**EA-MITSU-CBL-1**
OMRON Host Link (C200 Adapter, C500) (RS-232C)	**EA-OMRON-CBL**

NOTE: The above list of pre-made communications cables may be purchased. See Chapter 6: PLC Communications for wiring diagrams of additonal user constructed cables. Chapter 6 also includes wiring diagrams for the pre-made cables.

Pre-made cable examples

EA-2CBL



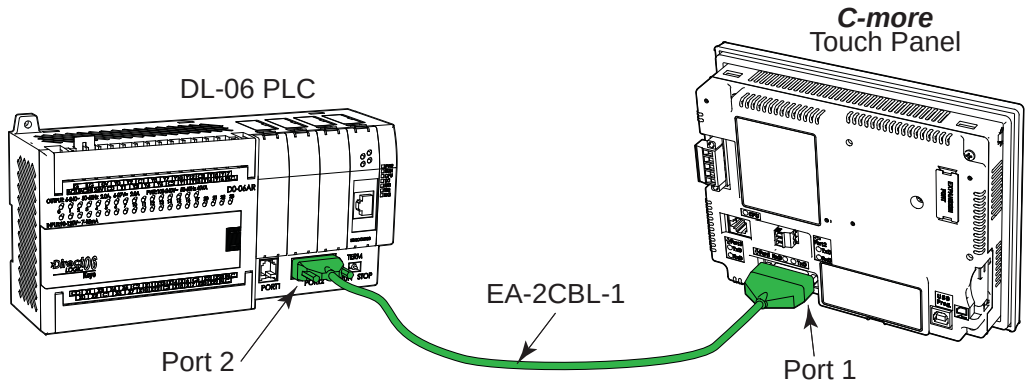
EA-2CBL-1



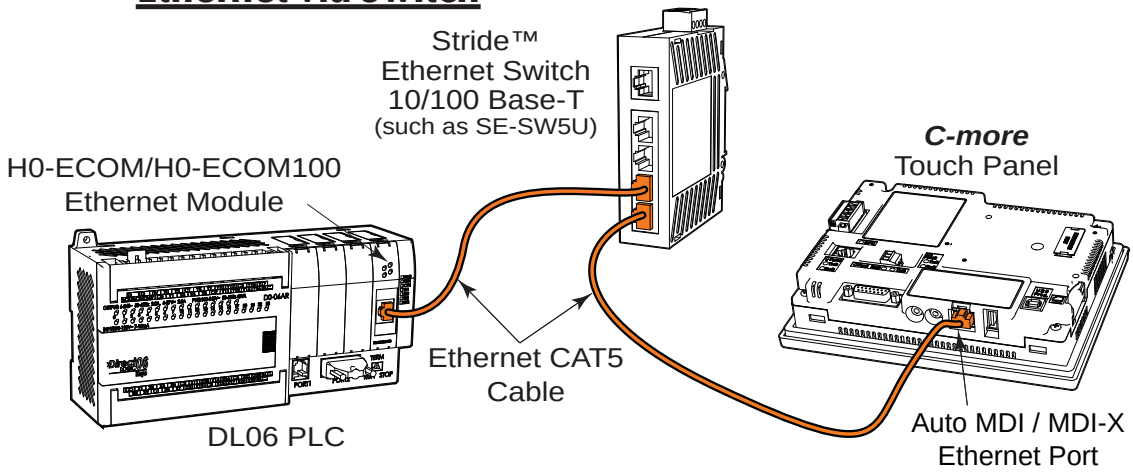
Step 9 – Connect Touch Panel to PLC

- Connect the serial communications cable between the ***C-more*** touch panel and the PLC
- or connect the ***C-more*** touch panel and PLC together either directly or via an Ethernet switch, and CAT5 Ethernet cables (full feature panels only)

Serial



Ethernet via Switch



Ethernet

