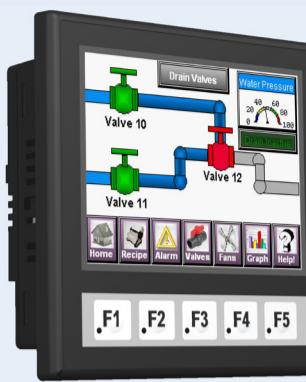


# Quick Start Guide

## C-more 4" Micro-Graphic Panels, Accessories & Replacement Parts



EA1-T4CL

**NOTE:** Software and Firmware Version 3.00 or later is required with model EA1-T4CL. Available for free download at [www.automationdirect.com](http://www.automationdirect.com).

## General Description

The C-more 4" Color Micro-Graphic panel has a 4.1-inch TFT LCD color 320 x 240 dot display with an LED backlight. It features five user-defined function keys, each key with a user-defined red LED indicator. The panel displays up to 40 lines by 80 characters of static text and up to 30 lines by 40 characters of dynamic text with embedded variables and phrases mixed with graphics at landscape orientation. Landscape orientation can display 80 characters and 40 lines of static text and 40 characters by 30 lines of dynamic text. Portrait orientation can display 59 characters and 54 lines of static text and 40 lines by 40 characters of dynamic text. EA1-T4CL is rated UL for use on a flat surface of Type 1, 4X enclosure (for indoor use only). The C-more 4" Micro-Graphic panels are powered from a 12-24 VDC power supply during operation, or can be powered in low power mode thru the USB port from a PC during programming.

Other features include:

- Standard 1/4 DIN mounting cutout
- 3276 KB memory
- USB Type B programming port with internal USB to RS-232 converter.
- Built in 15-pin serial communications port (RS-232/422/485)
- Optional replaceable clear screen overlay
- Built in Alarm Control setup that activates beep, backlight flash, customized alarm banner, and red LED blinking
- Up to 999 screens, limited only by memory usage
- 0 to 50 °C (32 to 122 °F) operating temperature range
- UL, cUL & CE agency approvals (see Panel Specifications and Agency Approvals sections for details)
- 2-year warranty from date of purchase

## Safety Information



**WARNING:** To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

*Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.*

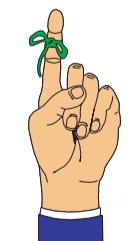
If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call us at 1-800-633-0405 or 770-844-4200.

This publication is based on information available at the time it was printed. At [AutomationDirect.com](http://AutomationDirect.com) we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without obligation. This publication may also discuss features that may not be available in certain revisions of the product.

## Before you begin...

Minimum items required to create a working system:

- C-more 4" Micro-Graphic panel
- C-more Micro-Graphic Programming Software EA-MG-PGMSW (Downloadable version available from the [AutomationDirect](http://AutomationDirect.com) web site at no charge)
- C-more Micro-Graphic USB Programming Cable such as USB-CBL-AB6, used to connect between a PC and the Micro-Graphic panel's built-in serial port. The panel will operate in Low-Power mode when powered by the PC and the screen brightness is diminished.
- Power source – An external 12-24 VDC class 2 power source is required for normal High-Power operation. Recommended power supplies are AutomationDirect part numbers PSC-24-015 or PSC-24-030.
- Personal computer – to run the C-more Micro-Graphic programming software
- Communications Cable (serial) – to connect the C-more Micro-Graphic panel to your PLC or other controller with which the panel will communicate.



## Programming Software & Programming Cable (sold separately)



EA-MG-PGMSW



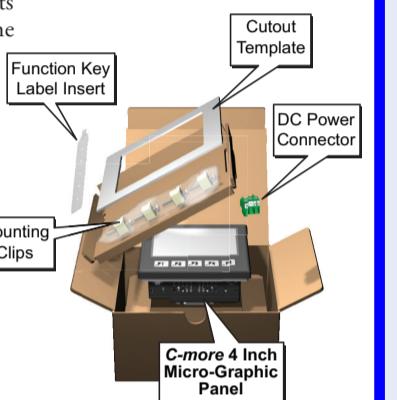
USB-CBL-AB6

**NOTE:** Free download of the C-more Micro-Graphic programming software at the [AutomationDirect](http://AutomationDirect.com) web site.

## 1 Unpack and Inspect

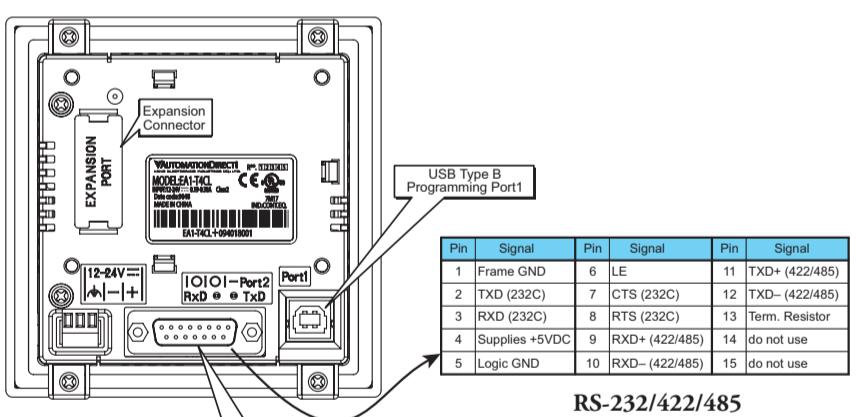
Unpack the C-more Micro-Graphic panel from its shipping carton. Included in the carton are the following:

- C-more 4" Micro-Graphic panel
- cutout template
- mounting clips
- gasket
- function key label inserts
- Quick Start Guide
- DC Power Connector
- Unpack any accessories that have been ordered, such as: DC Power Supply, programming cable, communications cable, etc.
- Inspect all equipment for completeness. If anything is missing or damaged, immediately call the [AutomationDirect](http://AutomationDirect.com) returns department @ 1-800-633-0405.



## 2 Become Familiar with Available Communication Ports

The C-more 4" Color Micro-Graphic panels include a built-in USB Type B port used to communicate with a PC during project development. There is a 15-pin RS-232/RS-422/RS-485 port for communications to a PLC.



RS-232/422/485

## 3 Install C-more 4" Micro-Graphic Panel

The C-more 4" Micro-Graphic panel can be mounted through a standard 1/4 DIN cutout in an enclosure by using the template provided with the panel, or using the dimensions shown. The enclosure mounting thickness range is 0.04"-0.2" [1-5 mm]. Mounting screw torque is 21-28 oz-in [0.15-0.2 Nm].

### Enclosure Thickness



## 4 Install the Software and Develop a Project

**NOTE:** Software and Firmware Version 3.00 or later is required with model EA1-T4CL. Available for free download at [www.automationdirect.com](http://www.automationdirect.com).

Following are the minimum system requirements for running C-more Micro-Graphic Programming Software, EA-MG-PGMSW, on a PC:

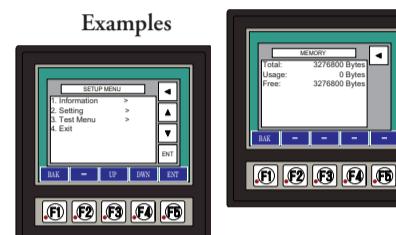
- Operating System - Windows® XP Home / Professional Edition Service Pack 2, Windows® 2000 with Service Pack 4, Windows® Vista (32 and 64 bit), Windows® 7 (32 and 64 bit), Windows 8 (32 and 64 bit)
- Keyboard and Mouse or compatible pointing device
- Super VGA color video adapter and monitor with at least 800 x 600 pixels resolution (1024 x 768 pixels recommended) 64K color minimum
- 150 MB free hard-disk space
- CD-ROM or DVD drive for installing software from the CD, or internet access to download free programming software
- USB port for project transfer from software to touch panel

## 7 Accessing the C-more Micro-Graphic Panel Setup Screens

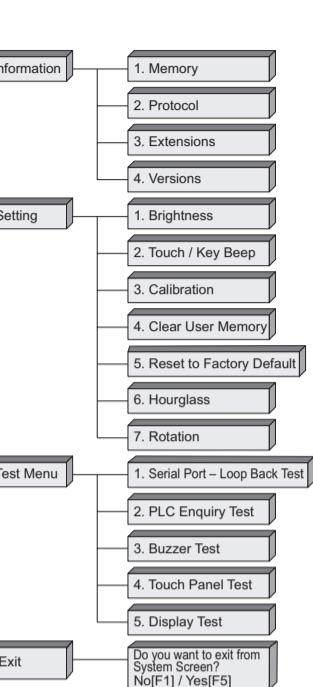
To access the Setup Menu of the panel's setup screens, press the BAK [F1] and ENT [F5] function keys simultaneously for three (3) seconds.



From the Setup Menu, information about the panel can be obtained, settings can be adjusted, and panel functions can be tested.



### Menu flow Chart



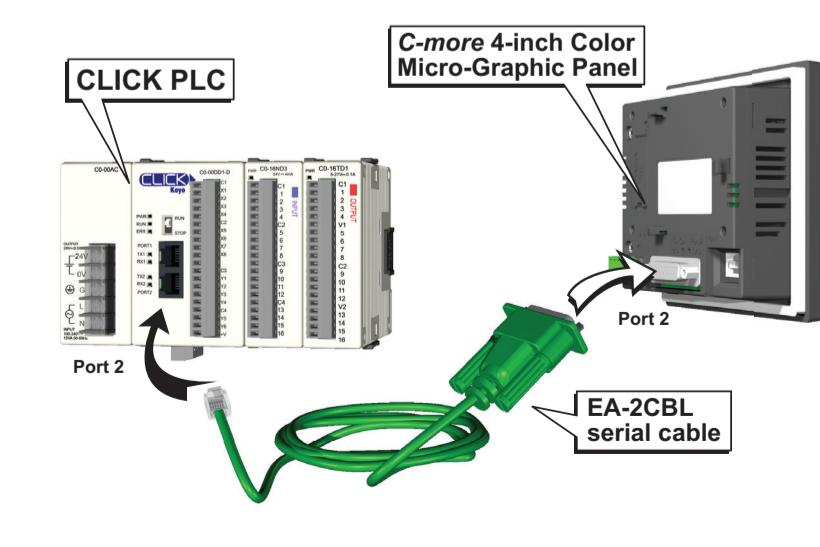
## 8 Choose C-more 4" Color Micro-Graphic Panel to PLC Protocols & Cables

PLC Drivers	Cable Description	Cable Part No.	
<b>Serial - Port2 only</b>			
AutomationDirect Productivity Series	Cables used with Serial Port2	EA-2CBL	
Do-more, CLICK, Direct LOGIC PLC RJ-12 port, DL05, DL06, DL105, DL106, DL205, DL350, D4-450 & H2-WinPLC (RS-232C)		EA-2CBL-1	
Direct LOGIC (VGA Style) 15-pin port, DL06, D2-250 (250-1), D2-260 (RS-232C)		EA-3CBL	
Direct LOGIC PLC RJ-11 port, D3-340 (RS-232C)		EA-4CBL-1	
Direct LOGIC PLC 15-pin D-sub port, DL405 (RS-232C)		EA-4CBL-2	
Direct LOGIC PLC 25-pin D-sub port, DL405, D3-350, DL305 DCU and all DCM's (RS-232C)		EA-MLOGIX-CBL	
Allen-Bradley DF1 Full Duplex		EA-SLC-232-CBL	
Allen-Bradley DF1 Half Duplex		Allen-Bradley PLC 5-03/04/05, ControlLogix, CompactLogix, FlexLogix DF1 port (RS-232C)	EA-SLC-232-CBL
Allen-Bradley PLC 5-01/02/03, PLC5 DH485 port		Allen-Bradley SLC 5-03/04/05, ControlLogix, CompactLogix, FlexLogix DF1 port (RS-232C)	EA-DH485-CBL
GE SNPX (90/30, 90/70, Micro 90, VersaMax Micro)		GE 90/30, 90/70, Micro 90, VersaMax Micro (Port2) 15-pin D-sub port (RS-422A)	EA-90-30-CBL
Mitsubishi FX		MITSUBISHI FX Series 25-pin port (RS-422A)	EA-MITSU-CBL
Mitsubishi Q and QnA		MITSUBISHI FX Series 8-pin mini-DIN (RS-422A)	EA-MITSU-CBL-1
Omron Host Link (C200 Adapter, C500)		OMRON Host Link (C200 Adapter, C500) (RS-232C)	EA-OMRON-CBL
Omron FINS Serial (CJ1, CS1)			
Siemens PPI (S7-200 CPU)			

**NOTE:** For the latest list of available PLC drivers and PLC cables go to [www.automationdirect.com](http://www.automationdirect.com).

## 9 Connect C-more 4" Micro-Graphic Panel to PLC

Connect the serial communications cable between the C-more Micro-Graphic panel and the PLC. The panel can be connected to the PLC via the panel's built-in 15-pin serial communications port with either RS-232, RS-422 or RS-485 communications.

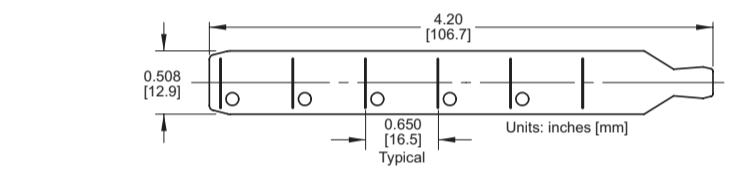
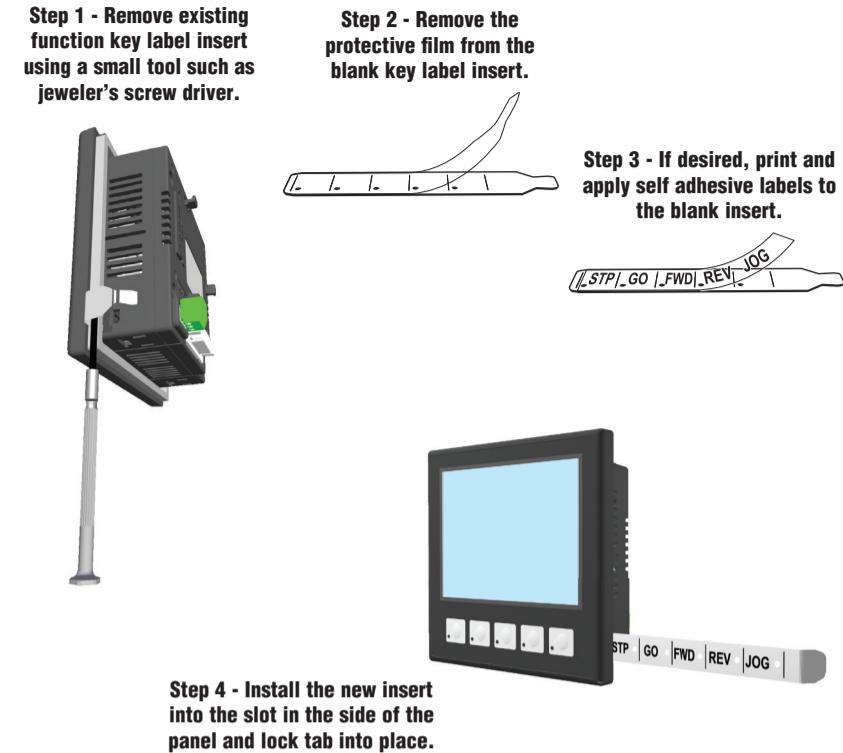


## C-more 4" Color Micro-Graphic Panel Specifications

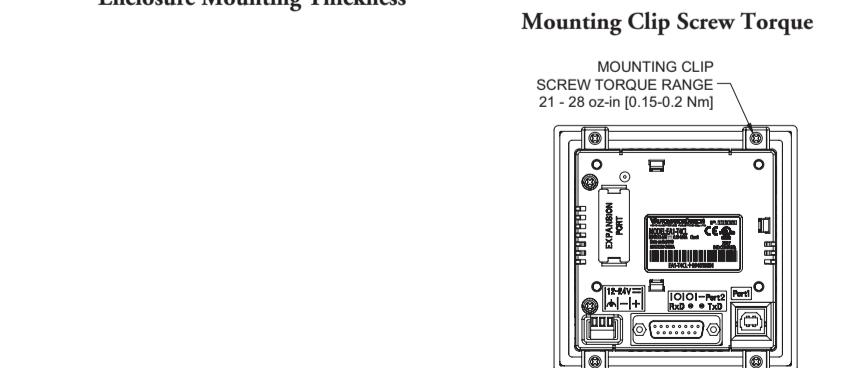
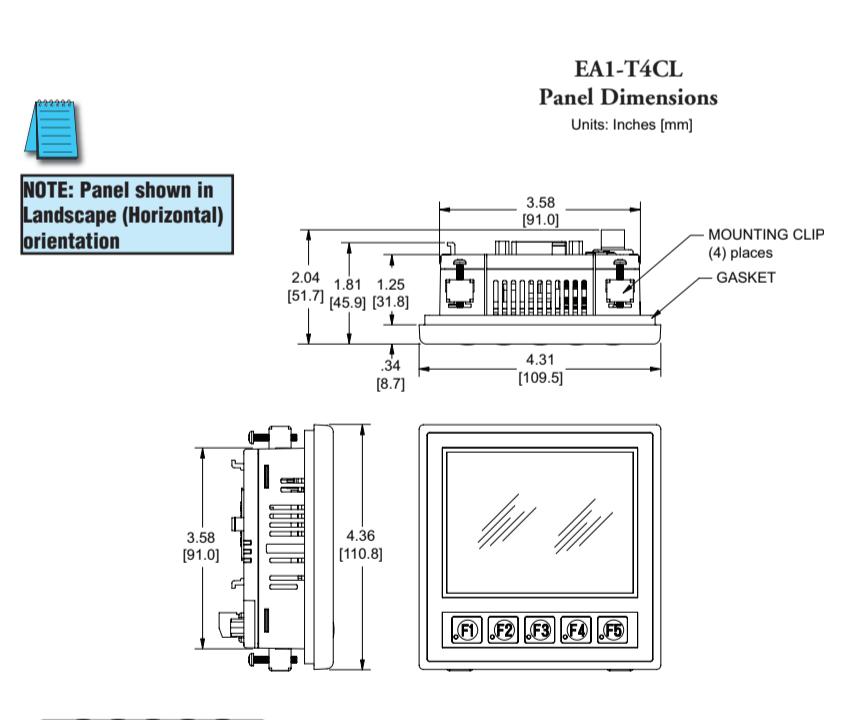
Specifications	
Description:	320 x 240 dots LCD display (Landscape Mode), Five user defined keypad function buttons, and five user defined LEDs
Display:	<ul style="list-style-type: none"> <li>Type: 4.1" TFT Color LCD, graphical characters</li> <li>Resolution: 320 (W) x 240 (H) dots (Landscape Mode) 240 (W) x 320 (H) dots (Portrait Mode)</li> <li>Color: 32768 colors</li> <li>Display Brightness (Reference): <b>USB Bus Power (Programming)</b> <b>High Power Mode</b></li> <li>180 nits (typ) 360 nits (typ)</li> <li>Viewing Area Size: 3.357" (W) x 2.54" (H) [85.26 mm x 64.62 mm]</li> <li>Active Area Size: 3.250" (W) x 2.438" (H) [82.56 mm x 61.92 mm]</li> <li>Brightness: Adjusted from the panel's built-in configuration setup menu</li> <li>Viewing Angle (Landscape Mode): 3, 9 o'clock axis → 35 degrees 6 o'clock axis → 50 degrees 12 o'clock axis → 20 degrees</li> </ul>
Backlight:	<ul style="list-style-type: none"> <li>Type: LED</li> <li>Color: White</li> <li>User Replaceable: No</li> </ul>
Touch Screen:	<ul style="list-style-type: none"> <li>Type: Analog resistive, single touch*</li> <li>Operation: 82 gram force (0.8 N) maximum</li> <li>Life: Minimum of 1,000,000 cycles</li> </ul>
Features:	<ul style="list-style-type: none"> <li>User Memory: 3276 kBytes</li> <li>Number of Screens: Up to 999 – limited by project memory usage</li> <li>Beep (Internal): Yes</li> <li>Keypad Function Buttons: Five user defined function key buttons with the ability to custom label with an overlay. Minimum of 500,000 cycles</li> <li>Keypad Function Button LEDs: Each function key button includes a red LED that can be user programmed.</li> <li>Programming Port: USB Type B</li> <li>Serial Communications: 15-pin D-sub serial communications port (RS-232, RS-485 / 422).</li> </ul>
Screen Objects:	<ul style="list-style-type: none"> <li>Functional Devices: Push Button, Switch, Indicator Button, Indicator Light, Graphic Indicator Light, Numeric Display, Numeric Entry, Inc/Dec Value, Bar Graph, Bitmap Button, Static Text, Lookup Text, Dynamic Text, Screen Change Push Button, Screen Selector, Adjust Contrast, Function, Key Configuration Object, Real Time Graphics, Line Graph, Analog Meter.</li> <li>Static Shapes: Lines, Rectangles, Circles and Frames</li> <li>Displayable Fonts: Fixed fonts: 4x6, 6x6, 6x6B, 6x8, 8x16, 8x32, 8x64, 16x16, 16x32, 16x64, 32x16, 32x32, 32x64, and Windows fonts</li> </ul>
Electrical:	<ul style="list-style-type: none"> <li>USB Bus Power (Programming): 5.0 VDC (4.75 – 5.25 VDC) 12/24 VDC (10.2 – 26.4 VDC)</li> <li>Input Power: Supplied from a PC USB. Supplied from an external 12-24 VDC class 2 power source</li> <li>Power Consumption: 2W 4.5 W</li> <li>Recommended Fuse: No fuse required when directly connected to a PC with recommended cable. Type AGC fast acting glass fuse, 750 mA, 250 VAC, ADC p/n AGC-75</li> <li>Maximum Inrush Current: 4.5 A for 800 µs 8 A for 800 µs</li> <li>Acceptable External Power Drop Duration: Maximum 1 ms</li> </ul>
Environmental:	<ul style="list-style-type: none"> <li>Operating Temperature: 0 to 50 °C (32 to 122 °F) Maximum surrounding air temperature rating: 50 °C</li> <li>Storage Temperature: -20 to +60 °C (-4 to +140 °F)</li> <li>Humidity: 5–95% RH (non-condensing)</li> <li>Environmental Air: For use in Pollution Degree 2 environment</li> <li>Vibration: IEC60068-2-6 (Test Fc), 5-9 Hz: 3.5 mm amplitude, 9-150 Hz: 1.0G, sweeping, at a rate of 1 octave/min. (±10%), 10 sweep cycles per axis on each of 3 mutually perpendicular axes</li> <li>Shock: IEC60068-2-27 (Test Ea), 15 G peak, 11 ms duration, three shocks in each direction per axis, on 3 mutually perpendicular axes (total of 18 shocks)</li> <li>Noise Immunity: NEMA ICS3-304 (EN61131-2) RFI, (145MHz-440MHz 10V @ 10cm) Impulse 1000V @ 10µs 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)</li> <li>Enclosure: For use on a flat surface of Type 1, 4X enclosure (Indoor use only)</li> <li>Agency Approvals: CE (EN61131-2), UL508, CUL Canadian C22.2 No. 142-M95, UL E157382, CSA 234884</li> </ul>
Physical:	<ul style="list-style-type: none"> <li>Dimensions: 4.311" (W) x 4.362" (H) x 2.035" (D) [109.5 mm x 110.8 mm x 51.7 mm]</li> <li>Enclosure Mounting Thickness Range: 0.04" – 0.2" [1 – 5 mm]</li> <li>Mounting Clip Screw Torque Range: 21 – 28 oz-in [0.15 – 0.2 Nm]</li> <li>Weight: 14.99 oz. (425 g)</li> </ul>

\*Note: 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.

## Customizing the Function Keys Label Insert

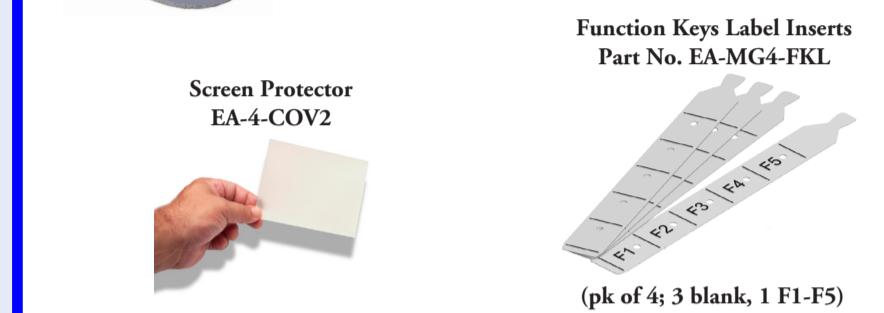
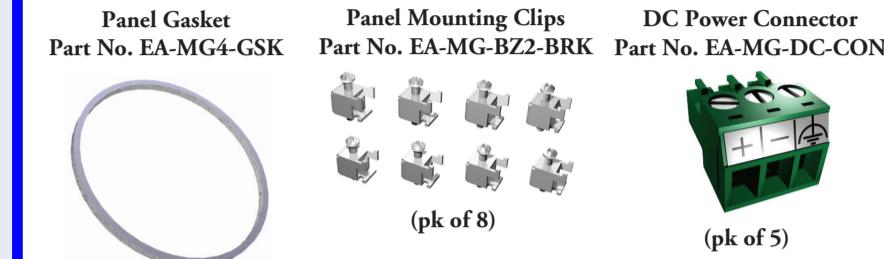


## C-more 4" Color Micro-Graphic Panel Dimensions



## Replacement and Accessory Parts

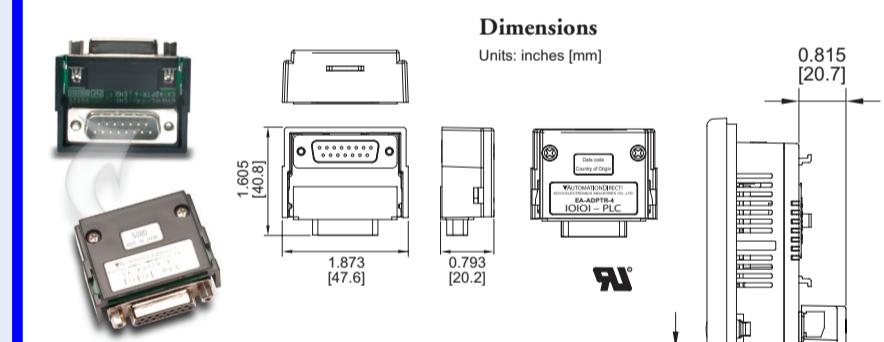
Part Number	Description
EA-MG-BZ2-BRK	Replacement mounting clip for C-more Micro-Graphic panel and keypad bezels (pk of 8)
EA-MG-DC-CON	Replacement DC power connector (pk of 5)
EA-MG4-GSK	Replacement mounting gasket for C-more 4" Micro-Graphic panels
EA-MG4-FKL	Replacement function key label insert for C-more Micro-Graphic panels (pk of 4; 3 blank, 1 F1-F5 for Landscape)
EA-4-COV2	Accessory Screen Protector, Non-Glare (pk of 3)



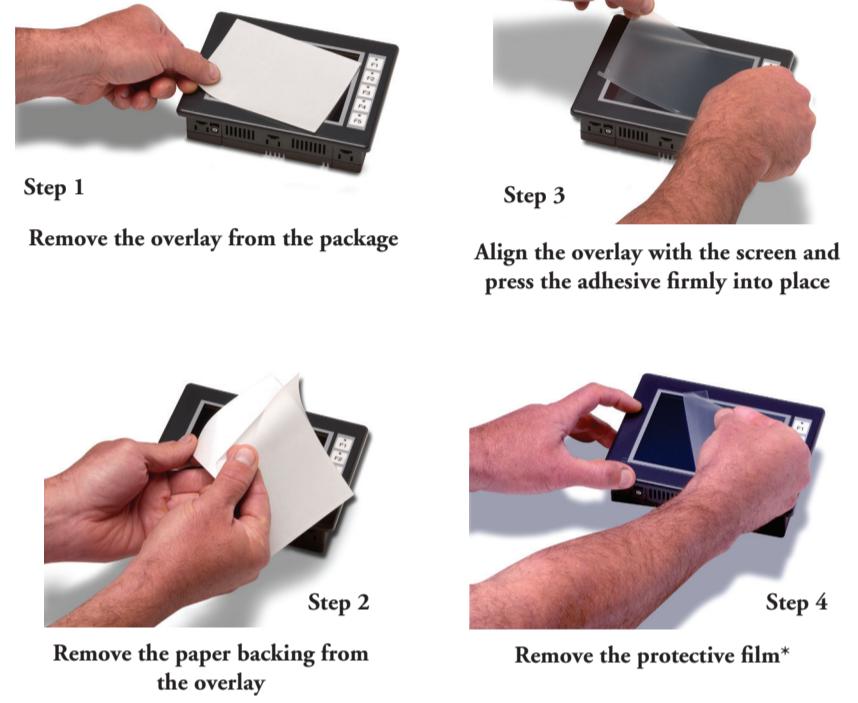
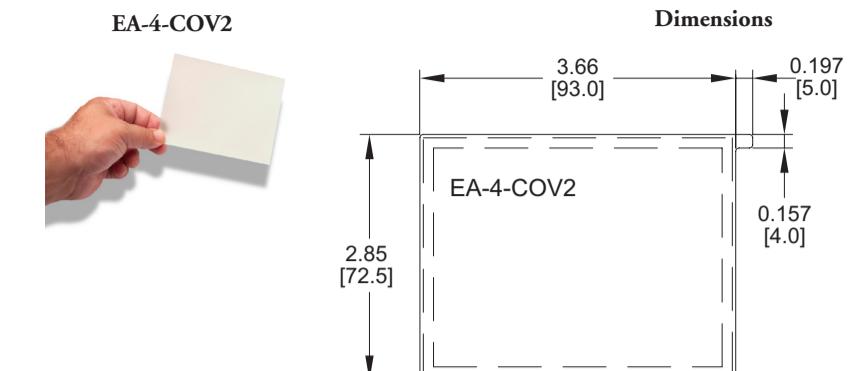
## Communication Port Adapters

### EA-ADPTR-4 D-SUB 15-pin 90-degree Communication Port Adapter

The EA-ADPTR-4 adapter plugs into the 15-pin serial port on the rear of the 4" panel to allow a PLC communication cable to be plugged in at a 90 degree angle to reduce panel depth requirements. 15-pin straight through pin-out. UL Recognized.



## Clear Screen Overlay



\*NOTE: The protective cover ships with a thin protective sheet on the face of the cover that needs to be carefully removed. If your panel is not clear, the protective sheet may not have been removed.

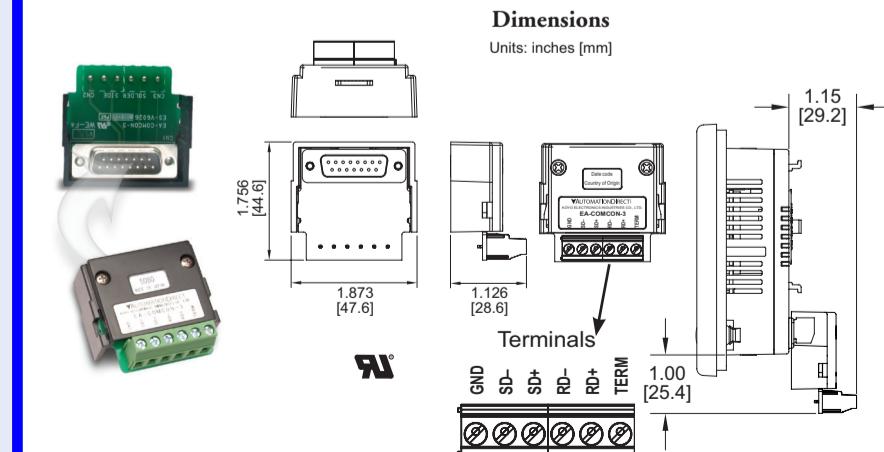
## Agency Approvals

Name	UL/CUL	UL508	CSA	CE	ISO-9000
C-more Micro-Graphic Panels & Accessories	E157382	Per file # E157382	234884	EN61131-2	✓



### EA-COMCON-3 D-SUB 15-pin to Terminal Block Adapter

The EA-COMCON-3 adapter plugs into the 15-pin serial port on the rear of the 4" panel to allow wire terminal connections for an RS-422/RS-485/DH-485 PLC communication cable. UL Recognized.



## Additional Help and Support

- For product support, specifications, and installation troubleshooting, a Hardware User Manual can be downloaded from the Online Documentation area of the [AutomationDirect](#) web site or purchased through the [AutomationDirect](#) Sales team @ 1-800-633-0405 as part number EA1-TCL-M.
- For software programming help, refer to the [C-more Micro-Graphic](#) Programming Software on-line embedded help.
- Refer to online support of the product at: <http://c-moremicro.automationdirect.com/support/index.html>
- For additional technical support and questions, call our Technical Support team @ 1-800-633-0405 or 770-844-4200.

