

The C-more Family

Hardware Selection

Part Number	Ethernet	SD Card Slot	Serial Ports	HDMI Video Output	Audio Output
EA9-T6CL-R		1 Slot	1 Port		
EA9-T6CL	Yes	1 Slot	3 Ports		Yes*
EA9-T8CL	Yes	1 Slot	3 Ports		Yes*
EA9-T10CL	Yes	1 Slot	3 Ports		Yes
EA9-T12CL	Yes	2 Slots	3 Ports	Yes	Yes
EA9-T15CL	Yes	2 Slots	3 Ports	Yes	Yes

Hardware Features

- 64K colors
- LED backlights
- 800MHz CPU
- 26MB to 82MB project memory depending on model
- 12 to 24 VDC powered (Optional AC module available)
- Built in Real-time Clock with 30 day backup (No Battery required)
- NEMA 4/4X IP65
- USB 2.0 Type A for USB HID compliant devices / Storage memory devices
- USB 2.0 Type B port for Programming

Software Features

- Over 50 objects including 16 pen trends, switches, PID trend faceplate, PID bar graph
- Event Manager allows for Logging and Notifications
- Language support for objects in German, French, Italian, Spanish, Chinese and Japanese Characters
- Project simulator
- Bitmap animation
- Email messaging
- Built-in FTP server / Web server
- Popup windows
- Data logging to USB/SD Flash Drive
- USB 2.0 Type B port for Programming
- Historical alarms with time and date stamp along with alarm frequency reporting.
- Supports simultaneous communication to multiple brands of PLC/PACs.
- Mouse and Keyboard support within the Project
- Remote HMI feature with smart phone / tablet / PC

Support Features

- Free Top Rated Technical Phone Support
- 2 year Warranty
- 30-Day Money Back Policy

Please refer to the catalog technical section for details.

Supported drivers

AutomationDirect PLCs

Do-more PLC's
 K-Sequence (**Direct**LOGIC PLCs)
 DirectNET (**Direct**LOGIC PLCs)
 Modbus (Productivity3000 PACs, **Direct**LOGIC PLCs, CLICK PLCs)
 ECOM Ethernet (**Direct**LOGIC PLCs)
 Think & Do (Modbus RTU and Modbus TCP/IP)
 GS Drives
 SOLO Temperature Controllers

Modbus RTU

Modbus TCP/IP

Allen-Bradley

A-B DF1
 A-B DH485
 A-B EtherNet/IP Client
 A-B Ethernet/IP Server Generic IO Messaging

GE SNPX

Omron

Omron Host Link Adapter
 Omron FINS (Serial and Ethernet)

Mitsubishi

FX Series CPU
 FX-1N(C), 2N(C), 3U(C) CPU
 Q Series (QO2, Q02H, Q06H, Q12H, Q25H CPU)
 Q/QnA (Serial and Ethernet)

Siemens

S7-200 (Serial: PPI)
 S7-200 (Ethernet: ISO over TCP/IP)
 S7-300 (Ethernet: ISO over TCP/IP)
 S7-400 (Ethernet: ISO over TCP/IP)
 S7-1200 (Ethernet: ISO over TCP/IP)

Please refer to the Compatibility Table in the following technical section for detailed information about which protocols are available for use with specific controllers.

Maximum Connectivity

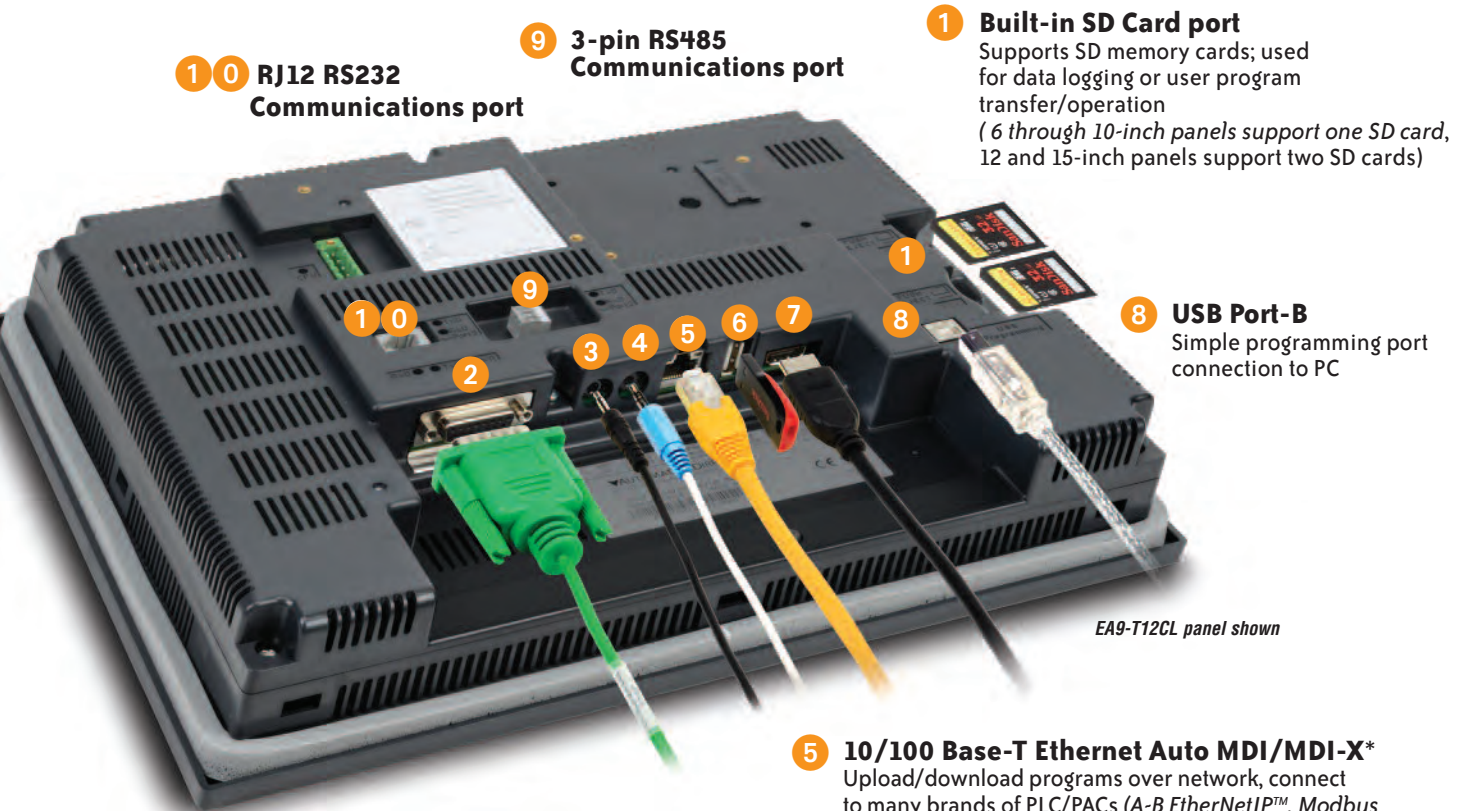
Communicate any way you want

C-more was designed to offer the widest range of connectivity options of any PLC touch panel in its class.

Starting at \$699.00 (EA9-T6CL), you can have a 6-inch panel with a 65,536 color TFT display with all these features:

- Built-in 10/100 Base-T Ethernet (upload/download programs over the network)
- FTP data exchange
- Send e-mails to PCs, mobile devices, etc.
- Connect to A-B EtherNet/IP™, Modbus/TCP, and many other PLC's
- Built-in USB port A (connect to memory sticks for data logging, bar code readers, scanners, ID readers, keyboards)
- Built-in USB Port-B (for programming)
- Built-in Audio Line out (plays .wav files)
- 3 built-in serial communication ports that connect to PLC/PACs from various manufacturers (use a serial port and the Ethernet port to connect simultaneously to multiple brands of PLC/PACs)
- Built-in SD memory card port for data logging

Get all this connectivity on a 6-inch 65,536 color TFT display panel for \$699



EA9-T12CL panel shown

10 **RJ12 RS232 Communications port**

9 **3-pin RS485 Communications port**

1 **Built-in SD Card port**
Supports SD memory cards; used for data logging or user program transfer/operation (6 through 10-inch panels support one SD card, 12 and 15-inch panels support two SD cards)

8 **USB Port-B**
Simple programming port connection to PC

5 **10/100 Base-T Ethernet Auto MDI/MDI-X***
Upload/download programs over network, connect to many brands of PLC/PACs (A-B EtherNet/IP™, Modbus TCP/IP, DirectLOGIC ECOM, Productivity3000), connect to standard Ethernet switches, etc.

2 **Serial Communication ports**
RS-232, RS-422/485 port, connects to numerous brands including Allen-Bradley, GE, Omron, Mitsubishi, AutomationDirect and more

3 **Audio Line in***
For future use

6 **USB Port-A**
Accepts USB devices such as memory sticks, keyboards, barcode scanners, etc.

4 **Audio Line out***
For amplifiers and speakers; allows .wav files to be played when a specified event occurs

7 **HDMI Video out**
Allows for HDMI output to Other HDMI display devices (12" and 15" models only).

* Available only on full featured units

Smart Power Supply Options and a 2 Year Warranty!

Add the 110 VAC power adaptor for improved reliability

C-more can operate with a 12 or 24 VDC power supplied. This is great for applications that have good clean 12 or 24 VDC power. However, there are many situations where the DC power in a cabinet does not meet required specifications for instrumentation.

C-more offers an optional 100-240 VAC screw-on power adaptor (EA-AC) that improves panel reliability. Since it is built specifically for **C-more**, it offers power fault detection with

sequential shut-down, and will set an error flag that can be configured with a time and date stamp to help troubleshoot a problem.

The power fault detection will attempt to “close” data logging files on SD memory cards to prevent file corruption. If data logging is critical to your applications, the EA-AC power adapter is a must.

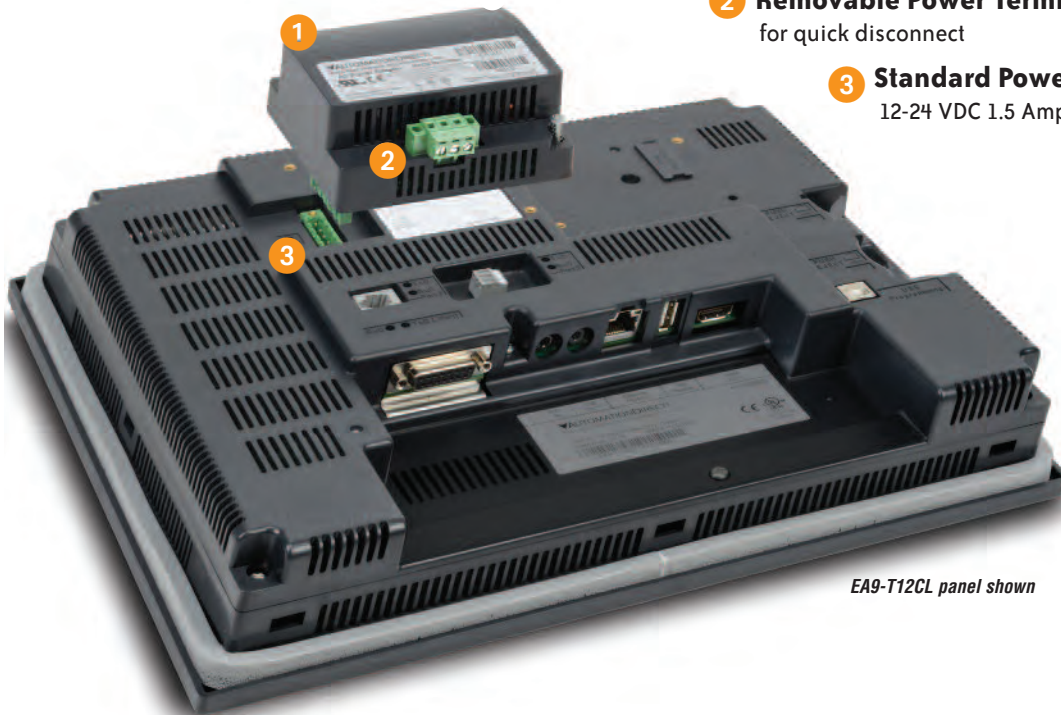
Power Fault Detection Sequential Shut-down Error Flag you can log

1 Optional 110 VAC to 24 VDC Power Supply

- Improves panel reliability
- Power fault protection with sequential shut-down
- Sets error flag; can configure tag with time and date stamp

2 Removable Power Terminal Block for quick disconnect

3 Standard Power Connection 12-24 VDC 1.5 Amp supply required



EA9-T12CL panel shown

2-year warranty because it's been designed with quality in mind

C-more is built by our parent company, Koyo Electronics. For over 50 years, Koyo has been a world class manufacturer of reliable and best value products. They are part of the multi-billion dollar JTEKT Group designing and manufacturing OEM products

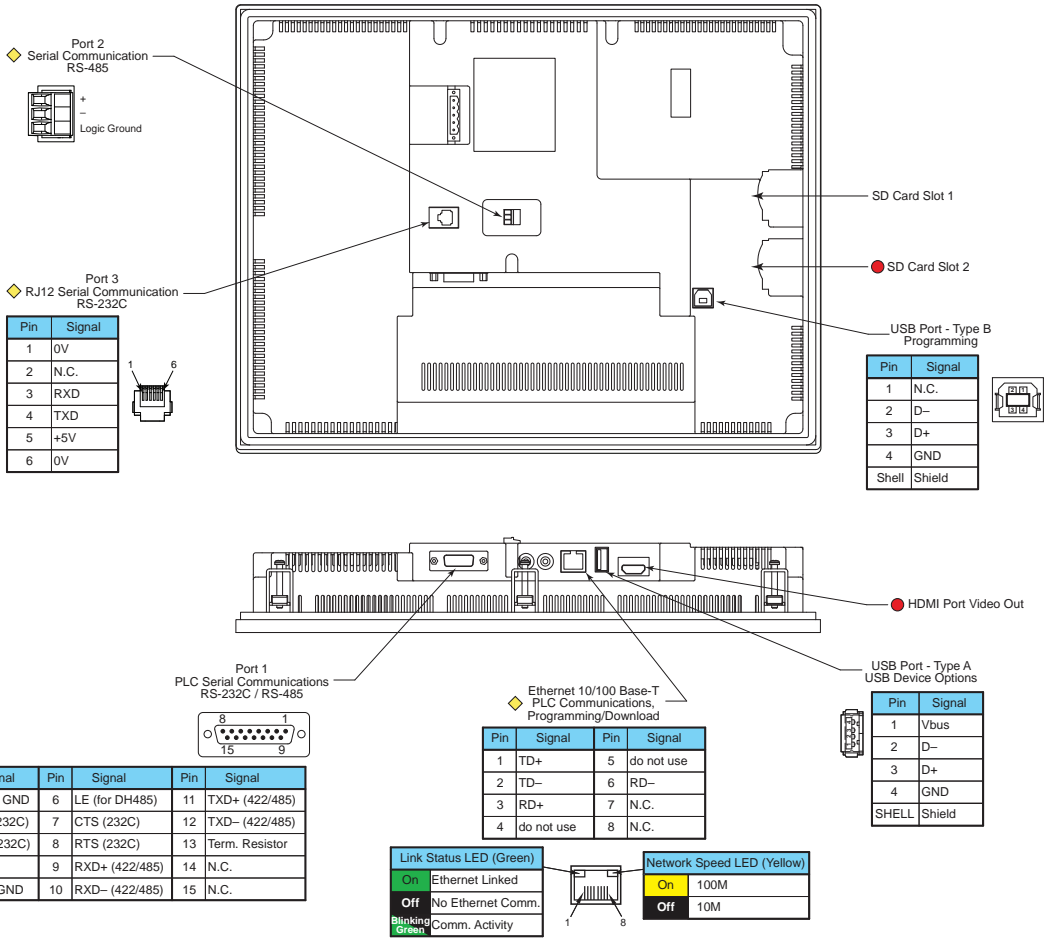
for demanding customers such as Toyota Motors. Koyo designed **C-more** to meet the most stringent quality requirements, and is confident to offer a 2-year limited warranty on all **C-more** panels.

C-more Selection Guide & Specifications

Specification	Model	6" TFT color w/ base features	6" TFT color w/ full features	8" TFT color w/ full features	10" TFT color w/ full features	12" TFT color w/ full features	15" TFT color w/ full features
Part Number		EA9-T6CL-R	EA9-T6CL	EA9-T8CL	EA9-T10CL	EA9-T12CL	EA9-T15CL
Price		<--->	<--->	<--->	<--->	<--->	<--->
Display Actual Size and Type		5.7" TFT color		8.4" TFT color	10.4" TFT color	12.1" TFT color	15.0" TFT color
Display Viewing Area		4.54" x 3.40" [115.2 mm x 86.4 mm]		6.71" x 5.03" [170.4 mm x 127.8 mm]	8.31" x 6.24" [211.2 mm x 158.4 mm]	9.69" x 7.26" [246.0 mm x 184.5 mm]	11.97" x 8.98" [304.1 mm x 228.0 mm]
Weight		1.56 lb [710g]	1.59 lb [720g]	2.93 lb [1330g]	4.19 lb [1900g]	4.89 lb [2200g]	6.50 lb [2950g]
Screen Pixels		320 x 240 (QVGA)		800 x 600 (SVGA)			1024 x 768 (XGA)
Display Brightness		280 nits (typ)		310 nits (typ)	280 nits (typ)		
LCD Panel Dot Pitch		0.18 mm x 0.18 mm		0.213 mm x 0.213 mm	0.264 mm x 0.264 mm	0.3075 mm x 0.3075 mm	0.297 mm x 0.297 mm
Color Scale		65,536 colors					
Backlight Average Lifetime*		50,000 hours @ 25°C					
Touch Panel Type		Four-wire analog resistive					
Project Memory		26MB				82MB	
Number of Screens		Up to 999 screens – limited by project memory					
Realtime Clock		Realtime Clock Built into panel, backed up for 30 days at 25°C					
Calendar - Month / Day / Year		Yes - monthly deviation 60 sec (Reference)					
Serial Port 1		15-pin D-sub female - RS232C, RS-422/485					
Serial Port 2	N/A						3-wire terminal block - RS-485
Serial Port 3	N/A						RJ-12 modular jack - RS-232C
USB Port - Type B		USB 2.0 High speed (480 Mbps) Type B - Download/Program					
USB Port - Type A		USB 2.0 High speed (480 Mbps) Type A -for USB device options					
Ethernet Port	N/A						Ethernet Port Ethernet 10/100 Base-T, auto MDI/MDI-X
Audio Line Out	N/A						3.5 mm mini jack – requires amplifier and speaker(s)
Mic In	N/A						3.5 mm mini jack
SD Card Slot		1 slot supports max 2 GB (SD,) max 32 GB (SDHC)				2 slots support max 2 GB (SD), max 32 GB (SDHC)	
HDMI Out		N/A				Yes	
Supply Power		12-24 VDC Class 2, or use the AC/DC Power Adapter, EA-AC, to power the touch panel from a 100-240 VAC, 50/60 Hz power source. Reverse Polarity Protected					
Power Consumption		16.0 W 1.30 A @ 12VDC 0.66 A @ 24VDC		18.0 W 1.50 A @ 12VDC 0.75 A @ 24VDC	18.0 W 1.50 A @ 12VDC 0.75 A @ 24VDC	21.0 W 1.75 A @ 12VDC 0.88 A @ 24VDC	29.0 W 2.40 A @ 12VDC 1.20 A @ 24VDC
Internal Fuse (non-replaceable)		4.0 A		6.3 A			
Operating Temperature		0 to 50 °C (32 to 122 °F) Maximum surrounding air temperature rating: 50°C (122°F) IEC 60068-2-14 (Test Nb, Thermal Shock)					
Storage Temperature		-20 to +60°C (-4 to +140 °F) IEC 60068-2-1 (Test Ab, Cold) IEC 60068-2-2 (Test Bb, Dry Heat) IEC 60068-2-14 (Test Na, Thermal Shock)					
Humidity		5–95% RH (non-condensing)					
Environment		For use in Pollution Degree 2 environment, no corrosive gases permitted					
Noise Immunity		NEMA ICS3-304 (EN61131-2) RFI, (145MHz, 440Mhz 10W @ 10cm) Impulse 1000V @ 1mS pulse EN61000-4-2 (ESD), EN61000-4-3 (RFI) EN61000-4-4 (FTB) EN61000-4-5 (Serge) EN61000-4-6 (Conducted) EN61000-4-8 (Power frequency magnetic field immunity)					
Withstand Voltage		1000 VAC, 1 min. (FG to Power supply)					
Insulation Resistance		> 10M ohm @ 500VDC (FG to Power supply)					
Vibration		IEC60068-2-6 (Test Fc)					
Shock		IEC60068-2-27 (Test Ea)					
Emission		EN55011 Class A (Radiated RF emission)					
Enclosure		NEMA 250 type 4/4X indoor use only UL50 type 4X indoor use only IP-65 indoor use only (When mounted correctly)					
Agency Approvals		UL508, E157382 CE (EN61131-2), RoHS (2011/65/EU) CUL Canadian C22.2					

* NOTE: The backlight average lifetime is defined as the average usage time it takes before the brightness becomes 50% of the initial brightness. The lifetime of the backlight depends on the ambient temperature. The lifetime will decrease under low or high temperature usage.

C-more Communication Ports



◆ 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.

Ethernet Port

The Ethernet port has several uses:

- Download program to panel
- Communicate to PLCs/PCs
- Send e-mail
- Access FTP server
- Act as a Web server
- Remote Internet Access

The Ethernet port has an RJ-45 8-wire modular connector with green and yellow LEDs.

- The yellow LED indicates network speed; off for a 10 Mbps connection and illuminated for a 100 Mbps connection.
- The green LED indicates link status and illuminates when a link is established.

Note: The base panels (-R part numbers) do not include an Ethernet port, and do not have these capabilities.

USB Port B

Program **C-more** via the USB programming port. It's fast and easy, with no baud rate settings, parity, or stop bits to worry about. We stock standard USB cables for your convenience. USB Port B can be used to upload or download projects to and from a PC.

USB Port A

The Universal Serial Bus (USB) Port A is a standard feature for all models and can be used to connect various USB HID (Human Input Device) devices to the panel, such as:

- USB pen drives, (USB-FLASH)
- USB keyboards
- USB barcode scanners
- USB card scanners

C-more can log data to the USB pen drive as well as load projects to the panel from the pen drive. You can also back up project files and panel firmware.

Sound Interface (Audio Line Out)

When attached to an amplifier and speaker(s), **C-more** can play warning sounds or pre-recorded messages such as: "conveyor is jammed". **C-more** supports WAV type files. The output is stereo.

Serial Port

Port 1 - Connect to your serial controller network via Port 1. Port 1 is a 15-pin port that supports RS-232 or RS-422/485.

Port 2 - Connect your RS-485 network via Port 2. Port 2 is provided with a 3-wire removable terminal block.

Port 3 - Connect to your RS-232C device via Port 3. Port 3 is an RJ12 connection.

HDMI Port

EA9-T12CL and EA9-T15CL include an HDMI Type A port to provide video output to a projector or remote monitor.

C-more Communication Protocols & Cables

Compatibility Table			
PLC Family	Model	Protocols	
Allen-Bradley	MicroLogix 1000/1100/1200/1400/1500, SLC 5-01/02/03, PLC5	DH485/AIC/AIC+	
	MicroLogix 1000, 1100, 1200 and 1500	DF1 Half Duplex; DF1 Full Duplex	
	SLC 5-03/04/05		
	ControlLogix™, CompactLogix™, FlexLogix™	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 & SLC 5/05, both via native Ethernet port		
	MicroLogix 1000, 1100, 1200, 1400, 1500 & SLC 5-03/04/05, all via ENI Adapter		
	Micro 800 series	Modbus RTU Modbus TCP	
Modbus TCP/IP	Modbus TCP/IP devices	Modbus TCP/IP	
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	
Omron	C200 Adapter, C500	Host Link	
	CJ1/CS1 Serial, CJ1/CS1 Ethernet	FINS	
Modicon	984 CPU, Quantum 113 CPU, AEG Modicon Micro Series 110 CPU; 311-xx, 411-xx, 512-xx, 612-xx	Modbus RTU	
Siemens	S7-200 CPU, RS-485 Serial	PPI	
	S7-200 CPU, S7-300 CPU, S7-400, S7-1200 CPU; Ethernet	Ethernet ISO over TCP	
Productivity Series	Productivity3000 Serial (P3-550)	AutomationDirect P3000 Serial	
	Productivity3000 Ethernet (P3-550)	AutomationDirect P3000 Ethernet	
Do-more	all	Do-more Serial Do-more Ethernet	
CLICK	all	AutomationDirect Modbus (CLICK) K-Sequence	
DirectLOGIC	DL05/DL06	all	DirectNET Modbus (Koyo addressing)
		H0-ECOM/H0-ECOM100	DirectLOGIC Ethernet
	DL105	all	K-Sequence
		D2-230	K-Sequence
		D2-240	K-Sequence DirectNET
		D2-250/D2-250-1/D2-260	K-Sequence DirectNET Modbus (Koyo addressing)
	DL205	D2-240/D2-250-1/D2-260 using D2-DCM	DirectNET Modbus (Koyo addressing)
		H2-ECOM/H2-ECOM100	DirectLOGIC Ethernet
		D3-330/330P (Requires the use of a Data Communications Unit)	DirectNET
		D3-340	DirectNET
	DL305	D3-350	K-Sequence DirectNET Modbus (Koyo addressing)
		D3-350 using D3-DCM	DirectNET Modbus (Koyo addressing)
		D4-430	K-Sequence DirectNET
		D4-440	K-Sequence DirectNET
	DL405	D4-450	K-Sequence DirectNET Modbus (Koyo addressing)
		All with D4-DCM	DirectNET Modbus (Koyo addressing)
		H4-ECOM/H4-ECOM100	DirectLOGIC 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)

Cable Description	Cable Part Number	Price
AutomationDirect Productivity Series, Do-more, CLICK, DirectLOGIC 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 DCMs (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 SLC 500 DH485 port (RS-485A)	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	<--->

Example Cables:

EA-2CBL



EA-2CBL-1

