C-more Operator Panels Overview

Getting started

Installing the software and configuring the *C-more* panel is simple. You will need the following to successfully connect, configure and send a project to the panel:

- *C-more* touch panel - 6", 8", 10", 12" or 15" model
- *C-more* Programming Software, p/n EA9-PGMSW
- *C-more* programming cable, USB or Ethernet
- 12-24 VDC switching power supply or the optional *C-more* AC Power Adapter, p/n EA-AC
- Personal Computer - to run *C-more* programming software
- PLC communications cable (serial or Ethernet) to connect the *C-more* Touch Panel to your controller

Part Number	Description	Price
EA9-T6CL-R	*C-more* EA9 series touch screen interface panel, 6-inch color TFT (5.7 inch viewable screen), base model, 64k colors, 320 x 240 pixel QVGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (1) serial port, USB 2.0 Type A and B ports, supports SD memory card, no Ethernet support. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-T6CL	*C-more* EA9 series touch screen interface panel, 6-inch color TFT (5.7 inch viewable screen), 64k colors, 320 x 240 pixel QVGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (3) serial ports, USB 2.0 Type A and B ports and Ethernet port; supports SD memory card. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-T8CL	*C-more* EA9 series touch screen interface panel, 8-inch color TFT (8.4 inch viewable screen), 64k colors, 800 x 600 pixel SVGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (3) serial ports, USB 2.0 Type A and B ports and Ethernet port; supports SD memory card. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-T10CL	*C-more* EA9 series touch screen interface panel, 10-inch color TFT (10.4 inch viewable screen), 64k colors, 800 x 600 pixel SVGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (3) serial ports, USB 2.0 Type A and B ports and Ethernet port; supports SD memory card. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-T12CL	*C-more* EA9 series touch screen interface panel, 12-inch color TFT (12.1 inch viewable screen), 64k colors, 800 x 600 pixel SVGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (3) serial ports, USB 2.0 Type A and B ports and Ethernet port; supports (2) SD memory cards. Includes HDMI video out. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-T15CL	*C-more* EA9 series touch screen interface panel, 15-inch color TFT (15 inch viewable screen), 64k colors, 1024 x 768 pixel XGA screen resolution, 800 MHz CPU, 12-24 VDC powered, NEMA 4/4X, IP65 (when mounted correctly; for indoor use only), non-replaceable LED backlight. Includes (3) serial ports, USB <None>2.0 Type A and B ports and Ethernet port; supports (2) SD memory cards. Includes HDMI video out. Compatible with EA9-PGMSW programming software version 5.0 or later.	<--->
EA9-PGMSW	*C-more* Windows-based programming software on CD for the *C-more* EA9 series touch panels. Requires Windows XP Pro 32-bit, Windows 7 (Pro, Ultimate, 32 or 64-bit) or Windows 8 (Pro, Ultimate, 32 or 64-bit). Requires USB or Ethernet connection to touch panel. Cables sold separately. (Does not support *C-more* EA7 series panels.)	<--->
USB-CBL-AB3	Standard 3-ft. (0.9m) USB 2.0 cable, A-type connector to B-type connector, used to connect personal computer to any *C-more* touch panel for setup and programming. (Note: Touch panels require a power source for configuration and operation.)	<--->
USB-CBL-AB6	Standard 6-ft. (1.8m) USB 2.0 cable, A-type connector to B-type connector, used to connect personal computer to any *C-more* touch panel for setup and programming. (Note: Touch panels require a power source for configuration and operation.)	<--->
USB-CBL-AB10	Standard 10-ft (3 meter) USB 2.0 cable, A-type connector to B-type connector, used to connect personal computer to any *C-more* touch panel for setup and programming. (Note: Touch panels require a power source for configuration and operation.)	<--->
USB-CBL-AB15	Standard 15-ft. (4.6m) USB 2.0 cable, A-type connector to B-type connector, used to connect personal computer to any *C-more* touch panel for setup and programming. (Note: Touch panels require a power source for configuration and operation.)	<--->

Company Information

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Programmable Controllers

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C-more & other HMI

Drives

Soft Starters

Motors & Gearbox

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pressure Sensors

Temperature Sensors

Pushbuttons/ Lights

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Relays/ Timers

Comm.

Terminal Blocks & Wiring

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Part # Index

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[x]
EA9-T8CL	Yes	1 Slot	3 Ports		Yes[x]
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 tehnical 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)
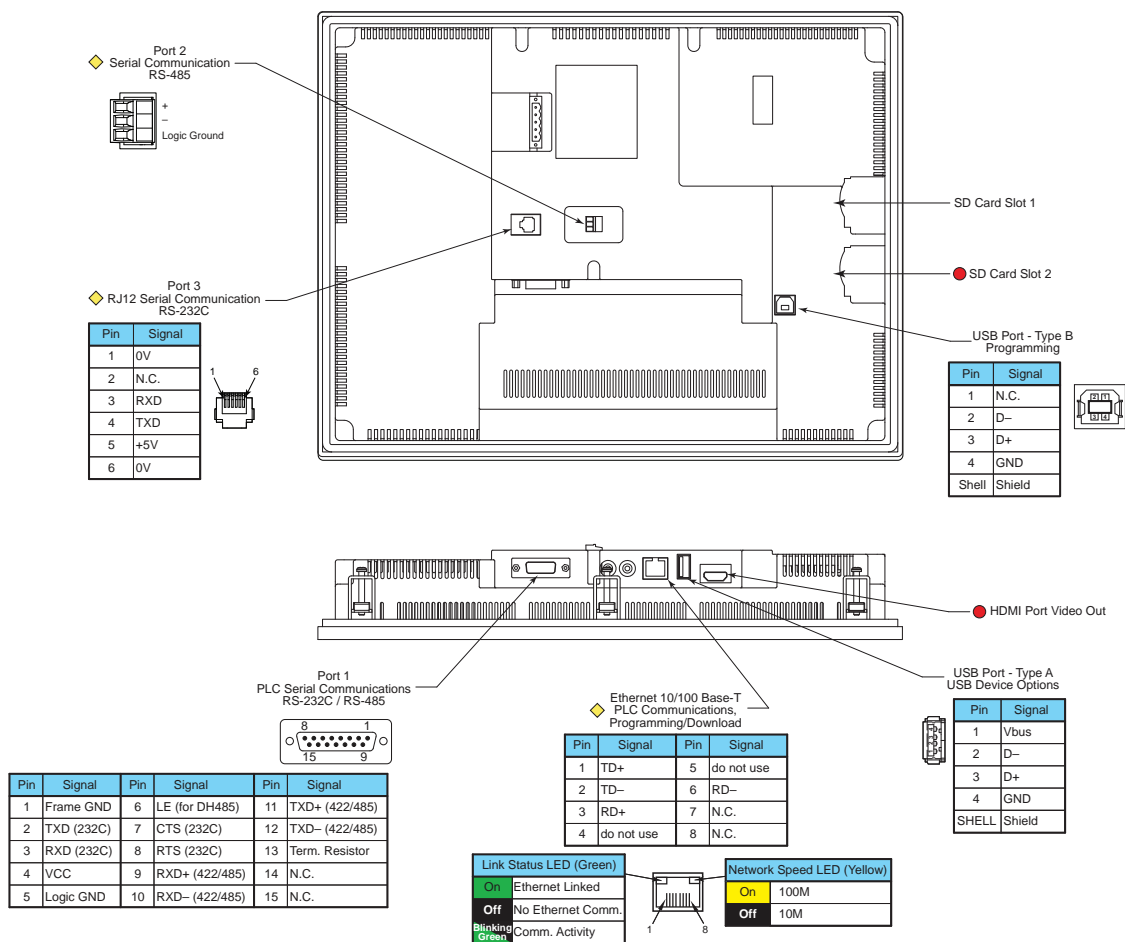S7-1200 (Ethernet: ISO over TCP/IP)

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

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 x127.8mm]	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

Port 2
Serial Communication
RS-485

+
+
−
Logic Ground

Port 3
RJ12 Serial Communication
RS-232C

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

1   6

SD Card Slot 1

● SD Card Slot 2

USB Port - Type B
Programming

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

HDMI Port Video Out ●

Port 1
PLC Serial Communications
RS-232C / RS-485

8   1
15   9

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	9	RXD+ (422/485)	14	N.C.
5	Logic GND	10	RXD– (422/485)	15	N.C.

Ethernet 10/100 Base-T
PLC Communications,
Programming/Download

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.

USB Port - Type A
USB Device Options

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

1   8

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.

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.

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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™	
	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 & 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)
DirectLOGIC	DL05/DL06 all	K-Sequence
		*Direct*NET
		Modbus (Koyo addressing)
	DL05/DL06 H0-ECOM/H0-ECOM100	*Direct*LOGIC Ethernet
	DL105 all	K-Sequence
	DL205 D2-230	K-Sequence
	DL205 D2-240	K-Sequence
		*Direct*NET
	DL205 D2-250/D2-250-1/D2-260	K-Sequence
		*Direct*NET
		Modbus (Koyo addressing)
	DL205 D2-240/D2-250-1/D2-260 using D2-DCM	*Direct*NET
		Modbus (Koyo addressing)
	DL205 H2-ECOM/H2-ECOM100	*Direct*LOGIC Ethernet
	DL305 D3-330/330P (Requires the use of a Data Communications Unit)	*Direct*NET
	DL305 D3-340	*Direct*NET
	DL305 D3-350	K-Sequence
		*Direct*NET
		Modbus (Koyo addressing)
	DL305 D3-350 using D3-DCM	*Direct*NET
		Modbus (Koyo addressing)
	DL405 D4-430	K-Sequence
		*Direct*NET
	DL405 D4-440	K-Sequence
		*Direct*NET
	DL405 D4-450	K-Sequence
		*Direct*NET
		Modbus (Koyo addressing)
	DL405 All with D4-DCM	*Direct*NET
		Modbus (Koyo addressing)
	DL405 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)

Cable Description	Cable Part Number	Price
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**	<--->
*Direct*LOGIC (VGA Style) 15-pin port, DL06, D2-250 (250-1), D2-260 (RS-232C)	**EA-2CBL-1**	<--->
*Direct*LOGIC PLC RJ-11 port, D3-340 (RS-232C)	**EA-3CBL**	<--->
*Direct*LOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C)	**EA-4CBL-1**	<--->
*Direct*LOGIC 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 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