

INSTALLATION&WIRING



CHAPTER 4

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Safety Guidelines



NOTE: Products with CE marks perform their required functions safely and adhere to relevant standards as specified by CE directives provided they are used according to their intended purpose and that the instructions in this manual are adhered to. The protection provided by the equipment may be impaired if this equipment is used in a manner not specified in this manual. A listing of our international affiliates is available on our Web site: <http://www.automationdirect.com>

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Warning: Providing a safe operating environment for personnel and equipment is your responsibility and should be your primary goal during system planning and installation. Automation systems can fail and may result in situations that can cause serious injury to personnel or damage to equipment. Do not rely on the automation system alone to provide a safe operating environment. You should use external electromechanical devices, such as relays or limit switches, that are independent of the PLC application to provide protection for any part of the system that may cause personal injury or damage. Every automation application is different, so there may be special requirements for your particular application. Make sure you follow all national, state, and local government requirements for the proper installation and use of your equipment.

Plan for Safety

The best way to provide a safe operating environment is to make personnel and equipment safety part of the planning process. You should examine every aspect of the system to determine which areas are critical to operator or machine safety. If you are not familiar with control system installation practices, or your company does not have established installation guidelines, you should obtain additional information from the following sources.

- NEMA — The National Electrical Manufacturers Association, located in Washington, D.C. publishes many different documents that discuss standards for industrial control systems. You can order these publications directly from NEMA. Some of these include:
 - ICS 1, General Standards for Industrial Control and Systems
 - ICS 3, Industrial Systems
 - ICS 6, Enclosures for Industrial Control Systems
- NEC — The National Electrical Code provides regulations concerning the installation and use of various types of electrical equipment. Copies of the NEC Handbook can often be obtained from your local electrical equipment distributor or your local library.
- Local and State Agencies — many local governments and state governments have additional requirements above and beyond those described in the NEC Handbook. Check with your local Electrical Inspector or Fire Marshall office for information.

Introduction

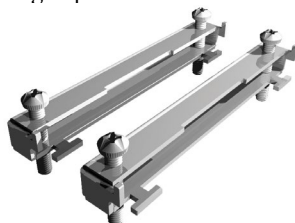
The installation and wiring of the *C-more* Micro panels requires selecting an appropriate location for the touch panel, positioning the cutout dimensions on the surface of the control cabinet that the panel will be mounted through, securing the touch panel with the provided mounting clips, tightening the screws to the appropriate torque rating to assure the gasket is sealing correctly, and finally connecting the appropriate power source to the touch panel.

This chapter covers the proper mounting of the touch panel and connecting power. Once power is applied to the touch panel, the user will want to read Chapter 5 on the System Setup Screens in order to become familiar with the touch panel test features and check memory options.

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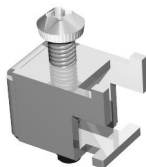
Mounting Clips - EA-MG-S3ML-BRK

Models EA3-S3ML-RN, EA3-S3ML-R, EA3-S3ML and EA3-T4CL use EA-MG-S3ML-BRK mounting clips. Included with the panel are two clips for mounting.



Mounting Clips - EA-MG-BZ2-BRK

Model EA3-T6CL uses EA-MG-BZ2-BRK mounting clips. Included with the panel are four clips for mounting.



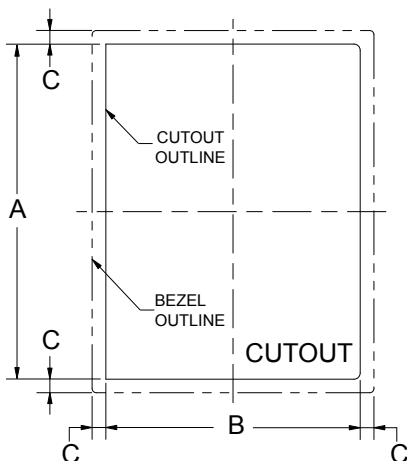
Mounting Clips - EA3-BRK

Models EA3-T8CL and EA3-T10CL use EA3-BRK mounting clips. EA3-T8CL includes four clips for mounting. EA3-T10CL includes eight mounting clips.

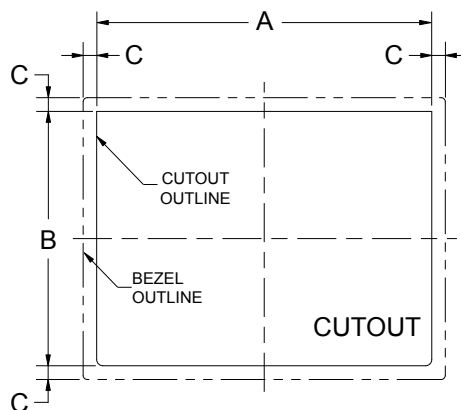


Panel Cutout Dimensions

The **C-more** EA3 Series Micro panels are mounted into a cutout through the control cabinet and secured with mounting clips. Four clips are used to mount models EA3-T6CL and EA3-T8CL and eight clips are used with EA3-T10CL. There are slots on each side of the panel's long dimension that the two tabs on each mounting clip will match. The mounting clips are held in place by inserting the tabs into the "T" shaped holes (slots) and then moving the mounting clip toward the rear of the panel to keep it in place. Next tighten the mounting clip screws to pull the rear of the panel's bezel to the control cabinet's mounting surface. The screws need to be tightened to the torque rating shown in the illustration below so that the gasket is compressed to form the proper seal between the panel and cabinet surface.



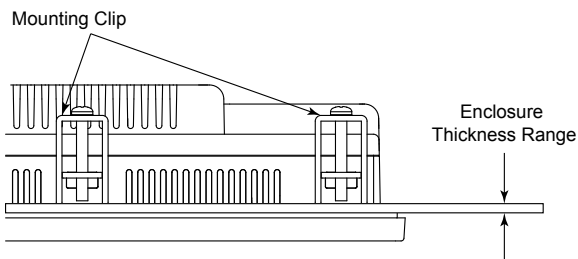
Landscape Mode (Horizontal)



Portrait Mode (Vertical)

Cutout Dimensions inches [mm]						
	EA3-S3ML-RN	EA3-S3ML-R	EA3-S3ML	EA3-T4CL	EA3-T6CL	EA3-T8CL
A	4.02 [102.0]	4.02 [102.0]	4.02 [102.0]	4.02 [102.0]	6.34 [161.0]	9.25 [235.0]
B	2.76 [70.0]	2.76 [70.0]	2.76 [70.0]	2.76 [70.0]	4.81 [122.2]	7.07 [179.6]
C	0.24 [6.0]	0.24 [6.0]	0.24 [6.0]	0.36 [9.2]	0.26 [6.6]	0.31 [7.9]

The enclosure mounting thickness range for the panels is 0.04"–0.2" [1–5 mm].

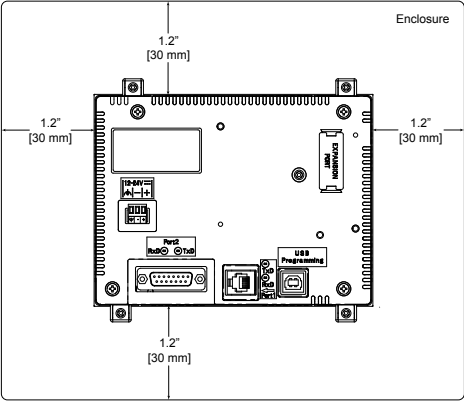


Mounting Screw Tightening Torque	
EA3-S3ML-RN	21 - 28 oz-in (0.15 - 0.20 N-m)
EA3-S3ML-R	
EA3-S3ML	
EA3-T4CL	
EA3-T6CL	
EA3-T8CL	63 - 77 oz-in (0.45 - 0.55 N-m)
EA3-T10CL	

Enclosure Clearances

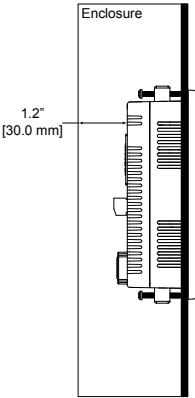
EA3-S3ML-RN, EA3-S3ML-R, EA3-S3ML, EA3-T4CL and EA3-T6CL

In all installations, 1.2" [30.0 mm] minimum clearance is required inside an enclosure for proper ventilation of *C-more* Micro panels.



Rear View

A 1.2" [30.0 mm] minimum clearance is required at the rear of a panel for proper ventilation of *C-more* Micro panels.

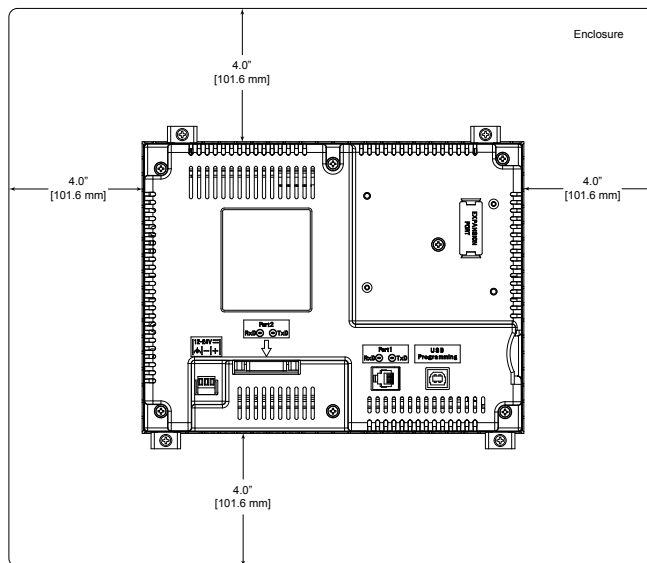


Side View

Enclosure Clearances

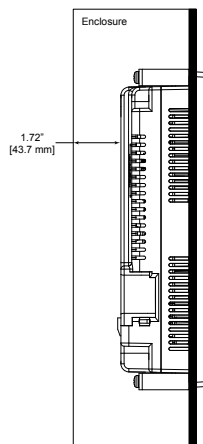
EA3-T8CL and EA3-T10CL

In all installations, 4.0" [101.6 mm] minimum clearance is required inside an enclosure for proper ventilation of 8-inch and 10-inch **C-more** Micro panels.



Rear View

1.72" [43.7 mm] minimum clearance is required at the rear of a panel for proper ventilation of 8-inch and 10-inch **C-more** Micro panels.



Side View

Wiring Guidelines



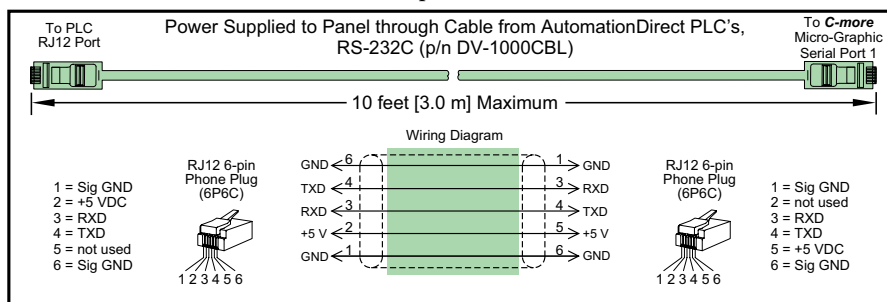
Warning: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify 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 that was available at the time it was printed. At 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.

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Providing Power to the *C-more* Micro Panel

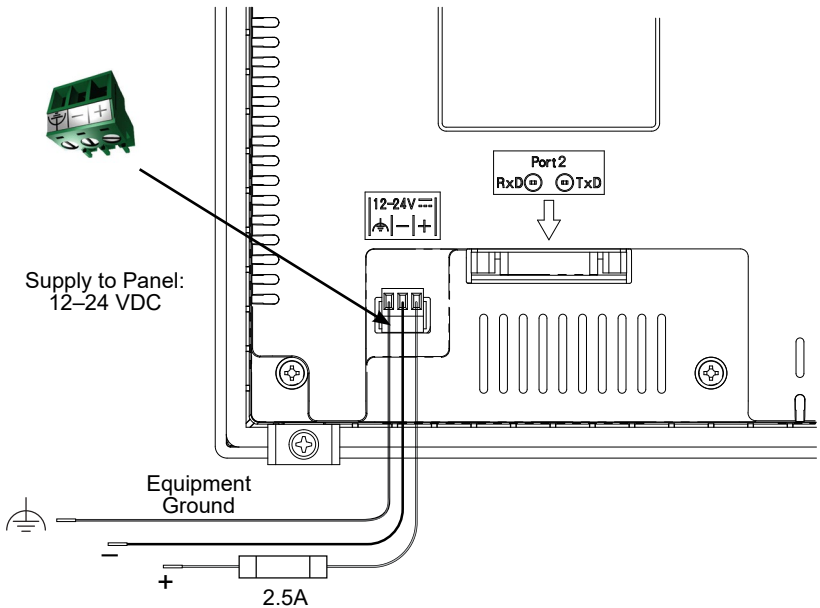
EA3-S3ML-RN and EA3-S3ML-R

- EA3-S3ML-RN and EA3-S3ML-R *C-more* Micro panels are powered during programming from the PC through the USB to RS-232 Programming Cable Assembly, EA-MG-PGM-CBL.
- During operation, EA3-S3ML-RN and EA3-S3ML-R *C-more* Micro panels can be powered from most AutomationDirect PLC's RJ12 serial communications port by using a DV-1000CBL communications cable, or a DV-1000CBL communications cable with a FA-15HD 15-pin HD DSub/RJ12 Adapter connected to a *DirectLOGIC* PLC's 15-pin HD communications port (DL06, D2-250-1 & D2-260) PLCs. See **Chapter 6: PLC Communications** for additional details.



EA3-S3ML, EA3-T4CL, EA3-T6CL, EA3-T8CL and EA3-T10CL

EA3-S3ML, EA3-T4CL, EA3-T6CL, EA3-T8CL and EA3-T10CL panels are powered by a 2.5 Amp @ 12-24 VDC class 2 power source .



Required Wire Specification

Supported temperature	Over 60 °C
Wire Material	Copper
Wire Size	16 - 22 AWG

Tightening Torque

Power supply wire connection	1.7 lb-in (0.2 Nm)
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Recommended Power Supply

Part Number	Power	Power Supply
EA3-S3ML-RN	N/A	N/A
EA3-S3ML-R	N/A	N/A
EA3-S3ML	3W	PSL-24-010
EA3-T4CL	4W	
EA3-T6CL	7.5 W	
EA3-T8CL	8W	
EA3-T10CL	10W	PSC-24-015



WARNING: Using a differential power supply and connection the USB to a PC can damage both the panel and the PC.