

Installing the EZTouch Panel requires the following three major steps:



The EZTouch Panel is a front-panel mount unit. Mounting of the unit requires a panel cutout, and drilling six, eight, or ten holes (depending on the model) for the mounting screws. You may also mount the 6-inch units using the optional DIN clips. Some 6-inch units (Slim Bezel models) can **only** be mounted using DIN clips. The 8-, 10- and 15-inch Slim Bezel Models are **Stud Mount ONLY**. Please see the *Mounting* section beginning on page 16 for mounting diagrams and instructions.



CAUTION: DO NOT use any thread locking compounds to secure the studs to Plastic Bezel Models. Many of these compounds will degrade the plastic housing.

Now that your EZTouch Panel is mounted, you are ready to connect your unit to the power source, PLC, and programming computer or printer. The EZTouch Panel's PLC Port and COM1 Port support RS-232C, RS-422A and RS-485A connections. Note that the EZTouch Panel is a DC powered unit (24 VDC). See the section on *Connections and Wiring*, beginning on page 29 for further information. See the section on Option Card Installation, beginning on page 32 if you have an option card installed in your EZTouch Panel.

The EZTouch Panel has some adjustable features and panel tests, such as, Contrast, Clock, and Touchpad Test. You will also select whether the COM1 port will be used to connect to a Programming PC or a printer. The unit is shipped with factory default values for some of these features, but they can be adjusted by the user. To change any value, enter the SETUP MODE on powerup and follow the procedures provided in the *Communications Setup* section beginning on page 41.





Mounting

EZTouch is a panel-mount unit. Most 6-inch units (6-inch Slim models are DIN Clip mounted only) can be mounted using one of the following methods: 1. Studs; or 2. DIN Clips. 8-, 10-, and 15-inch units are stud mounted only. The following diagrams show the outline and cutout dimensions necessary to mount the panel using Method 1. Studs. (See pages 27 and 28 for diagrams showing Method 2. DIN Clips.)

METHOD 1. Stud Mounting







EZ-S6M-R, EZ-S6M-F, EZ-S6M-FH, EZ-S6C-K, EZ-S6C-F, EZ-S6C-FH Outline & Cutout Dimensions

All the necessary mounting hardware is provided with the unit. Use the 6 studs and 6 nuts with captive washers to secure the unit to the mounting surface. Dimensions are provided in inches and millimeters, mm appear in brackets [].





EZ-S6M-RS, EZ-S6M-FS, EZ-S6M-FSH, EZ-S6C-KS, EZ-S6C-FS, EZ-S6C-FSH Outline & Cutout Dimensions

All the necessary mounting hardware is provided with the unit. See page 28 for DIN Clip installation instructions. Dimensions are provided in inches and millimeters, mm appear in brackets [].





EZ-S8C-F and EZ-S8C-FH Outline & Cutout Dimensions

All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface. Dimensions are provided in inches and millimeters, mm appear in brackets [].





EZ-S8C-FS and EZ-S8C-FSH Outline Dimensions

The 8-inch Slim Bezel Models are Stud Mount only. All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface. Dimensions are provided in inches and millimeters, mm appear in brackets [].





EZ-S8C-FS and EZ-S8C-FSH Cutout Dimensions

The 8-inch Slim Bezel Models are Stud Mount only. All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface. Dimensions are provided in inches and millimeters, mm appear in brackets [].





EZ-T10C-F and EZ-T10C-FH Outline & Cutout Dimensions

All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface.





EZ-T10C-FS, EZ-T10C-FSH, EZ-T10C-FSD, EZ-T10C-FSE, EZ-T10C-FSM, and EZ-T10C-FSP Outline Dimensions

The 10-inch Slim Bezel Models are Stud Mount ONLY. All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface.





EZ-T10C-FS, EZ-T10C-FSH, EZ-T10C-FSD, EZ-T10C-FSE, EZ-T10C-FSM, and EZ-T10C-FSP Cutout Dimensions

The 10-inch Slim Bezel Models are Stud Mount ONLY. All the necessary mounting hardware is provided with the unit. Use the 8 studs and 8 nuts with captive washers to secure the unit to the mounting surface.





EZ-T15C-FS, EZ-T15C-FSH, EZ-T15C-FSD, EZ-T15C-FSE, EZ-T15C-FSM, and EZ-T15C-FSP Outline Dimensions

The 15-inch Slim Bezel Models are Stud Mount ONLY. All the necessary mounting hardware is provided with the unit. Use the 18 studs and 18 nuts with captive washers to secure the unit to the mounting surface.





EZ-T15C-FS, EZ-T15C-FSH, EZ-T15C-FSD, EZ-T15C-FSE, EZ-T15C-FSM, and EZ-T15C-FSP Cutout Dimensions

The 15-inch Slim Bezel Models are Stud Mount ONLY. All the necessary mounting hardware is provided with the unit. Use the 18 studs and 18 nuts with captive washers to secure the unit to the mounting surface.





METHOD 2. DIN Clips

The 6-inch Slim Bezel models must be mounted using DIN Clips. It is optional for the other 6-inch models. DIN Clips are metal brackets (P/N EZ-BRK-1, package of 2 brackets and 4 screws) that attach to the panel and secure the front panel to a mounting surface with 4 screws. Use the diagram and instructions below to mount the EZTouch Panel using DIN Clips.

- 1. There are 4 rectangular holes in each side (two at the top and two at the bottom) of the chassis as shown in the following figure. Choose the holes that allow the appropriate space for your mounting panel thickness.
- 2. On each DIN Clip there are two metal tabs (bent inward) that fit into these holes. Insert the two clip tabs into two holes (top and bottom) and secure the panel by alternately tightening the DIN Clip screws (4) until the back edge of the EZTouch Panel front bezel is flush with the mounting panel.



CAUTION: Tighten DIN Clips to a maximum of 1.5 inch-pounds to provide a proper seal. Automationdirect.com assumes no responsibility for "liquids" damage to the unit or other equipment within the enclosure because of improper installation.

EZ-S6M-R, EZ-S6M-F, EZ-S6M-FH, EZ-S6C-K, EZ-S6C-F, EZ-S6C-FH DIN Clip Slot Location





Slim Bezel Models EZ-S6M-RS, EZ-S6M-FS, EZ-S6M-FSH, EZ-S6C-FS, EZ-S6C-KS, EZ-S6C-FSH DIN Clip Slot Location





Connections and Wiring





Power Terminal

It is recommended you use a regulated power source isolated from relays, valves, etc.

Power Connector (P4, Phoenix 3-pin Header, 0.2 cntr)

Pin #		Connection					
1	+V						
2	-V	24VDC (20-30 VDC)					
3	Chassis Ground						



PLC Port

The table, below left, provides the pinout for the panel PLC connector. The table, below right, provides the PLC Cable Part Number that is specific to your PLC. Cable wiring diagrams for each PLC are provided in Appendix A. Special interface boards with PLC connector are available for PLCs requiring a special connector. For EZTouch Panels with A-B DH+ option cards installed, see tables on pages 5 and 6 in Chapter 2. See page 33 for EZEthernet Option Card port.

PLC

PLC Cable Part Numbers

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Part Number	Cable Description
EZ-2CBL	<i>Direct</i> Logic PLC RJ12 port, DL05, DL06, DL105, DL205, DL350 & DL450 (RS-232C)
EZ-2CBL-1	<i>Direct</i> Logic (VGA Style) 15-pin port, DL250 (250-1), DL260, DL06 (RS-232C)
EZ-3CBL	Direct Logic PLC RJ11 port, DL340 (RS-232C)
EZ-4CBL-1	Direct Logic PLC 15-Pin Dsub port, DL405 (RS-232C)
EZ-4CBL-2	<i>Direct</i> Logic PLC 25-Pin Dsub port, DL405, DL350, DL305 DCU, and all DCM's (RS-232C)
EZ-90-30-CBL	GE 90/30 and 90/70 15-pin Dsub port (RS-422A)
EZ-DH458-CBL	AB SLC DH-485 port (RS-232C)
EZ-SLC-232-CBL	AB SLC 5/03/04/05 DF1 port (RS-232C)
EZPLC5-232-CBL	AB PLC5 DF1 port (RS-232C)
EZ-MLOGIX-CBL	AB MicroLogix 1000, 1200 & 1500 (RS-232C)
EZ-MITSU-CBL	Mitsubishi FX Series 25-pin port (RS-422A)
EZ-MITSU-CBL-1	Mitsubishi FX Series 8-pin (RS-422A)
EZ-OMRON-CBL	Omron C200, C500 (RS-232C)
EZ-S7MPI-CBL	Siemens 7 MPI Adapter (RS-232C)

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	Pin Number	Connection
	1	Chassis GND
	2	PLC TXD (RS-232C)
	3	PLC RXD (RS-232C)
	4	+5V (100Ω)
	5	Logic GND
	6	LE
	7	PLC CTS (RS-232C)
	8	PLC RTS (RS-232C)
	9	RXD+ (RS-422A)
	10	RXD- (RS-422A)
	11	TXD+ (RS-422A)
	12	TXD- (RS-422A)
	13	Terminating Resistor (connect to pin 9)
	14	NC
	15	NC



COM1 Port

The COM1 Port is used to connect a programming computer or a printer to the EZTouch Panel. *The panel only needs to be connected to a PC when you are programming the unit.* You will use the EZTouch Panel Programming Software to design the touch panel screens. A wiring diagram for the EZTouch Panel RS-232C Programming Cable is shown below. The table shows EZTouch's pinout for RS-232C and RS-422A connections.



Connect a Programming PC or Printer



RS-232C EZTouch Panel Programming Cable (P/N EZTOUCH-PGMCBL)



	COM1 Connector							
Pin #	RS-232C Connection	RS-422A Connection						
1	DO NOT USE TXD- (RS-422/485)	TXD- (RS-422/485)						
2	TXD (RS-232C)	DO NOT USE TXD (RS-232C)						
3	RXD (RS-232C)	DO NOT USE RXD (RS-232C)						
4	DO NOT USE RXD- (RS-422/485)	RXD– (RS-422/485)						
5	Logic GND	Logic GND						
6	DO NOT USE TXD+ (RS-422/485)	TXD+ (RS-422/485)						
7	DO NOT USE CTS (NOT USED)	DO NOT USE CTS (NOT USED)						
8	DO NOT USE RTS (NOT USED)	DO NOT USE RTS (NOT USED)						
9	DO NOT USE RXD+ (RS-422/485)	RXD+ (RS-422/485)						



Option Card Installation

The EZTouch Panel Models EZ-S6M-FH, EZ-S6M-FSH, EZ-S6C-FH, EZ-S6C-FSH, EZ-S8C-FH, EZ-S8C-FSH, EZ-T10C-FH, EZ-T10C-FSH, and EZ-T15C-FSH have the Allen-Bradley Data HIghway Plus/Remote I/O Option Card installed. (Allen-Bradley option cards are designated by an "H" at the end of the part number.

Also, EZ Ethernet Models (P/N EZ-ETHERNET) and EZTouch Panel Models EZ-T10C-FSD, EZ-T10C-FSE, EZ-T10C-FSM, EZ-T10C-FSP, EZ-T15C-FSD, EZ-T15C-FSE, EZ-T15C-FSM, and EZ-T15C-FSP, have an option card installed. Those with a "D" at the end of the part number have a generic DeviceNet I/O card installed, with an "E" have a generic Ethernet I/O card installed, those with a "M" have a Modicon Modbus Plus card installed, and those with a "P" have a generic Profibus-DP option card installed. A connector, unique to each option, is attached to these option boards and is accessible from the bottom of the unit.

The option card has been installed to the backplane connector shown below. (The connector on the bottom right side of the card installs into the backplane connector.) The card is secured with two screws.

A section of the plastic back cover has been removed to allow access to option card connectors that extend over the edge of the board. See the following pages for more information on each board.



DH+ Option Card is installed into the Backplane connector shown here



Panel open, showing installed Option Card (Allen-Bradley DH+ is shown)



Allen-Bradley Data Highway Plus Option Card





EZ Ethernet Option Card

The EZ Ethernet Option Card (P/N EZ-ETHERNET) comes with two different type screws. Remove the screws from the packaging and set aside.



DO NOT FORCE THE CARD CONNECTOR into the backplane — C. to do so may bend or break the pins and permanently damage the card. First, ensure that the pins are aligned properly, and then press firmly into place. f.

- a. Connect EZTouch Panel to a computer and, following instructions in EZTouch Panel Software Help Topics or User Manual, upload the user program from the Panel to the computer. Save the user program to disk.
- b. Disconnect panel power source.
- c. Open back cover (shown open in figure to the right) to install the card.
- The connector on the bottom right side of the card installs into the backplane connector.
- e. Secure the card into place by installing the two screws.



- f. The bottom of the plastic back cover has a section that must be removed to allow access to the EZ Ethernet connector that extends over the edge of the board. To remove this plastic section, look for the perforation and snap it out along the performation with a pair of pliers.
- g. Close rear cover and press so that it snaps into place.
- h. Reconnect power source, connect to PC, run EZTouch Programming Software and follow instructions to download the user program previously saved to disk.
- i. Consult the EZ Ethernet Option Card Manual (P/N EZ-ETHERNET-M) for programming instructions.







EZ Ethernet Option Card Outline Drawing

For more information about the card, connector, LEDs and Switches, see the EZ Ethernet Option Card Manual (P/N EZ-ETHERNET-M)



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For information about LEDs, DIP Switches, Connections and programming, refer to the EZ Ethernet Option Card Manual, P/N EZ-ETHERNET-M.



Generic DeviceNet I/O Option Card

The EZTouch Panel Models EZ-T10C-FSD, and EZ-T15C-FSD have the DeviceNet I/O Option Card installed. A special connector is attached to these option boards and is accessible from the bottom of the unit.

The bottom of the plastic back cover has a section that has been removed to allow access to the DeviceNet connector that extends over the edge of the board. Next to the connector are DIP Switches and then four LEDs that illuminate to indicate status. The Watchdog LED is only visible when you open the back cover.



1	2	3	4	5
				⊒□⊑
-0-	- 0-	-0-	9	-0-
\sim	\sim	\sim	\sim	\sim

Connector Pin	Signal	Description
1	V-	Negative supply voltage
2	CAN_L	CAN_L bus line
3	SHIELD	Cable shield
4	CAN_H	CAN_H bus line
5	V+	Positive supply voltage





Generic Ethernet/IP Option Card

EZTouch Panel Models EZ-T10C-FSE, and EZ-T15C-FSE have the Ethernet/ IP Option Card installed. A special connector is attached to these option boards and is accessible from the bottom of the unit.

The bottom of the plastic back cover has a section that has been removed to allow access to the Ethernet /IPconnector that extends over the edge of the board. Next to the connector are DIP Switches used for configuration, and four LEDs that illuminate to indicate status. The Watchdog LED is only visible when you open the back cover. The module uses twisted-pair cables, and no external termination is required.





Modicon Modbus Plus Option Card

The EZTouch Panel Models EZ-T10C-FSM, and EZ-T15C-FSM have the Modbus Plus Option Card installed. A special connector is attached to these option boards and is accessible from the bottom of the unit.

The bottom of the plastic back cover has a section that has been removed to allow access to the Modbus connector (9-pin Female D-SUB) that extends over the edge of the board. Two types of connectors are available from Modicon for connecting devices to the network. Each inline drop requires a line connector, Modicon part number AS-MBKT-085. This part number contains one connector. The drops at the two ends of the cable, each require a terminating connector, Modicon part number AS-MBKT-185. This contains two connectors.

The Modbus Plus node address can be set using the first six positions of the DIP switches located at the top of the option board as shown in the diagram below. When the board is seated in the panel, setting the DIP Switch in the UP position is the ON position. There are three Status LEDs on the Modbus Plus option card: MBP, TXD, and RXD. The TXD and RXD LEDs indicate the board is transmitting or receiving data. The MPB LED (leftmost LED) indicates Modbus Plus status.





Generic Profibus-DP Option Card

The EZTouch Panel Models EZ-T10C-FSP, and EZ-T15C-FSP have the Profibus-DP Option Card installed. A special connector is attached to these option boards and is accessible from the bottom of the unit.

The bottom of the plastic back cover has a section that has been removed to allow access to the Profibus-DP connector that extends over the edge of the board. Next to the connector are a Termination Switch, Rotary Address Switches, and four LEDs that illuminate to indicate status.





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Communications Setup



After the EZTouch Panel is powered up, you may enter the Setup Mode by simultaneously pressing the extreme upper left and lower left touch cells on the panel screen. The following screen is displayed. Information is displayed in the upper left hand corner about the current revision of the Firmware, Hardware, and Boot program. Also shown is RAM memory — Used, Free and Total, and Flash

memory. Below that is displayed the time and date, whether the COM1 port is connected to a computer or a printer, and the current Contrast setting. There are six buttons at the bottom of the screen. They are labeled **Clock**, **COM1**, **Contrast**, **Touchpad Test**, **Display Test and Exit**.

Revision Firmwar Boot A Hardwar	re A re A	. 1	Memory Used 67000 Free 194344 Total 262144 Flash 0				
Clock 8:56: 28-SBP	88 -00	COM1 Contra: Part #	Compute st 37 EZ-S8C-F	5 L			
Clock		COM1					
Contrast	To	uchpad Test	Display Test	Exit			

Main Setup Screen

Clock



Clock Setup Screen SET TIME AND DATE

When you press the **Clock** button, the screen shown above will appear.



Enter the current time and date. Press the keypad button of the number you want to enter. It will show in the display window. If correct, press **Hr**, **Min**, **Sec**, **or Day**, **Mon**, **Yr** corresponding to the time or date position you are setting. If not correct, press **CL** to clear the window. For the month, enter the number of the month and the three letter abbreviation for the month will be displayed (e.g., 7 = July = JUL).

COM1



The COM1 button is used to assign the COM1 port for use with an external device. When you press the COM 1 button, the screen shown above will appear. Press the **Computer** button if the port will be connected to the programming computer. Press the **Printer** button if the port will be connected to a printer.



Please Note: If you are in Setup Mode, it doesn't matter what the COM1 setting is (Printer or Computer), you CAN STILL TRANSFER A PROGRAM from EZTouch Programming Software to the panel. The COM1 setting to Printer is OVERRIDEN while in Setup Mode. When you exit Setup Mode, however, the Printer assignment to COM1 becomes effective—you WILL NOT have a connection established between the computer and the panel and WILL NOT be able to transfer a program. You must return to Setup Mode and REMAIN in Setup Mode while transferring, OR change the COM1 assignment on the ASSIGN COM1 screen, shown above, to Computer, exit Setup Mode, and THEN you can transfer the program to the panel.

To enter Setup Mode from the user program, press on the extreme upper and extreme lower touch cell on the EZTouch Panel touchscreen. On the first Setup Mode Screen, press the COM1 button. From the ASSIGN COM1 screen (shown above), press Computer. You are automatically taken back to the first setup screen. Press the Exit button to return to the user program.



Contrast



When you press the **Contrast** button, the screen shown above will appear (except that the monochrome units will not have color). From this screen you can adjust the panel screen contrast (except on the 10" and 15" TFT Color units). Press **Exit** to return to the previous screen. In the **Current Contrast** window, the current contrast setting is displayed. The 6" Monochrome units will have a contrast range of 87 to 119. The 10" and 15" TFT Color units will not have a contrast adjustment feature. The 8" Color unit will have a contrast range of 21 to 52, and the 6" Color unit's contrast range is 0 to 32. Press the up and down arrow buttons to adjust the screen display contrast. Press **Exit** to return to the setup screen.

Touchpad Test

0,0	8,1	8,Z	8,3	8,4	8,5	8,6	8,7	6,8	6,9	8,18	6,11	6,1Z	8,13	8,14	8,15
1,6	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	1,18	1,11	1,12	1,13	1,14	1,15
z,0	Z,1	z,z	2,3	Z,4	z,5	Z,6	z,7	z,a	2,9	2,18	Z,11	Z,1Z	Z,13	2,14	2,15
3,6	3,1	3,Z	3,3	3,4	3,5	3,6	3,7	3,3	3,3	3,18	3,11	3,1Z	3,13	3,14	3,15
4,4	4,1	4,2	4,3	4,4	4,5	4,6	4,7	4,8	4,9	4,18	4,11	4,12	4,13	4,14	4,15
5,6	5,1	s,2	s,3	5,4	5,5	5,6	s,7	s,a	5,9	5,10	5,11	5,1Z	5,13	5,14	5,15
6,6	6,1	6,Z	6,3	6,4	6,5	6,6	6,7	6,8	6,9	6,18	6,11	6,1Z	6,13	6,14	6,15
7,0	7,1	7,Z	7,3	7,4	7,5	7,6	7,7	7,8	7,9	7,18	7,11	7,1Z	7,13	7,14	7,15
8,0	8,1	a,z	8,3	8,4	8,5	8,6	8,7	a,a	8,9	8,18	8,11	8,1Z	8,13	8,14	8,15
3,6	3,1	9,Z	3,3	3,4	3,5	3,6	3,7	3,8	3,3	3,18	3,11	9,1Z	9,13	9,14	3,15
18,8	18,1	18,Z	18,3	18,4	18,5	18,6	18,7	18,8	18,9	18,18	18,11	18,12	18,13	18,14	18,15
11,6	11,1	11,Z	11,3	11,4	11,5	11,6	11,7	11,3	11,9	11,10	11,11	11,12	11,13	11,14	Exit

Model Part Numbers

192 Touch Cells:	48 Touch Cells:
EZ-S6M-FS	EZ-S6M-R
EZ-S6M-FSH	EZ-S6M-F
EZ-S6C-KS	EZ-S6M-FH
EZ-S6C-FS	EZ-S6M-RS
EZ-S6C-FSH	EZ-S6C-K
EZ-S8C-*	EZ-S6C-F
EZ-T10C-*	
EZ-T15C-*	
* (all 8-, 10-, and	15-inch models
have 192 Touch C	Cells)

Shown above is the **Test** screen for the 8" Color screen touch pad. There are 192 touch cells on some of the 6" models (see table, above, right) and on the 8", 10", and 15" panel screens (16×12), and $48 (8 \times 6)$ on the other 6" models.



Each touchpad is numbered for reference. Press on each or any square to test that it is active. It will be highlighted after pressing to show that it has been tested. Press the square again to deselect it. Each square should beep when pressed. Press **Exit** in the lower right hand corner to quit.

Display Test



The Display Test button is primarily used for production testing at the factory. Bands of color scroll horizontally and vertically across the screen during this test. It is used to check the pixel quality of the display before shipping the unit.

Exit

Press the Exit button to display the Powerup screen you have selected in your project (selected under Project Attributes.)

Reboot

To reboot the EZTouch Panel from any programmed screen, simultaneously press the extreme upper left and extreme lower left touchpad area on the panel screen.