

SPECIFICATIONS



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Available Models

The **C-more** Micro panels expand the next generation of HMI panels brought to you by **AutomationDirect**. They have been designed to display and interchange graphical data from a PLC by viewing, using the function keys, or touching the screen. See **Chapter 3: Accessories** for details on the available accessories for the **C-more** Micro panels.

C-more EA3 Series Micro Panels		
Part Number		Description
EA3-S3ML-RN		C-more Micro EA3 series HMI, 3in monochrome STN LCD, 128 x 64 pixel, LED backlight, supports (1) serial port.
EA3-S3ML-R		C-more Micro EA3 series touch screen HMI, 3in monochrome STN LCD, 128 x 64 pixel, LED backlight, supports (1) serial port.
EA3-S3ML		C-more Micro EA3 series touch screen HMI, 3in monochrome STN LCD, 128 x 64, supports (2) serial, (1) Ethernet and (1) USB ports.
EA3-T4CL		C-more Micro EA3 series touch screen HMI, 4in color TFT LCD, widescreen, 480 x 272, WQVGA, supports (2) serial, (1) Ethernet and (1) USB port.
EA3-T6CL		C-more Micro EA3 series touch screen HMI, 6in color TFT LCD, 320 x 240, QVGA, supports (2) serial and (1) USB port.
EA3-T8CL		C-more Micro EA3 series touch screen HMI, 8in color TFT LCD, 800 x 600, SVGA, supports (2) serial and (1) USB port.
EA3-T10CL		C-more Micro EA3 series touch screen HMI, 10in color TFT LCD, 800 x 600, SVGA, supports (2) serial and (1) USB port.

EA3-S3ML-RN and EA3-S3ML-R Specifications

Specifications		
Part Number:	EA3-S3ML-RN	EA3-S3ML-R
Description:	128 x 64 pixel LCD display Five user defined keypad function buttons with five user defined LED indicators	
Display:		
• Type	3.1" STN Monochrome with LED Backlight	
• Resolution	128 (W) x 64 (H) pixel	
• Color	2 colors (normal / inverse)	
• Display Brightness (Reference)	W: Typ. 150 nit G: Typ. 150 nit R: Typ. 40 nit	
• Viewing Area Size	2.78" (W) x 1.53" (H) 70.7 mm x 38.8 mm	
• Active Area Size	2.62" (W) x 1.31" (H) mm 66.52 mm x 33.24 mm	
• Contrast / Brightness	Adjusted from the panel's built-in configuration setup menu	
• Viewing Angle (Landscape Mode)	3, 6, 9 o'clock axis → 45 degrees 12 o'clock axis → 30 degrees	
Backlight:		
• Type	LED	
• Color	White, Red, Green (12 colors)	
• User Replaceable	No	
Touch Screen:		
•Type	N/A	Analog resistive, single touch*
• Operation		100 gram force [0.8 N] maximum
• Life		Minimum of 1,000,000 cycles
Features:		
• User Memory	1MB	
• Number of Screens	Up to 999 – limited by project memory usage	
• Beep (Internal)	Yes	
• Keypad Function Buttons	Five user defined function key buttons with the ability to customize label with an overlay. Minimum of 500,000 cycles	N/A
• Keypad Function Button LEDs	Each function key button includes a red LED that can be user programmed.	N/A
• Programming Port	RJ12 serial	
• Serial Communications	RJ12 serial communications port (RS-232)	



*** 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.

EA3-S3ML-RN and EA3-S3ML-R Specifications (cont'd)

2

EA3-S3ML-RN & EA3-S3ML-R Specifications (cont'd)		
Part Number:	EA3-S3ML-RN	EA3-S3ML-R
Screen Objects:		
• Functional Devices	Push Button, Switch, Indicator Button, Indicator Light, Graphic Indicator Light, Numeric Display, Numeric Entry, Inc/Dec Value, Bar Graph, Bitmap Button, Static Bitmap, Dynamic Bitmap, Recipe Button, Static Text, Lookup Text, Dynamic Text, Text Entry, Screen Change Push Button, Screen Selector, Adjust Contrast, Function Key Configuration Object, Real Time Graph, Line Graph, Analog Meter.	
• Static Shapes	Lines, Rectangles, Circles and Frames	
• Displayable Fonts	Fixed fonts: 4x6, 6x6, 6x6B, 6x8, 8x16, 8x32, 8x64, 16x16, 16x32, 16x64, 32x16, 32x32, 32x64, and Windows fonts	
Electrical:		
• Input Power	RJ12 port to any AutomationDirect PLC RJ12 port	
• Power Consumption	1.05 W (RJ12)	
• Maximum Inrush Current	3.5 A for 50µs	
• Acceptable External Power Drop Duration	Maximum 1ms	
Environmental:		
• Operating Temperature	0 to 50 °C (32 to 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)	
• Environmental Air	For use in Pollution Degree 2 environment, no corrosive gases permitted	
• Housing Material	ABS Plastic	
• Gasket Material	Ships without gasket	Silicone Rubber
• Overlay Sheet Material	PET	
• Vibration	IIEC60068-2-6 (Test Fc)	
• Shock	IEC60068-2-27 (Test Ea)	
• Altitude	Up to 2000m(6562ft)	
• Noise Immunity	(EN61131-2) 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) (Local Test) RFI, (145MHz, 440Mhz 10W @ 10cm) Impulse 1000V @ 1µs pulse	
• Enclosure	With EA-MG-S3ML-GSK - NEMA 250 type 4/4X indoor use only, UL50 type 4X indoor use only IP-65 indoor use only (Not tested by UL) (When mounted correctly) Without EA-MG-S3ML-GSK - NEMA 250 type 1 indoor use only, UL type 1 indoor use only IP-20 indoor use only (Not tested by UL) (When mounted correctly)	
• Agency Approvals	CE (EN61131-2), UL61010, CUL Canadian C22.2, UL E157382, RoHS (2011/65/EU) To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page	

EA3-S3ML-RN and EA3-S3ML-R Specifications (cont'd)

EA3-S3ML-RN & EA3-S3ML-R Specifications (cont'd)		
Part Number:	EA3-S3ML-RN	EA3-S3ML-R
Physical:		
• Enclosure Mounting Thickness Range	0.04" – 0.2" [1 – 5 mm]	
• Mounting Clip Screw Torque Range	21 – 28 oz-in [0.15 – 0.20 Nm]	
• Weight	5.4 oz. (152g)	5.5 oz. (156g)

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EA3-S3ML and EA3-T4CL Specifications

2

Specifications		
Part Number:	EA3-S3ML	EA3-T4CL
Description:	128 x 64 pixel LCD display Five user defined keypad function buttons with five user defined LED indicators	480 x 272 pixel LCD display
Display:		
• Type	3.1" STN Monochrome with LED Backlight	4.3" TFT Graphical type with LED Backlight
• Resolution	128 (W) x 64 (H) pixel	480 (W) x 272 (H) pixel
• Color	2 colors (normal / inverse)	32768 colors
• Display Brightness (Reference)	W: Typ. 150 nit G: Typ. 150 nit R: Typ. 40 nit	370 nits (typ)
• Viewing Area Size	2.78" (W) x 1.53" (H) 70.7 mm x 38.8 mm	3.89" (W) x 2.26" (H) 98.70 mm x 57.50 mm
• Active Area Size	2.62" (W) x 1.31" (H) mm 66.52 mm x 33.24 mm	3.74" (W) x 2.12" (H) mm 95.04 mm x 53.86 mm
• Contrast / Brightness	Adjusted from the panel's built-in configuration setup menu	
• Viewing Angle (Landscape Mode)	3, 6, 9 o'clock axis → 45 degrees 12 o'clock axis → 30 degrees	3, 6, 9, 12 o'clock axis → 80 degrees
Backlight:		
• Type	LED	
• Color	White, Red, Green (12 colors)	White
• User Replaceable	No	
Touch Screen:		
•Type	Analog resistive, single touch*	
• Operation	100 gram force [0.8 N] maximum	82 gram force [0.98 N] maximum
• Life	Minimum of 1,000,000 cycles	
Features:		
• User Memory	3MB	14MB
• Number of Screens	Up to 999 – limited by project memory usage	
• Beep (Internal)	Yes	
• Keypad Function Buttons	Five user defined function key buttons with the ability to customize label with an overlay. Minimum of 500,000 cycles	N/A
• Keypad Function Button LEDs	Each function key button includes a red LED that can be user programmed.	N/A
• Programming Port	USB 2.0 Type B Built-in Ethernet port	
• Serial Communications	RJ12 serial communications port (RS-232) 15-pin D-sub serial communications port (RS-232, RS-485 / 422).	
• Ethernet Communications	10/100 Base-T (Automatic Negotiation MDI/MDIX)	



* **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.

EA3-S3ML and EA3-T4CL Specifications (cont'd)

EA3-S3ML & EA3-T4CL Specifications (cont'd)		
Part Number:	EA3-S3ML	EA3-T4CL
Screen Objects:		
• Functional Devices	Push Button, Switch, Indicator Button, Indicator Light, Graphic Indicator Light, Numeric Display, Numeric Entry, Inc/Dec Value, Bar Graph, Bitmap Button, Static Bitmap, Dynamic Bitmap, Recipe Button, Static Text, Lookup Text, Dynamic Text, Text Entry, Screen Change Push Button, Screen Selector, Adjust Contrast, Function Key Configuration Object, Real Time Graph, Line Graph, Analog Meter.	
• Static Shapes	Lines, Rectangles, Circles and Frames	
• Displayable Fonts	Fixed fonts: 4x6, 6x6, 6x6B, 6x8, 8x16, 8x32, 8x64, 16x16, 16x32, 16x64, 32x16, 32x32, 32x64, and Windows fonts	
Electrical:		
• Input Power	RJ12 port to any AutomationDirect PLC RJ12 port (for serial communication only) USB Micro-B port to PC 10.2 - 26.4 VDC; Class 2 or SELV (Safety Extra-Low Voltage)or Limited Energy Circuit power supply	USB Micro-B port to PC 10.2 - 26.4 VDC; Class 2 or SELV (Safety Extra-Low Voltage)or Limited Energy Circuit power supply
• Power Consumption	1.05W (RJ12) 2W (USB) 3W (External Power Supply)	2.5W (USB) 4W (External Power Supply)
• Maximum Inrush Current	20A for 240µs (DC power supply)	22A for 240µs (DC power supply)
• Acceptable External Power Drop Duration	Maximum 1ms	
Environmental:		
• Operating Temperature	0 to 50 °C (32 to 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)	
• Environmental Air	For use in Pollution Degree 2 environment, no corrosive gases permitted	
• Housing Material	ABS Plastic	ABS-GF20
• Gasket Material	Silicone Rubber	
• Overlay Sheet Material	PET	
• Vibration	IIEC60068-2-6 (Test Fc)	
• Shock	IEC60068-2-27 (Test Ea)	
• Altitude	Up to 2000m(6562ft)	
• Noise Immunity	(EN61131-2) 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) (Local Test) RFI, (145MHz, 440Mhz 10W @ 10cm) Impulse 1000V @ 1µs pulse NEMA 250 type 4/4X indoor use only UL50 type 4X indoor use only IP-65 indoor use only (not tested by UL) (When mounted correctly)	
• Enclosure		
• Agency Approvals	CE (EN61131-2), UL61010, CUL Canadian C22.2, UL E157382, RoHS (2011/65/EU) To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page	

EA3-S3ML and EA3-T4CL Specifications (cont'd)

2

EA3-S3ML & EA3-T4CL Specifications (cont'd)		
Part Number:	EA3-S3ML	EA3-T4CL
Physical:		
• Enclosure Mounting Thickness Range	0.04" – 0.2" [1 – 5 mm]	
• Mounting Clip Screw Torque Range	21 – 28 oz-in [0.15 – 0.20 Nm]	
• Weight	6.7 oz. (190g)	7.76 oz. (220g)

EA3-T6CL, EA3-T8CL and EA3-T10CL Specifications

2

EA3-T6CL, EA3-T8CL & EA3-T10CL Specifications			
Part Number:	EA3-T6CL	EA3-T8CL	EA3-T10CL
Description:	320 x 240 pixel LCD display (Landscape mode), Five user defined keypad function buttons with five user defined LED indicators	800 x 600 pixel LCD display (Landscape mode), Seven user defined keypad function buttons with seven user defined LED indicators	
Display:			
• Type	5.7" TFT Graphical type with LED Backlight	8.4" TFT Graphical type with LED Backlight	10.4" TFT Graphical type with LED Backlight
• Resolution	320 (W) x 240 (H) pixel (Landscape Mode) 240 (W) x 320 (H) pixel (Portrait Mode)	800 (W) x 600 (H) pixel (Landscape Mode) 600 (W) x 800 (H) pixel (Portrait Mode)	
• Color	32768 colors		
• Display Brightness (Reference)	270 nits (typ)	295 nits (typ)	270 nits (typ)
• Viewing Area Size	4.57" (W) x 3.44" (H) [116.2 mm x 87.4 mm]	6.86" (W) x 5.17" (H) [174.2 mm x 131.2 mm]	8.46" (W) x 6.41" (H) [214.8 mm x 162.7 mm]
• Active Area Size	4.54" (W) x 3.40" (H) [115.2 mm x 86.4 mm]	6.71" (W) x 5.03" (H) [170.4 mm x 127.8 mm]	8.31" (W) x 6.24" (H) [211.2 mm x 158.4 mm]
• Contrast / Brightness	Adjusted from the panel's built-in configuration setup menu		
• Viewing Angle (Landscape Mode)	3, 9 o'clock axis → 80 degrees 6 o'clock axis → 65 degrees 12 o'clock axis → 80 degrees	3, 9 o'clock axis → 80 degrees 6 o'clock axis → 60 degrees 12 o'clock axis → 80 degrees	3, 9 o'clock axis → 80 degrees 6 o'clock axis → 80 degrees 12 o'clock axis → 60 degrees
Backlight:			
• Type	LED		
• Color	White		
• User Replaceable	No		
Touch Screen:			
•Type	Analog resistive, single touch*		
• Operation	82 gram force [0.8 N] maximum		
• Life	Minimum of 1,000,000 cycles		
Features:			
• User Memory	6MB	30MB	
• Number of Screens	Up to 999 – limited by project memory usage		
• Beep (Internal)	Yes		
• Keypad Function Buttons	Five user defined function key buttons with the ability to customize label with an overlay. Minimum of 500,000 cycles	Seven user defined function key buttons with the ability to customize label with an overlay. Minimum of 500,000 cycles	
• Keypad Function Button LEDs	Each function key button includes a red LED that can be user programmed.		
• Programming Port	USB 2.0 Type B		
• Serial Communications	RJ12 serial communications port (RS-232) 15-pin D-sub serial communications port (RS-232, RS-485 / 422).		
• Ethernet Communications	10/100 Base-T (Automatic Negotiation) with EA-ECOM Module		



*** 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.

EA3-T6CL, EA3-T8CL and EA3-T10CL Specifications (cont'd)

2

EA3-T6CL, EA3-T8CL and EA3-T10CL Specifications (cont'd)			
Part Number:	EA3-T6CL	EA3-T8CL	EA3-T10CL
Screen Objects:			
• Functional Devices	Push Button, Switch, Indicator Button, Indicator Light, Graphic Indicator Light, Numeric Display, Numeric Entry, Inc/Dec Value, Bar Graph, Bitmap Button, Static Bitmap, Dynamic Bitmap, Recipe Button, Static Text, Lookup Text, Dynamic Text, Text Entry, Screen Change Push Button, Screen Selector, Adjust Contrast, Function Key Configuration Object, Real Time Graph, Line Graph, Analog Meter.		
• Static Shapes	Lines, Rectangles, Circles and Frames		
• Displayable Fonts	Fixed fonts: 4x6, 6x6, 6x6B, 6x8, 8x16, 8x32, 8x64, 16x16, 16x32, 16x64, 32x16, 32x32, 32x64, and Windows fonts		
Electrical:			
• Input Power	10.2 - 26.4 VDC; Class 2 or SELV (Safety Extra-Low Voltage) or Limited Energy Circuit power supply		
• Power Consumption	7.5 W	8W	10W
• Maximum Inrush Current	13A for 800µs	10A for 1ms	
• Acceptable External Power Drop Duration	Maximum 1ms		
Environmental:			
• 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)		
• Environmental Air	For use in Pollution Degree 2 environment, no corrosive gases permitted		
• Housing Material	ABS Plastic		
• Gasket Material	Silicone Rubber		
• Overlay Sheet Material	PET		
• Vibration	IIEC60068-2-6 (Test Fc)		
• Shock	IEC60068-2-27 (Test Ea)		
• Altitude	Up to 2000m(6562ft)		
• Noise Immunity	(EN61131-2) 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)		
• Enclosure	(Local Test) RFI, (145MHz, 440Mhz 10W @ 10cm) Impulse 1000V @ 1µs pulse NEMA 250 type 4/4X indoor use only UL50 type 4X indoor use only IP-65 indoor use only (not tested by UL) (When mounted correctly)		
• Agency Approvals	CE (EN61131-2), UL508, CUL Canadian C22.2 No. 142-M95, UL E157382, RoHS (2011/65/EU) To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page		

EA3-T6CL, EA3-T8CL and EA3-T10CL Specifications (cont'd)

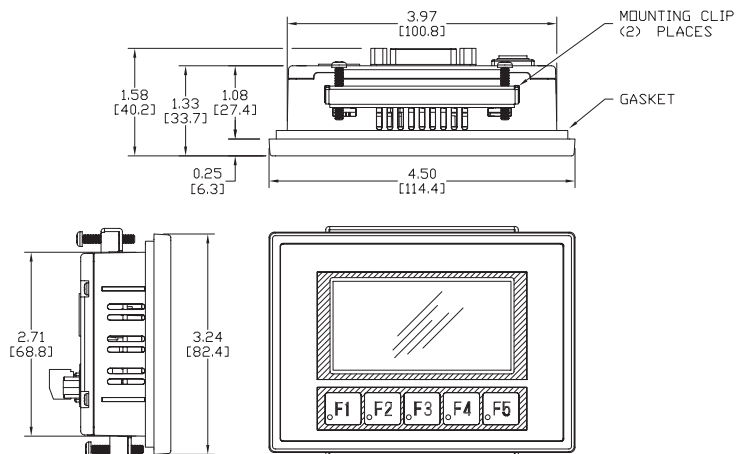
EA3-T6CL, EA3-T8CL and EA3-T10CL Specifications (cont'd)			
Physical:			
• Enclosure Mounting Thickness Range	0.04" – 0.2" [1 – 5 mm]		
• Mounting Clip Screw Torque Range	21 – 28 oz-in [0.15 – 0.20 Nm]	63 – 77 oz-in [0.45 – 0.55 Nm]	
• Weight	21.1 oz. (600g)	39.9 oz. (1130g)	57.1 oz. (1620g)

2

EA3-S3ML-RN, EA3-S3ML-R, EA3-S3ML Panel Dimensions

Panel Dimensions

Units: Inches [mm]

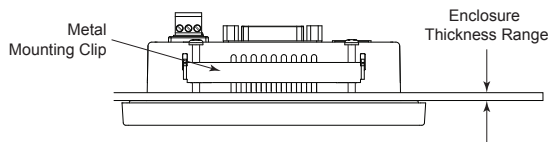


See our website www.AutomationDirect.com for complete Engineering drawings.

Enclosure Thickness and Mounting Clip Screw Torque

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

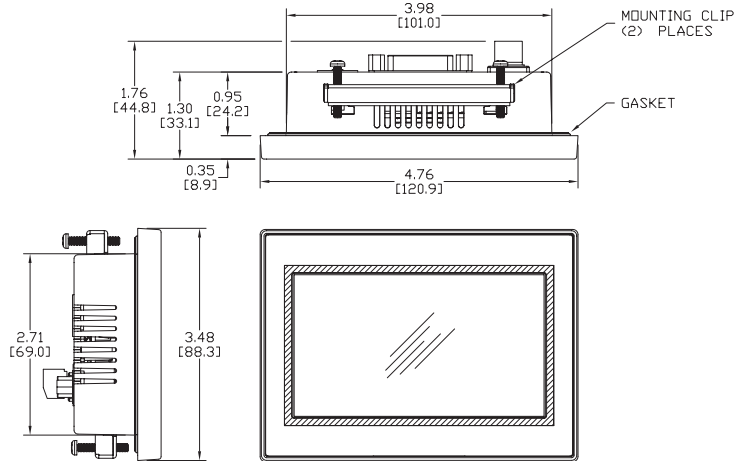
The screw torque range for the screws used on the panel mounting clips is 21 - 28 oz-in (0.15 - 20 Nm).



EA3-T4CL Panel Dimensions

Panel Dimensions

Units: Inches [mm]

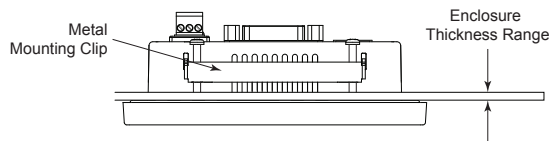


See our website www.AutomationDirect.com for complete Engineering drawings.

Enclosure Thickness and Mounting Clip Screw Torque

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

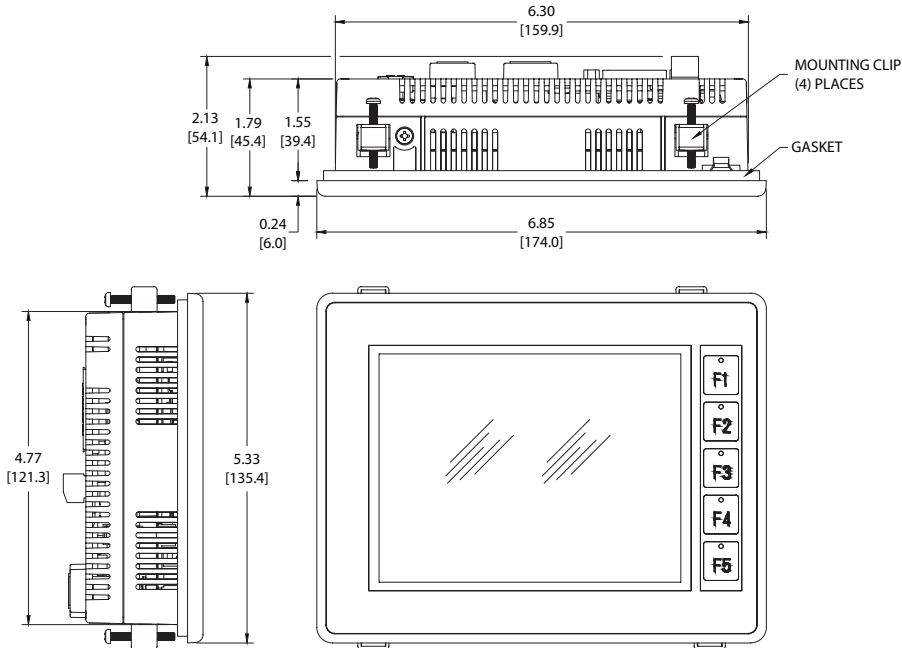
The screw torque range for the screws used on the panel mounting clips is 21 - 28 oz·in (0.15 - 20 Nm).



EA3-T6CL Panel Dimensions

Panel Dimensions

Units: Inches [mm]

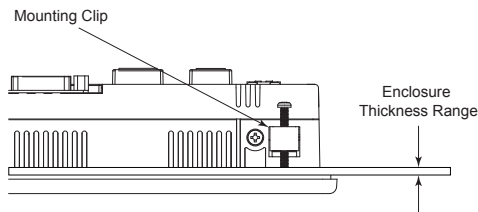


See our website www.AutomationDirect.com for complete Engineering drawings.

Enclosure Thickness and Mounting Clip Screw Torque

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

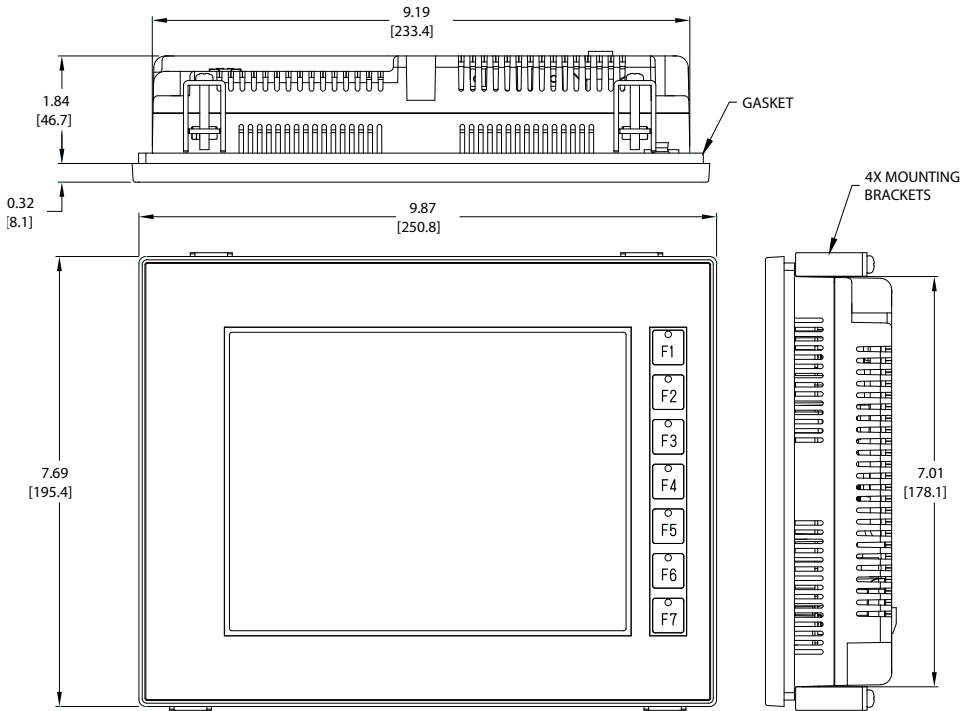
The screw torque range for the screws used on the panel mounting clips is 21 - 28 oz-in (0.15 - 20 Nm).



EA3-T8CL Panel Dimensions

Panel Dimensions

Units: Inches [mm]

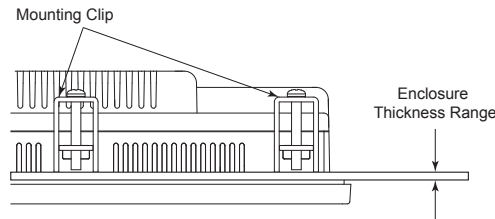


See our website www.AutomationDirect.com for complete Engineering drawings.

Enclosure Thickness and Mounting Clip Screw Torque

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

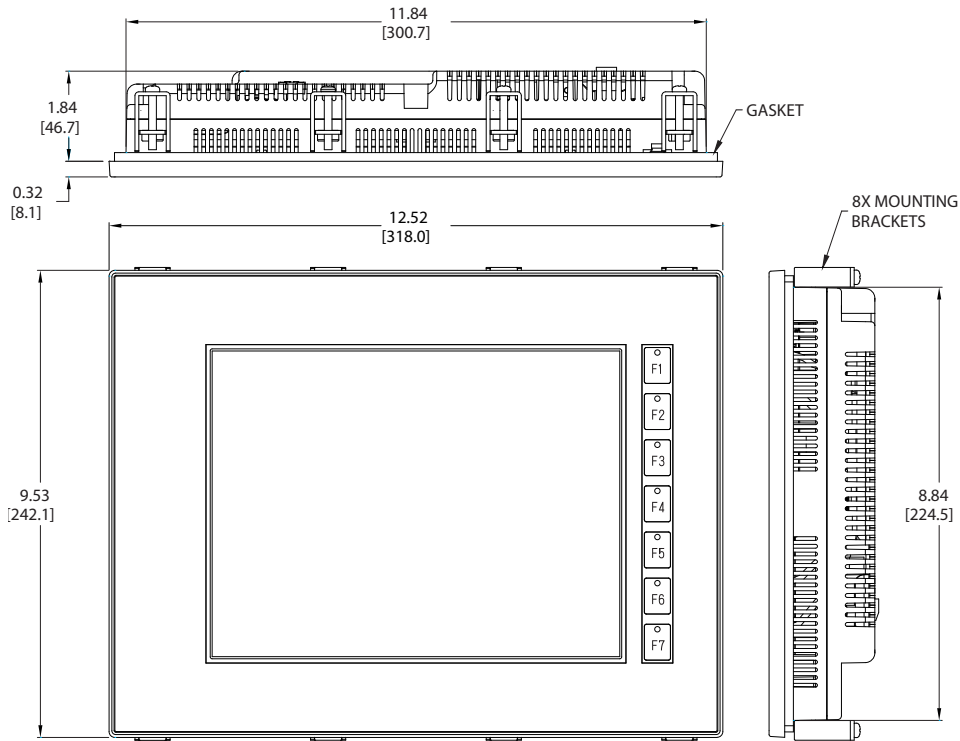
The screw torque range for the screws used on the panel mounting clips is 63 - 77 oz-in (0.45 - 55 Nm).



EA3-T10CL Panel Dimensions

Panel Dimensions

Units: Inches [mm]

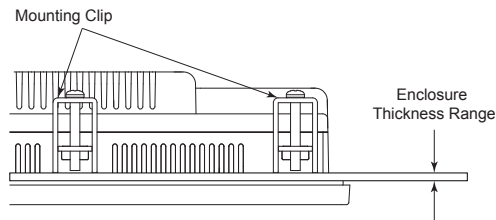


See our website www.AutomationDirect.com for complete Engineering drawings.

Enclosure Thickness and Mounting Clip Screw Torque

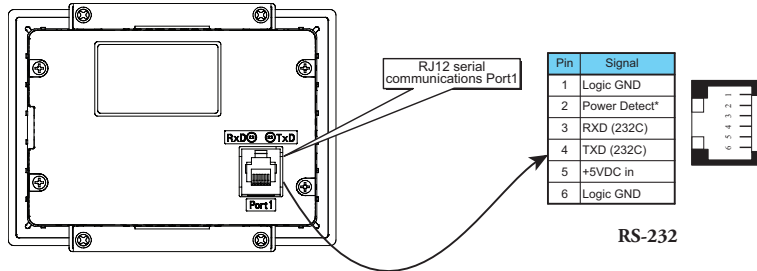
The enclosure mounting thickness range for the panels is 0.04"–0.2" [1–5 mm].

The screw torque range for the screws used on the panel mounting clips is 63 - 77 oz-in (0.45 - 55 Nm).

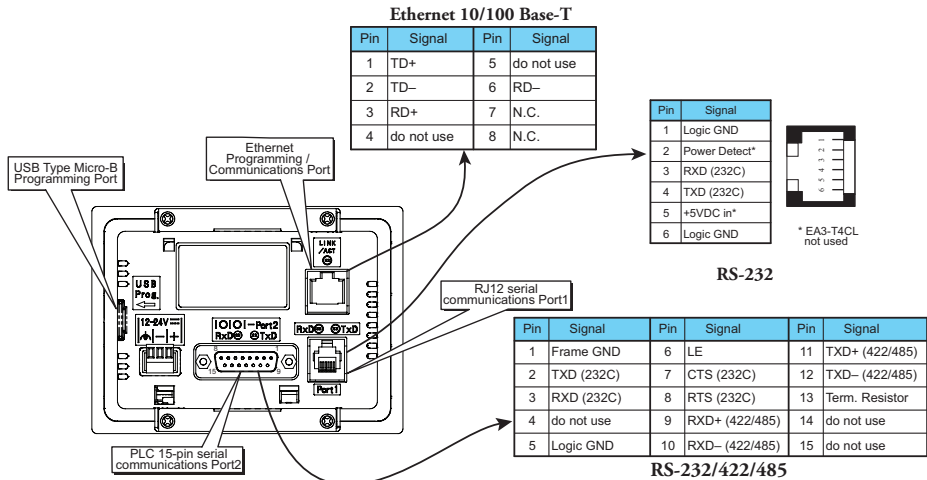


Communications Ports

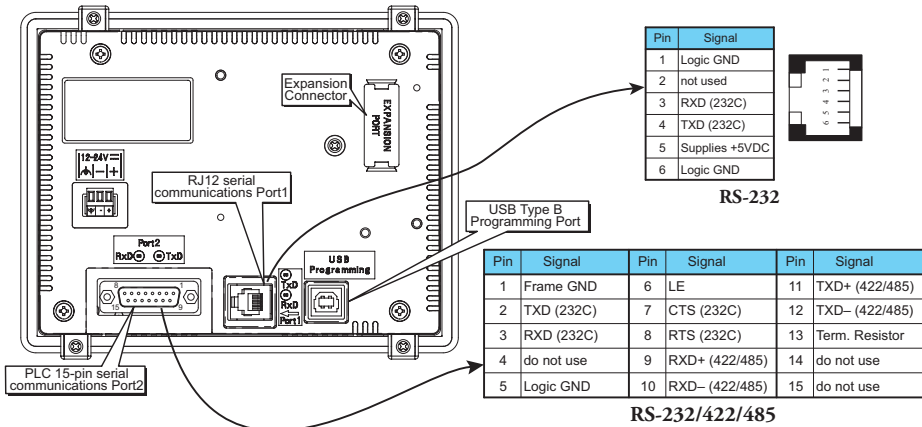
EA3-S3ML-RN and EA3-S3ML-R



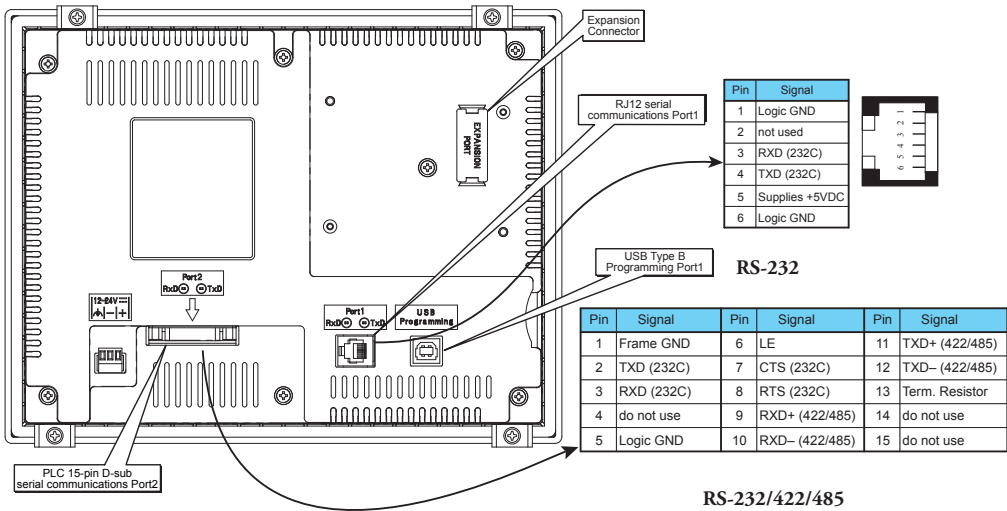
EA3-S3ML and EA3-T4CL



EA3-T6CL



EA3-T8CL and EA3-T10CL



NOTE: The panel has a built-in RJ12 serial communications port (Port1 - RS-232) and a built in 15-pin serial communications port (Port2 - RS-232/422/485). Only one of the ports can be used with a connected PLC.