- **On Screen Recipe Edit • Datalogging**
- **EZminiWifi option available to be able to program 50ft away ($59)**
- **Remote monitoring and control over PC or Smartphone**

SUGGESTED CALL TO ACTIONS

ORDER STARTER KIT
4" $599 | 6" $699

Includes: Ethernet Option, EZ miniWifi, Programming Software, Programming Cable, 60W Power Supply

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PDF

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EZTouch.miniPLC®

EZTouch miniPLC, An Engineering Marvel

3.5" or 6" TFT, 12 DI, 8 DO, 4 of 5 Amp 1 form C RLY, 2 AI, 1 AO + 250 KHz Quadrature Encoder Input

30 Exceptionally Innovative Unique Features, same as EZTouch Modular PLC. Lasts twice as long: NEMA 4X, 400 nits, 75KHrs@55°C & Drag-n-Drop Software

360°

Incredible 27 I/O points, all in 5" x 4" x 2" package
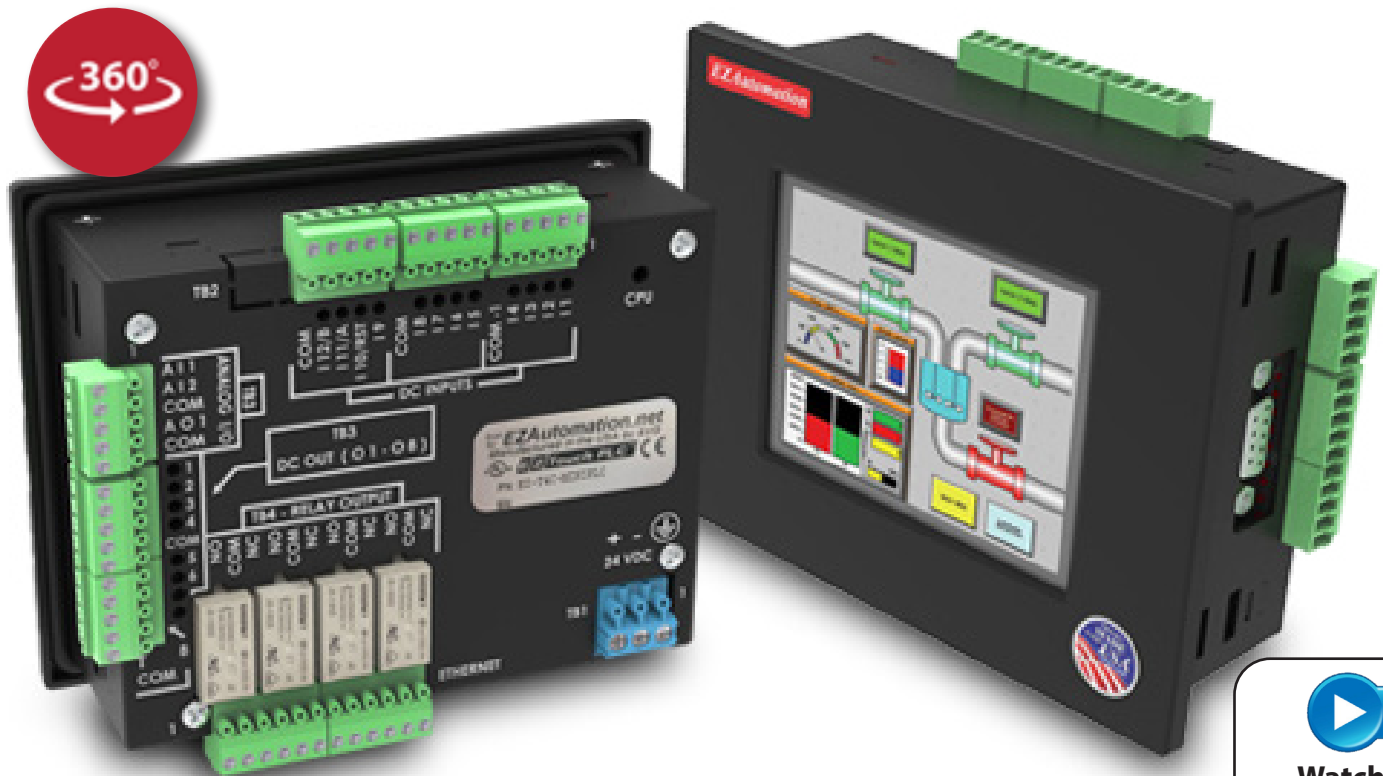
▶ Play

Watch the Video
exclusive Drag-n
Programming So

▶ Play

Watch the Video
Patented Online-Edit
exclusive to EZTouchPLC HMI

Low Cost HMI & PLC Combo unit Ideal for replacing Push Buttons & Analog Meters or for "Table Top" Machines
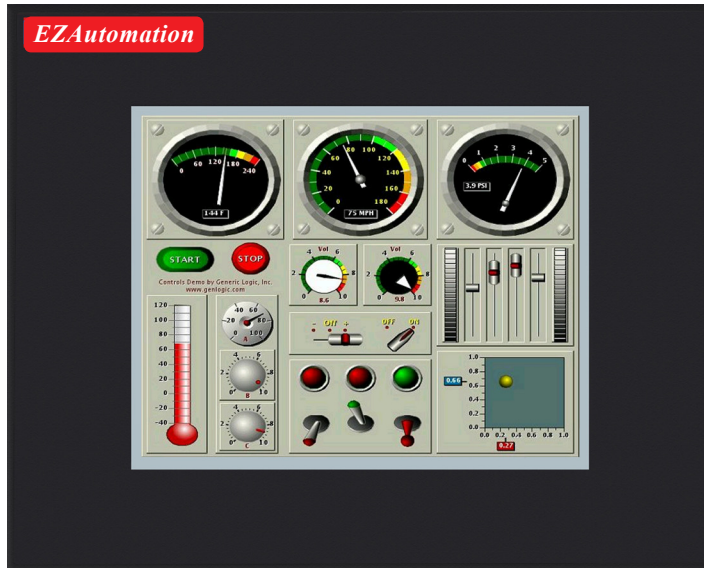
The Most Advanced HMI with a powerful highly advanced PLC built-in

Discounted Starter Kit you must try!

Play

EZiest, Fastest Programming Software Video of Example

12 Digital inputs sink or source including quadrature up to 50KHz

LED indicators for all I/O

2 Analog In, 1 Analog Out 0-10V, 12 bit

8 Digital sourcing outputs, 50 V, 500 mA, short circuit proof

deo
n-Drop
oftware

Plug-in removable terminal blocks

4, 1 form C Relay outputs, 5 Amp, 250 VAC

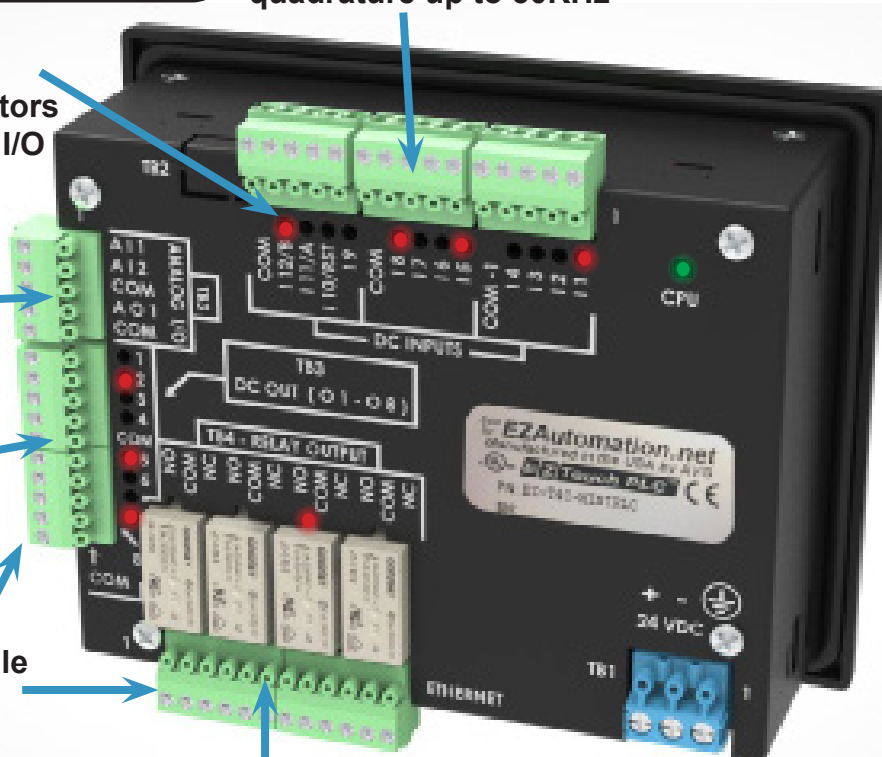# 3.5" EZTouchminiPLC Status Indicators and Connections

12 Digital Inputs, including a high speed quadrature counter input with LED indicators

EZ to Wire Phoenix Plug-in Terminals

1.14 AWG, 2 18 AWG, 4 22 AWG wires per terminal
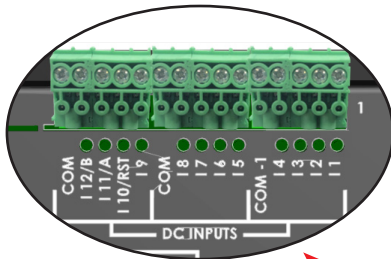
CPU LED indicator powers ON when communication to HMI and Status indicator

2 Analog Inputs & 1 Analog Output 0-10V 12 bit
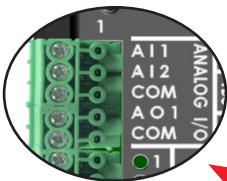
24 VDC power input

3.5" Touchscreen in Front

8 Digital short circuit proof Outputs, with fly-back diodes and LED indicators. Each output rated at 500mA with overall current limitation of 1A

NO   NC

5 Amp

4 Relay (1 form C 5 Amp) Output with built-in snubbers
Used to drive output devices up to 5Amps

6" EZTouchminiPLC Status Indicators and Connections

EZ to Wire Phoenix Plug-in Terminals

12 Digital Inputs, including a high speed quadrature counter input with LED indicators

1.14 AWG, 2 18 AWG, 4 22 AWG wires per terminal

CPU LED indicator powers ON when communication to HMI and Status indicator
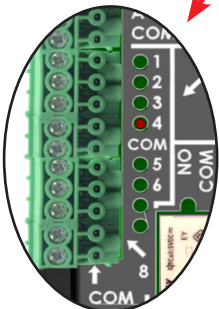
2 Analog Inputs & 1 Analog Output 0-10V 12 bit

24 VDC power input
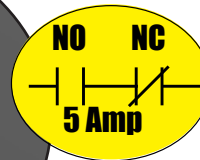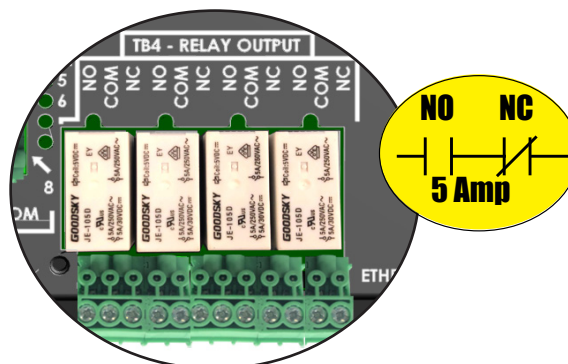
8 Digital short circuit proof Outputs, with fly-back diodes and LED indicators. Each output rated at 500mA with overall current limitation of 1A
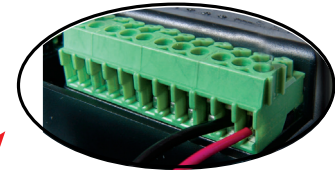
6" Touchscreen in Front

4 Relay (1 form C 5 Amp) Output with built-in snubbers
Used to drive output devices up to 5Amps

NO   NC
5 Amp

EZTouchPLC ®

All-in-One Programming Software for Touch Panel Graphics and PLC Ladder Logic!!
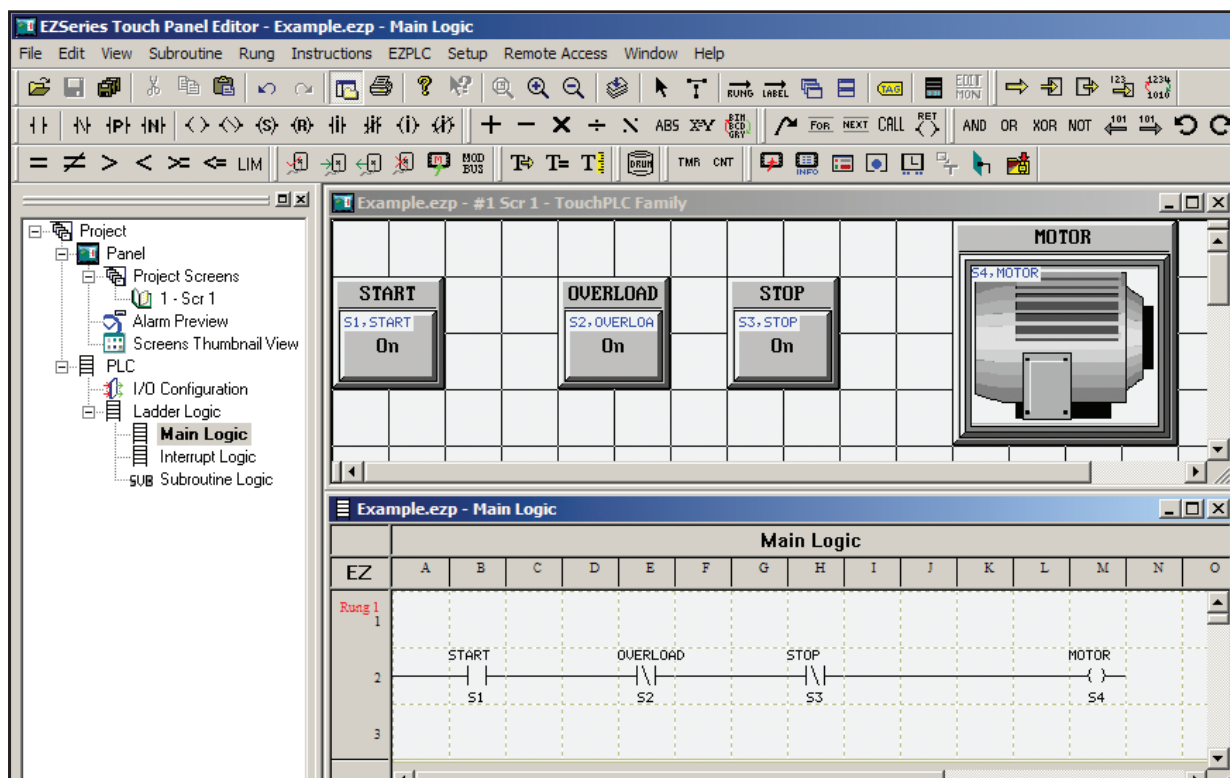
Watch the Video
▶ Play
exclusive Drag-n-Drop Programming Software

Watch the Video
▶ Play
Patented Online-Edit exclusive to EZTouchPLC HMI

The EZTouchPLC can be programmed thru the 9-pin RS232 port or the Ethernet port on the Touch Panel itself. The programming software is also integrated into one package that allows use of the same database for Touch Panel and PLC functionalities. In addition, the Touch Panel objects, corresponding PLC tags and ladder symbols can appear on the same design screen.

- **No more need to export/import PLC tags**
- **As you change tag address in ladder logic, the corresponding address to the object automatically changes**
- **Universal $149 Software for all EZTouchPLC and EZSoftHMI**

- **Advanced Mathematical function blocks**
- **Advanced auto-tuned PID control**
- **On-Screen recipe editing**
- **Unique data-logging features**

1-877-774-EASY

EZTouchPLC with Shared Databases

The concept of this patent pending Free Flow Ladder Logic is to create less restricted rungs of logic. This saves the user rung space and valuable scan time. On the right you will see an example of Free Flow Ladder Logic. As you can see, the Free Flow logic allows logic to be placed and connected anywhere in the rung rather than creating a new rung. This allows the user to spend more time on other parts of the machine development and let the CPU do more of the work of solving the logic.

Just One Rung!

EZTouchPLC Editor has Windows type Folder organization for Quick EZ Search just like RSLogix and other high end programming software that costs thousands of dollars. The EZTouchPLC Editor has a structured programming software. You do not have to scroll through literally hundreds of rungs to find your I/O mapping, subroutines or interrupts.

Touch Panel tags can easily be read by the EZTouchPLC.

Advanced Instructions:

32-bit floating point calculations

The EZTouchPLC supports 32-bit floating point mathematical and logical operations. The data options allow you to use signed or unsigned integer data, as well as floating point data type.

Data Conversion

This instruction is meant to make ladder programming EZ and flexible. You can copy the data in one register, convert its data type and save it into another register without altering the 'source' register. The data can be converted from binary to BCD or grey code or vice versa.

Move Block

This instruction adds convenience to handling data inside the ladder program. You can move blocks of memory. All you need to specify is starting point of your source address, number of data elements to move and starting point of destination memory address. Along with Move Block, Fill Block and Move table of Constants also make life of a programmer much simpler.

String

These instructions operate on ASCII string data type. You can Move string data between registers, base rung power flow upon string comparison and compute string length to store the length value in a different register.

Subroutines

Capability to use subroutines is a huge plus in EZTouchPLC programming. For large and complex programs, user can define many subroutines and use them in the main ladder program. These subroutines can be called from the main logic. Return instruction allows user to return to the main logic at any step.

Drum Sequencer

This is a time or event based sequencer that updates up to 16 outputs per step, up to 16 steps. Time base of each count is user defined and each step has its own counter. User can define an event to trigger the count. The rung power flow is allowed after completion of all the steps in a drum.

Marquee Instructions

Now you don't have to spend days to send signals to your marquee. "Send to Marquee" instruction allows you to communicate to the marquee via ASCII strings. A unique message number is assigned to each message in the message database. This instruction looks up the message number, corresponding to the intended message to be displayed and sends it to the marquee. User can define actions if a message number cannot be found in the database.

Interrupt Routine

This is how your EZTouchPLC would process external events that require "instantaneous" response. User can write a separate interrupt logic routine. At the instance of an external event, the PLC would interrupt the main logic, execute this interrupt logic on a priority, and scan corresponding I/O. It would return to the main logic automatically after processing the interrupt routine.

ASCII Instructions

User can send/receive ASCII string data to/from any register in PLC to a predefined serial port. User can also define the Control address and character count of the source register. Similarly, user can send ASCII string data to a Marquee directly from the main logic.

Bit Move Instructions

Bit move instructions allow the user to move word data from a register type memory address to a bit in a discrete memory location and backward.

For detailed information, see the PLC Programming Instructions of EZTouchPLC click here

EZRMC®

Remotely Monitor, Control, and Record Data from a Smart Phone or Tablet

EZ RMC™ Remote HMI is an application designed for your mobile devices on both iOS and Android platforms, for the monitoring and control of your EZTouchPLC HMIs from EZAutomation.net. Enjoy direct access to your EZTouchPLC HMI from anywhere at the tip of your fingers, on your phone or tablet. The EZ RMC™ Remote HMI is available on both the iTunes App Store as well as the Google Play store.

Monitor, Control & Record Data in Real-time

Direct access to your EZTouchPLC HMI is at your finger tips from anywhere in the world. Download the App and start accessing.

ANDROID APP ON Google play

Available on the App Store

Data View

Monitor Real-Time Data in tabular form.

Line Graphs

Monitor & Store Real-Time Data via Line/Trend Graphs.

Bar Graphs

Monitor & Compare Real-Time Data over Bar Graphs.

Remote Access to EZTouchPLC on iOS and Android Devices

Direct Access to Your EZTouchPLC HMI is at your fingertips ... from anywhere.

Available on the **App Store**

ANDROID APP ON Google play

Plant Engineering **PRODUCT** *of the* **YEAR** *Winner* 2015

Features:

• Realtime View and Control of your EZTouchPLC

• "Pinch" style zoom for more in-depth view of your HMI project

• Save screenshots directly from the App

• Multiple user accounts can be configured for each panel project, with multiple levels of security, including either only Viewing ability, or both Viewing and Control

• Record your most used panels in your "Favorites" for quick access, and designate one HMI for direct access by default when the App is opened

• Automatic email and machine productivity and diagnostics

• Real-time recording of data via bar and line graphs or Excel format

Compatibility:

• iOS App works with all iOS devices (iPad, iPhone, iPod Touch) running iOS version 6 or later

• Android App works with devices running OS version 4.0.3 - Ice Cream Sandwich or later

EZ TouchPLC

Evolution of Backlights in Human Machine Interface (HMI) Panels

From CRT displays to CCFL backlit Liquid Crystal Displays (LCDs), and now White LED backlit LCDs, touchscreen HMI's or Operator Interfaces have come a long way since its introduction in the early 90's.

Understanding the technology behind an HMI is very important when deciding which one to use. Parameters such as the life of the display, the quality of the picture, and the brightness of the display all come in to play when deciding which HMI will best suit the application and in particular its environment. Modern HMIs with LCDs are made up of several components. One of the most significant components with the LCD is its first layer which is the backlight. Backlights of the LCD are responsible for the light emanating from the screen. When flat panel LCDs replaced the older CRT displays like the ones used in older Panelview 1200's and 1400's, there was a significant advancement in each of the above noted parameters. LCDs with a Cold Cathode Fluorescent Lamp (CCFL) backlight tremendously enhanced the quality, brightness and life-span of the HMIs as compared to the old CRT Displays. However, you might be surprised that LCDs with a CCFL backlight started out with a life-span of roughly only five thousand hours. The CCFL backlit LCDs improved over time going from ten, to fifteen, to twenty, all the way up to fifty thousand hours of backlight life. Of course, the life-span of CCFL backlit LCDs depends on the temperature and humidity in which the HMI is sitting at. CCFL backlit LCDs operating at 25°C (77 °F) can normally last about fifty thousand hours, but the life of the backlight dramatically changes as the temperature varies. For example, if the temperature of the LCD rises to about 40°C (104°F), the life of the CCFL backlight deteriorates to roughly 20k hours. (See Figure 1).

As for relative humidity and its role in the life-span of a CCFL backlit HMI, its "wet bulb" temperature is normally rated at 39°C (102.2 °F). Once CCFL backlit LCD's reach its maximum humidity rating the backlight will give up (See Figure 2).

The evidence behind all this relates to how CCFL's work. The CCFL is a light source classified as an electronic component. The CCFL in simplest terms is a gas-discharge light source, which produces its output from a stimulated phosphor coating inside the glass lamp envelope. The typical CCFL is a hollow glass cylinder coated inside with a phosphor material composed of rare earth elements and sealed with a gettered electrode at both ends. (See Figure 3).

Figure 1: Comparison of CCFL vs. White LED Backlight life measured against Temperature.
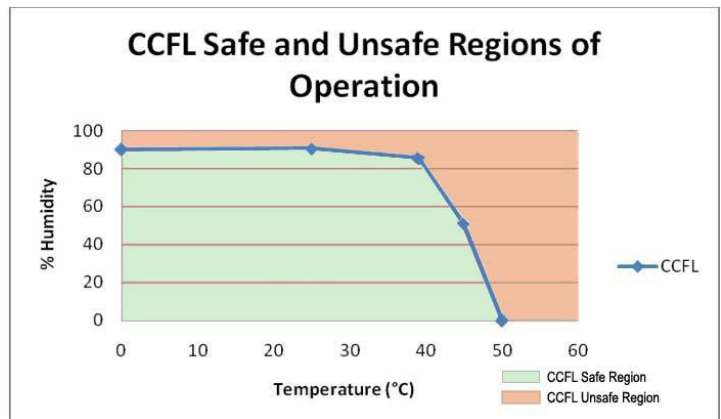
Figure 2: Relative Humidity Tolerance of CCFL Backlit HMI's. Note: Under the curve represents safe region and over the curve is the unsafe region of operation for CCFL backlit HMI's.

converting electrical energy into light energy. What one may not be aware of is the fact that in order to light up a CCFL backlit LCD, a supply voltage of over 1000 volts, typically 1200-1500 Volts is required. Conventionally the CCFL backlight is driven by an inverter board like the one shown in Figure 4 and is quite power hungry.
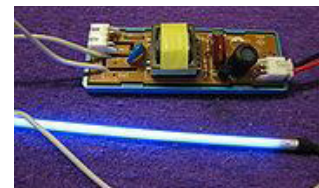
Figure 4: Example of a conventional CCFL inverter board and CCFL backlight bulb

Despite their name, cold cathodes don't remain cold as they operate; they can get painfully hot. This aspect of CCFLs can be quite problematic for CCFL backlit LCDs as this increases the backlight temperatures significantly thus reducing its life-span and at times causing erratic operation. Since nowadays, HMIs are shipped all over the world including India, Mexico, China, and the Middle East where ambient temperatures in some of these places reach 40° C (104° F) with a 90% humidity, these CCFL backlit HMIs can sometimes be problematic since they are not conducive to that type of environment.
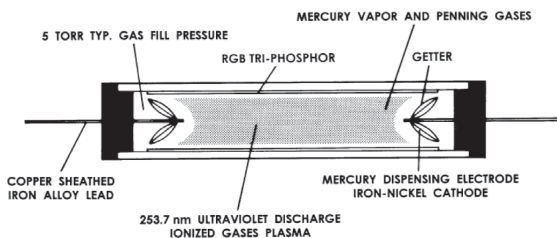

Figure 3: Make-up of CCFL

Ultraviolet energy at 253.7 nm is produced by ionization of the mercury and penning gas mixture by the application of high voltage to the electrodes. The UV energy from the mercury discharge stimulates the phosphor coating, thus producing light output. In short a CCFL can be described as a transducer
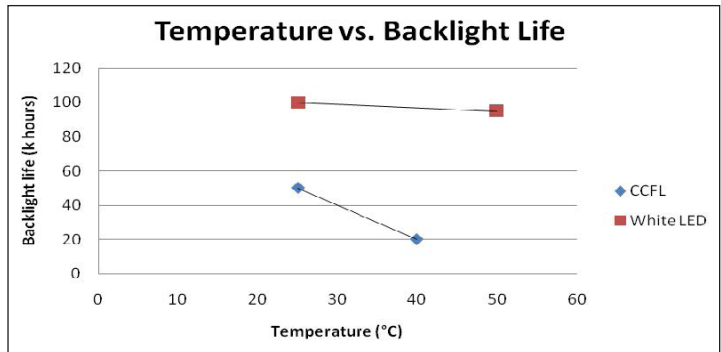
White LED backlight brought by EZ Automation

White LEDs, light emitting diodes, are solid state devices that consist of a chip of semiconducting materials doped with impurities to create a p-n junction. As in other diodes, current flows easily from the p-side (anode), to the n-side (cathode). See Figure 5 for the general construction of an LED.
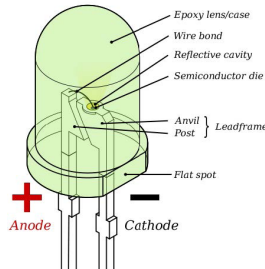
Figure 5: Parts of an LED

Unlike CCFLs, White LEDs do not have gases and phosphors that require high voltages to operate. In fact they can operate at voltages in the range of 5 to 24 Volts, and hence do not generate as much heat as compared to CCFLs. Due to its low voltage operation without the need of an intensive backlight inverter board, White LED backlit LCD displays generally last twice as long as compared to CCFL backlights with a standard life of anywhere from 75k to 100k hrs irrespective of the temperature increase (Refer to Figure 1). Furthermore, as compared to the 25 °C operating temperatures of a CCFL backlit LCD display, White LED based backlights tend to operate all the way up to 55°C (131°F) with humidity tolerances all the way up to 95% (See Figure 6).

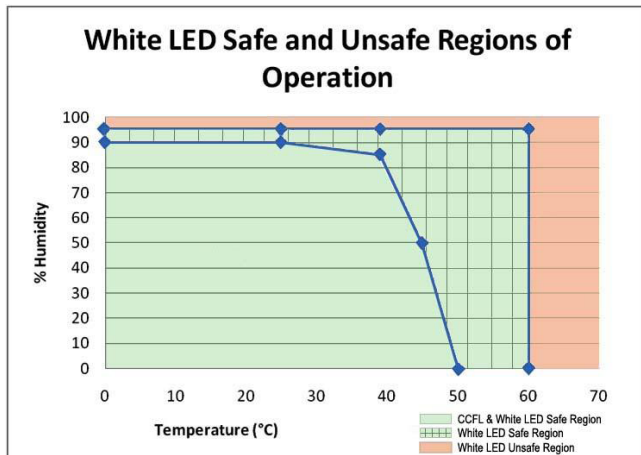*Figure 6: Relative Humidity Tolerance of White LED backlit HMI's. Note: Areas under the plot represent a safe region where as area over the plot represent unsafe regions of operation for White LED backlit HMI's.*

One of the key advantages of LED-based lighting is its high efficiency as measured by its light output per unit power input. Standard Touchscreen HMI brightness is often measured in the industry by the amount of NITS (lumens / sq feet). With White LED backlights, HMI's normally exhibit roughly 400 nits as compared to the CCFL backlit LCD displays at roughly 200-300 nits. Hence, with a white LED backlit LCD, not only does the life-span of the backlight increase two fold, the brightness of the display is also enhanced dramatically. Another important advantage of white LED backlit HMIs as compared to CCFL ones is the fact that if a CCFL bulb goes out, the entire LCD display is completely blacked out making it impossible for the operator

to read the HMI. With a White LED backlit HMI, if one of the many LED's burns out for whatever reason, the display may get dimmer but it can still be used for important machine operation. With HMIs being used in all different types of applications and environments both indoors and outdoors, these key advantages that the White LEDs have to offer over CCFL based backlights have become more and more important with today's operator interface choices.

In Touchscreen HMIs for industrial use, EZ Automation offers the only White LED HMI, with 75k hrs of life at 55°C and 95% humidity. It is the only HMI manufacturer that offers 4",6",8",10" and 15" HMIs with White LED backlight, extending the typical life of an HMI to 8-10 years, as compared to 4-5 years at 35°C and 2-3 years at 50°C for HMIs with CCFL bulb.

All current HMIs from Automationdirect, Rockwell, Maple, Proface, Schneider, Siemens, Mitsubishi, Omron, Red Lion and others have CCFL backlight.

EZTouch
Highest Value HMI as chosen by Control Engineers

EZTouch since its introduction in 2001 has been voted by Control Engineers of North America as the Highest value HMI for its easiest to use programming software & dazzling graphics. Every year we have added new features to this product line, including White LED Backlight. Some of these features are highlighted below:

» Pass-through programming to any PLC
» Program upload from USB
» Exclusive Data collection object - Store in USB
» Remote Monitoring & Control
» Safety/Redundant HMI feature built-in
» Screen Print command for 21 CFR part 11 (FDA)
» Exclusive on-line editing of HMI screen
» Exclusive built-in Photo Editor
» Almost universal connectivity including DH+ and RI/O
» Free symbol factory, with 4000 symbols.
» Object level password protection (up-to 8 levels)
» Trending objects, such as line graphs, meters and bar graphs, also with floating point support
» Fastest Screen Design » FDA compliant
» Built-in antiglare screen » Animation objects
» Project simulation   » Modem support
» Unicode Support   » Visibility control over objects
» Design protection for OEM/SI
» Outdoor Readable Models
» Event triggered Email notification
» 2GB of local data storage on SD Card

CONTROL ENGINEERING

2014 ENGINEERS' CHOICE AWARDS

WINNER

Program this Screen in less than 10 minutes

EZ as 1-2-3

Innovate'n'Save™

NO COURSE EZ SOFTWARE REQUIRED

> ▶ **Play** — EZiest, Fastest Programming Software Video of Example

EZTouchPLC has earned it's name!

We named it EZTouchPLC HMI for a reason. We made an easy to use, simple operator interface that will save you a lot of engineering hours and design time due to its simplicity and ease of use. You don't need prior programming knowledge to design a screen. You do not need to attend any classes to learn how to program the EZTouchPLC HMI.

It is Intuitive, it is Simple!

The only assumptions are:

• You are familiar with Windows-based environments

• You have a good understanding of your PLC memory's address formats

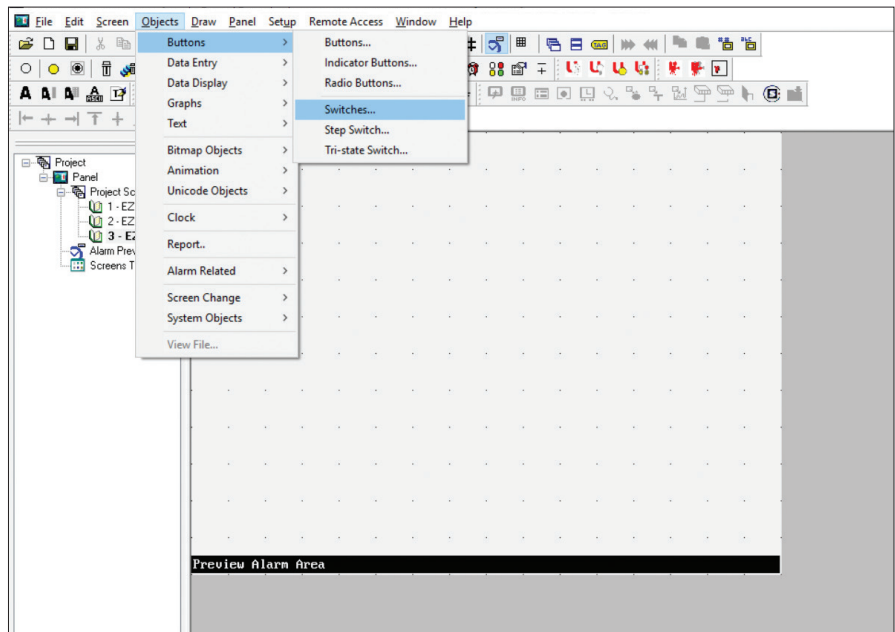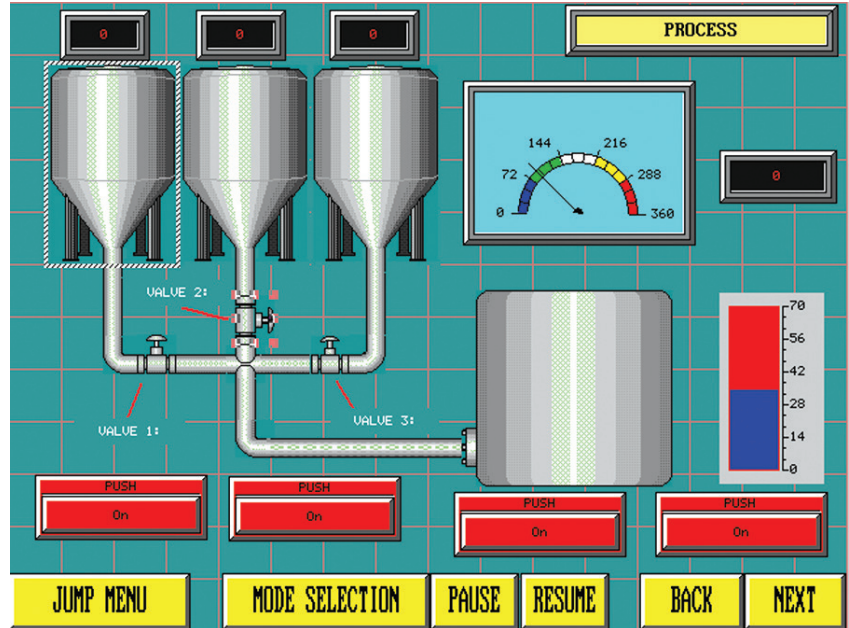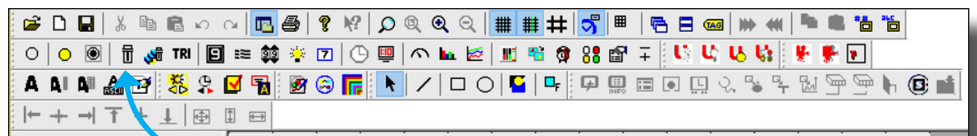The following example shows just how **EZ** it is to create an object:

1 Select an Object

A) Click on "Objects" on the main menu bar.

B) Select the object you wish to create. In this example, click on "Buttons => Switches".

You may also select an object from the tool bar below the main menu.

Tool Bar

Or select switch object from the tool bar

2 Fill in the Dialog Box

A) Click the style of switch you wish to use.

B) Select "Label Text". This will allow you to name and customize the object.

C) Select or create a PLC bit address tag that the "Switch" will activate.

D) If you need password protection, click on the "Protection" tab at the top of the dialog box.

E) If you wish to keep this object invisible until a PLC tag is triggered, click on "Visibility/Details".

Visibility will be discussed later in detail.
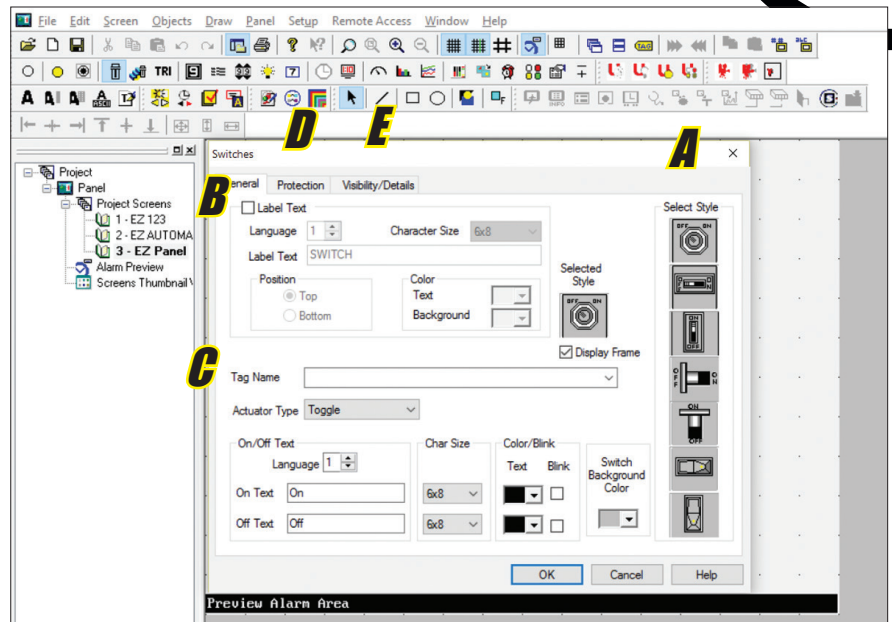
3 Placing the Object

Click your mouse on the screen and stretch the object to your desired size. If you want to edit the object again, simply double click on it and the configuration dialog box will reappear. There is even a "Simulate" button on the dialog box for some objects so you can see how objects will work in real time.
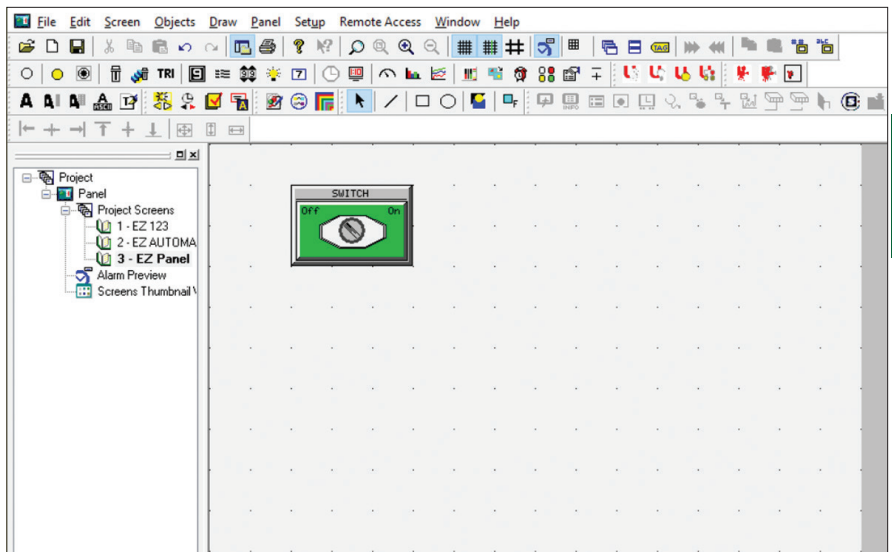
PERFORM THE PREVIOUS STEPS FOR DIFFERENT OBJECTS AND YOU HAVE DESIGNED YOUR SCREEN!

Designed from Ground up to Simply be the EZiest Software to Program TouchPLCs
You do not have to spend $1300 or attend a 3 day course to learn how to program an operator panel!

Allen Bradley recommends attending their course number RS-RSVMETRG for developing skills needed to create and configure their panels even for small machine/process

EZ has widely been recognized as the Easiest to program software in the industry. More than 50,000 companies and over 200,000 Automation Control Engineers have used our software without having the need to attend even a one hour tutorial. In designing this product to be sold through the direct business channel without any local hand holding or training classes, we had to design this software to be so intuitive that even a first time user can get it up and running in a couple of hours without opening the software manual.

Fastest Screen Design ... We Dare Compare!!

Most HMI vendors tout their programming software to be easy to use. So we offer you a challenge. If you can create the sample guage faster than EZ can, with a competitor's software, we will give you our software 'FREE'

## EZ Screen design challenge ...

So here is the challenge: Design a pressure gauge from one of the pre-built objects, select its range, select its color, design its label, transfer it to the real Touchpanel to see how it really looks, change its color, transfer it to panel again, change the font on its label and transfer it to the panel the third and the final time. Clock the time!!

We pre-defined the steps for EZTouchPLC, C-More and Panelview, practiced the steps and had the same person do this exercise, here are the results...

**EZTouchPLC: 33.6 sec   C-More: 72.1 sec
Panelview: 186 sec**

▶ **Play**

EZiest, Fastest Programming Software
Video of Example

Meter created on the screen

Meter is now on the EZTouchPLC HMI panel
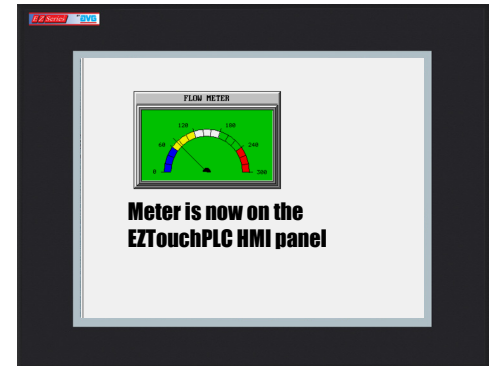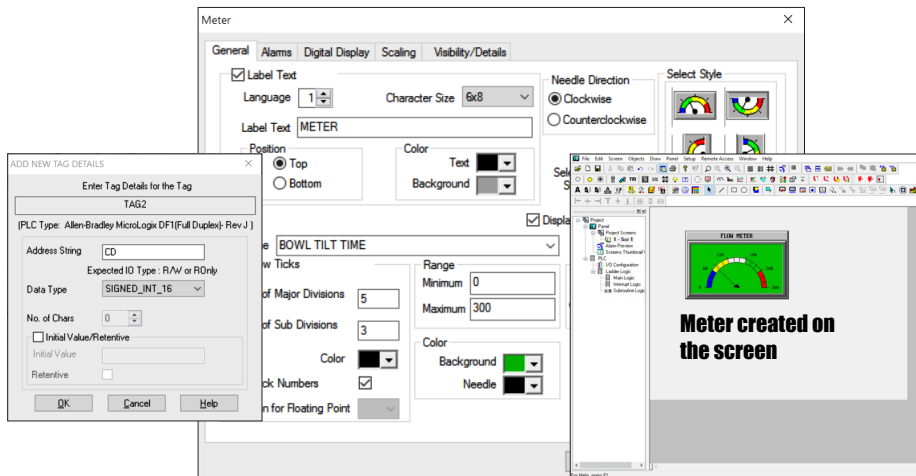
Beat "33.6 sec" and your software is "Free"
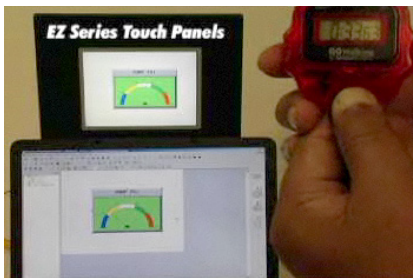
The Cost for incorporating a PLC HMI Touchpanel in a project consists of
1. Hardware Cost
2. Programming Software Cost
3. Time to Program / design the screens

Sometimes the 3rd cost far exceeds the first (hardware) cost. For example, you may pay $500 for the Touchpanel hardware, but it may take you three days to design the screens. At even a low rate of $50 per hr., that will be $1200 for screen design. Assuming the cost of software also to be a low number of $99, the total cost of implementing the project will be $1799. If the screen design time could be reduced to one day, the cost will come down to $999, saving $800 on the project!

1. Hardware Cost	$500	$500
2. Programming Software Cost	$99	$99
3. Time to program / design the screens	$400	$1200
Total	$999	$1799

EZTouchPLC HMI offers the lowest project implementation cost of any HMIs on the market

1-877-774-EASY

Start-Up New Application in Less than 1 Hour
Unique Online-Programming

THEIRS

1. Create Screen - 20 minutes
2. Compile and Download to Panel, minimum 5 minutes
3. Check it out on the Panel
4. Change colors, fonts, object sizes an average of 4 times, 5 minutes each

Time to develop and finalize one screen - 60 minutes

Create Screen

Compile... Download... Compile... Download... and Compile... and Download... Compile... and... Download Compile.....................

60 minutes
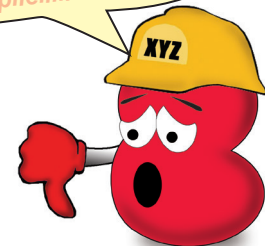
Innovate'n'Save™

OURS

1. Create a couple of objects
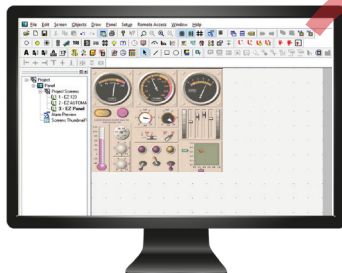2. Click Save (also transfers to panel instantaneously) to see how they look on Panel
3. Add more objects, click save again

NO COMPILATION OR DOWNLOADS!

Time to develop and finalize one screen - 10 minutes

Create Screen
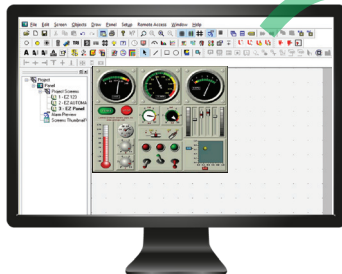
NO Compilation or Download Just Click and Save to Panel

10 minutes

JUST MAKING IT EZ

It's like developing screens right on your panel

You know the power of On-Line programming if you deal with machine/process start-up
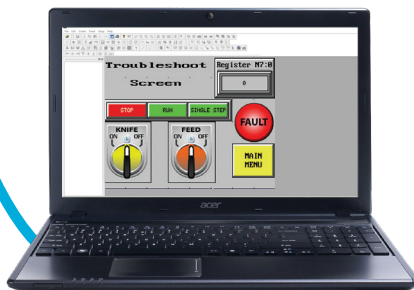
During machine start-up, you can simply plug your computer into Panel's Programming Port and:
1) Create a Troubleshoot screen
2) Create a troubleshoot button on main screen.
3) Disable critical outputs
4) Monitor registers and/or specific bits in your ladder logic... *without ever having to shut down the machine!*

1 Connect Computer to Panel
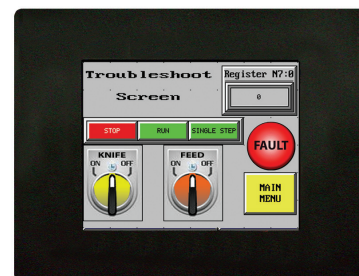
2 Create a temporary Troubleshoot Screen in "Edit On-Line" Mode

3 Troubleshoot without ever having to shut down the machine

Eliminates the need to go through hundreds of ladder rungs to troubleshoot the logic

It's like having a FREE On-Line Debug Tool

Compare Our Response Time
Patent
Pending
and Screen Update Time
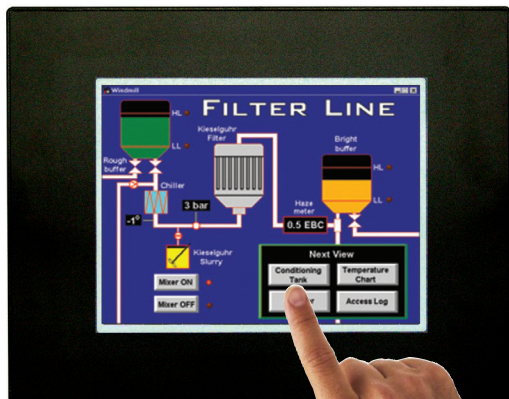
Switch between screens in less than a second!
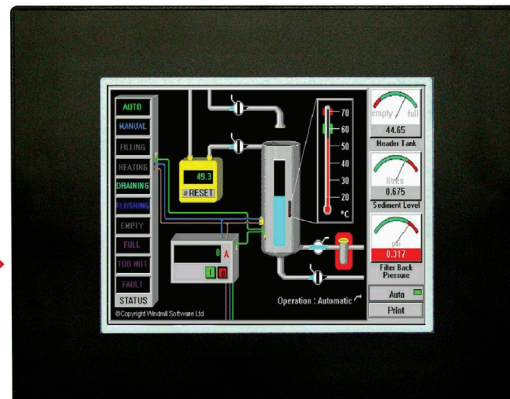
TYPICAL 0.75 SEC and not 2-3 sec. like theirs

That's REALLY Fast!

We certainly won't lose panels due to Operators pounding on buttons!

Fastest Response to Touch Input

Because of the use of vector based graphics and a dedicated OS, EZTouchPLC are universally recognized as having the fastest response to touch inputs, typically less than 3/4 of a second even with complex screens. This means no waiting and also less wear on a panel from operators pounding an object on a screen waiting for a response.

Innovate'n'Save™

EZ
MAKING OPERATORS HAPPY

EZTouchPLC, SENSIBLE and Operator Friendly
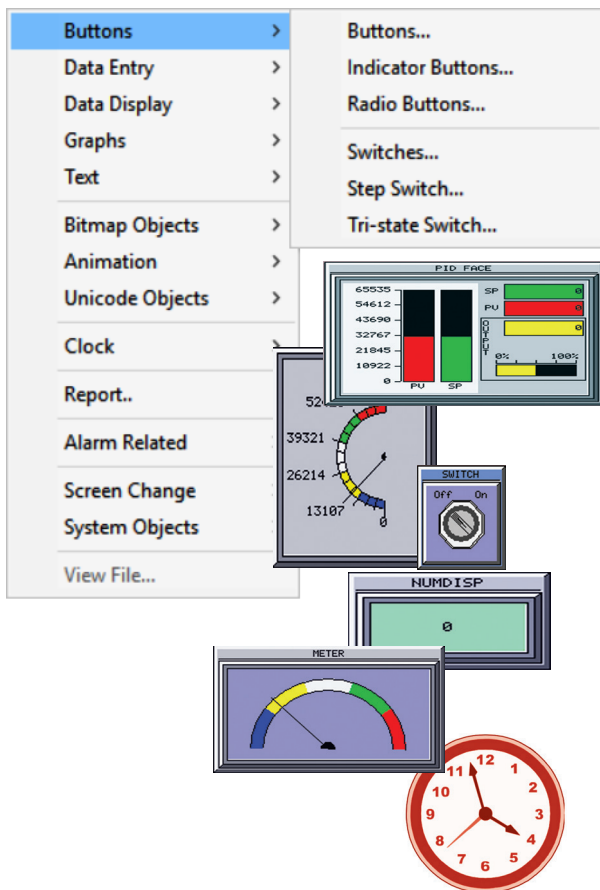
Dazzling Graphics & 65K Colors

Though extremely easy to configure, these touch panels are much more than push-button & pilot-light replacements. These panels provide high-end panel components & compelling real-life graphics that you would normally expect only on an expensive PC-based software HMI. Additionally, with 65K colors, blinking abilities, and extensive bitmap support, the unit offers dazzling graphics that would please any discerning user.

Pre-Built Panel Components (copyrighted)

In addition to pushbuttons, indicator lights, numeric entry and displays, the EZTouchPLC HMI offers panel components such as Analog Meters, PID Faceplates, Bar Graphs, Trend Graphs, Alarms, Recipes, Radio Buttons, Thumbwheels, a variety of Switches, and a rich library of Bitmaps.

Also, the user can select from a palette of 65K colors for all these components. Each color can be selected to blink in order to create components that will grab the operator's attention.

Wide Range of Data Entry Tools

The EZTouchPLC HMI also comes with a wide range of data entry tools to allow an operator to easily enter both text or numeric data.
• A pop-up ascii keyboard, allows operators to enter part numbers and/or leave messages on the panel for another operator.
• A pop-up numeric keypad allows operators to set passwords, reset set-points and other data variables.
• Don't like numeric keypads? No problem, we also support pop-up thumbwheel switches, just like those old mechanical one's.

POP-UP Keypad allows you to enter data into a pre-defined PLC register.
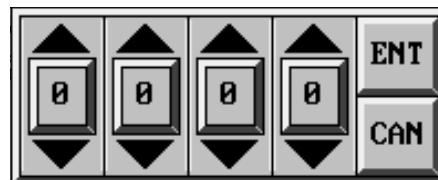
POP-UP Electronic Thumbwheel emulates a mechanical thumbwheel switch.

Simple to Use, Yet Feature Rich
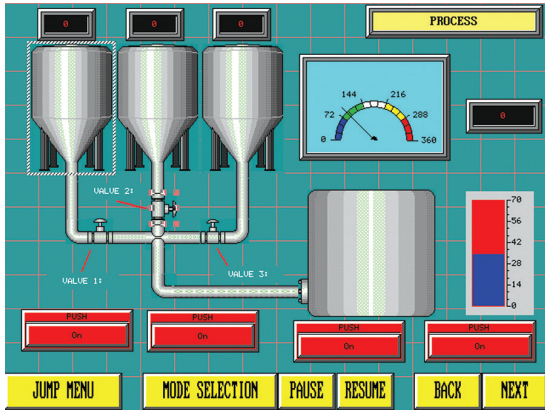
Freely Overlap and Size Objects

Freedom to overlap and size objects is now a standard feature of the EZTouchPLC Programming Software. You can take any combination of the objects mentioned above and overlap them on the screen, which means an operator can stick to one screen without having to navigate through several screens to execute a specific operation. Also, objects on screen are no longer restricted to the touch cell grid and can be resized freely.

Innovate'n'Save™

Multiple Languages

With multiple language capabilities of EZTouchPLC, you can now program the text for Panel components in up to 9-different languages. This means English reading operators can work with the panel in English, while the Spanish proficient operators can work in the Spanish language on the same panel. Also, with up to 9 different languages, OEMs exporting to other countries can develop programs to cover many of the commonly used languages.

Spanish and Chinese GUI

EZTouchPLC HMIs not only have multiple languages for operator messages, they have the option of panel setup as well as screen creation in Spanish and Chinese.
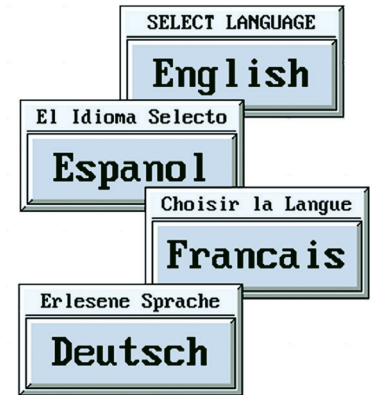
Multi-state Indicator & Bitmap Button

The multi-state indicators allow you to visualize process conditions, such as three states of a traffic light. EZTouchPLC also offers Bitmap-based multi-state indicators, where you can use up to 256 bitmaps to indicate 256 different conditions. The bitmaps allow you to design very intuitive screens.
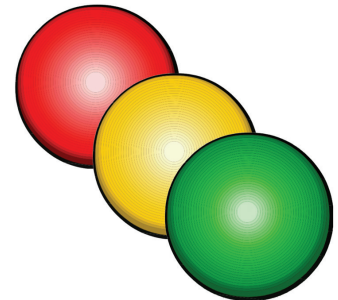
Password Protection

The EZTouchPLC offers comprehensive alarming tools, allowing you to trigger alarms based on events (Bits) and values(registers), with the values being monitored for a variety of conditions (in/out of range). The alarm history also stores details of alarm counts where all this information can be printed or logged. Also, the EZTouchPLC offers the flexibility of not only password protecting your alarms, but also every object.
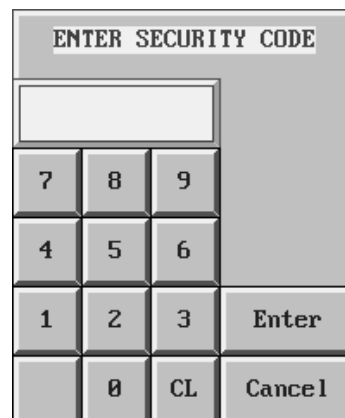
Eight levels of password security for every input object.

Exclusive On Screen Recipe Edit without Laptop

Patent Pending

Current Methodology of Recipe Editing

Current technology in HMI/Touchscreens requires changes to recipes in the programming software on a PC. This is a very tedious and time consuming process as it requires several iterations of Trial-n-Error before optimum "ingredients" of a recipe are discovered.
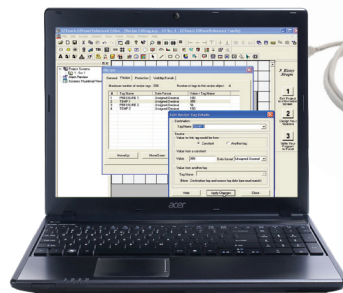
Trial-n-Error... Trial-n-Error... Trial-n-Error... Trial-n-Error... Trial-n-Error... Trial-n-Error... Trial-n-Error... Trial-n-Error Trial-n-Error..................

Coffee Bean Roasting Recipes

COFFEE BEANS — Full Flavor Recipe
COFFEE BEANS — Dark Roast Recipe
COFFEE BEANS — Decaffeinated Recipe

XYZ

NEW! EZAutomation On-Screen Recipe Editing ... *Innovate'n'Save*™

When recipe editing is enabled, pressing a recipe button invokes the "EDIT RECIPE MENU". In this menu either FINE TUNE (make recipe changes and download to PLC in real-time) or EDIT OFFLINE (make recipe changes and save to panel; download to PLC later).

Coffee Bean Roasting Recipes

COFFEE BEANS — Full Flavor Recipe
COFFEE BEANS — Dark Roast Recipe
COFFEE BEANS — Decaffeinated Recipe

Edit Recipe

Fine Tune
Write the selected recipe to the PLC and allow value changes online.

Edit Offline
Do not write the selected recipe to the PLC but allow editing and saving the recipw in the Panel.

Exit
Exit without editing.

As you Increment or Decrement the ingredients of a recipe, changes are made to the PLC instantaneously. Fine-Tune your process on-the-fly!
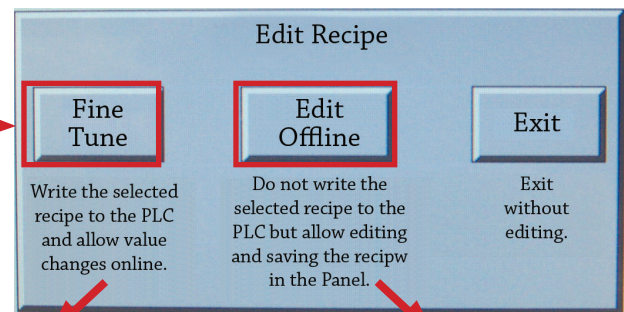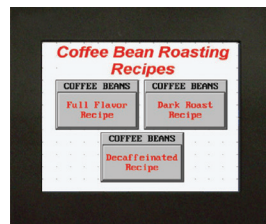
EZ

JUST MAKING IT EZ

FINE TUNE RECIPE

| TEMP 1 | 102 | TEMP 2 | 150 |
| PRESSURE1 | 99 | PRESSURE2 | 150 |

+ — Exit

	TAG NAME	CURRENT	NEW
1	TEMP 1	100	102
2	TEMP 2	150	150
3	PRESSURE1	99	100
4	PRESSURE2	150	150

Change   Save   Cancel
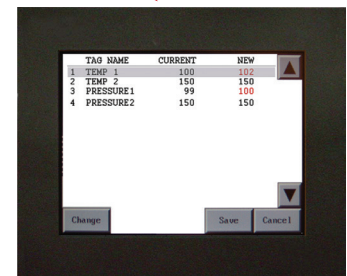
Make changes to multiple ingredients on the Touchscreen with ease! When finished, save to Panel and download to PLC

Basics of Recipe

What is Recipe?
In the programming software, a single push to the Recipe object allows you to download a set of variables (memory table / Data Table) to the PLC.

What kind of variables can you store in a Recipe?
Any data type supported by the Touchpanel (Discretes, Unsigned Integers, Signed Integers, Floating Points, ASCII, and BCDs).

How many variables can you have in a Recipe?
A single Recipe can have up to 200 variables in it.

Enabling Recipe Editing
In the programming software under Setup Menu > Project Attributes > On Panel Recipe Edit Tag, define a tag and create a button for the same to Enable or Disable the recipe editing.

On Panel Recipe Edit Tag
When you press recipe button, the value of On Panel Recipe Edit Tag determines the course of action to be taken. If the tag value is 1, recipe button goes to the Setup Mode where you can either select Fine Tune or Edit Offline mode. Otherwise, if the tag value is 0, it just writes the current recipe values to PLC.

Real Time Animation Objects

Great for the machine operators to view and understand the tool <u>motion</u>, <u>machine</u> status or the whole process in real time

Single Position
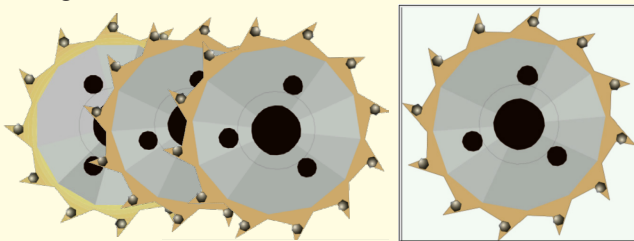
How does a Single-Position Animation Object work?

Single position animation allows you to display a sequence of images at a fixed location on the screen. The images in the animation can be updated either periodically, using a numeric tag, or when a discrete tag changes state.

For a Single-position Animation object, we have used 3 images of a mining tool. One image gets triggered, as per the tag value or set time interval.

Multi Position

How does a Multi-Position Animation Object work?

Multi position animation allows you to display a sequence of images at different locations on the screen. The images in the animation can be updated either periodically, using a numeric tag, or when a discrete tag changes state.

An operator would know the condition of the machine based on the colored bitmap which is displayed. Each image is associated with a tag value.

State Awareness

Off or Idle

Warming Up

On or Running

Caution or Malfunction

Down for Repair or needs Maint.

Creating a visual representation of the process
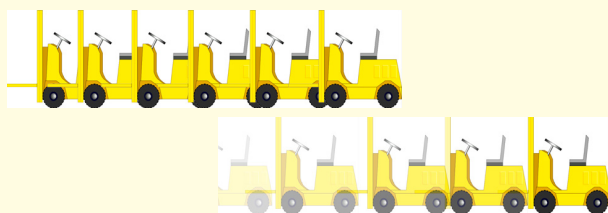
How to configure an animation object?

1. Select animation sequence control as to when the animation is triggered, either periodically (using a timed interval), using a numeric tag, or when a discrete tag changes state.
2. Select when animation occurs only once or continuously (loop control)
3. Select when to restart the animation sequence
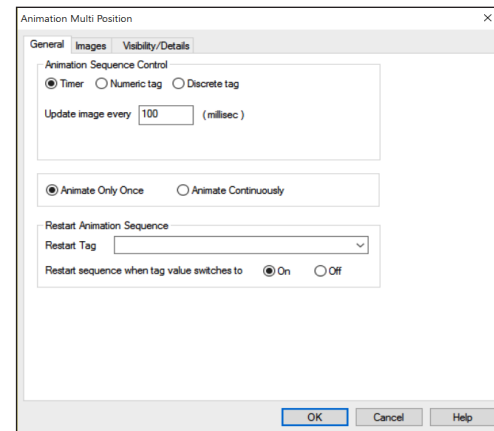
How to add images to an animation object?

The images tab allows you to add images that are required for the animation object. Each image is automatically assigned an increasing index number. The index number determines the sequence of display of images in case of timed or discrete animation control. Of course, you may also set your own dimensions (WxH), and replace and remove the images from the existing image list.
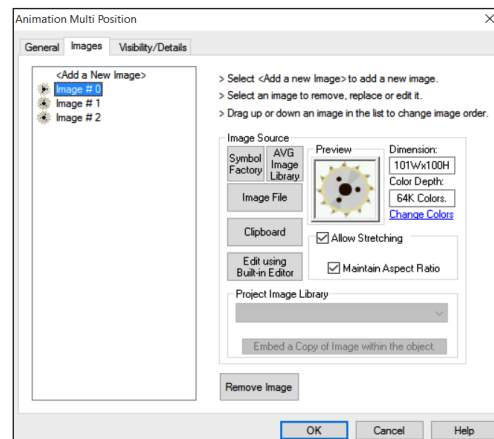
It's like animating process in real time

Unicode Universal languages

Great for the companies that are offering products to the international market

What are Unicode Objects?

Unicode objects are based on the Unicode Character Encoding System. There are four different types of Unicode Objects- Unicode Text, Unicode Indicator Lights, Unicode Indicator Buttons and Unicode Multi-state Indicator. These objects are exactly the same as their non Unicode counter part objects except with an ability to use international languages.

```
Unicode Text...
Unicode Indicator Lights...
Unicode Indicator Buttons...
Unicode Multi-state Indicator...
```

What is a Unicode System?

It is a character encoding system and can be used to create and place multilingual text using any font/script available on your PC.

Why use Unicode Text object vs. Static Text object?

Static Text object allows the user to display static text on a screen in only one custom font for EZTouchPLC with pre-set sizes of 6x8, 8x16, 8x32 etc., whereas with Unicode Text object, users can use any font in any size already installed on the user's PC. Unicode Text object also allows the user to enter static text in any supported International Language including complex script (e.g. Chinese) and right-to-left languages (Thai, Arabic etc).
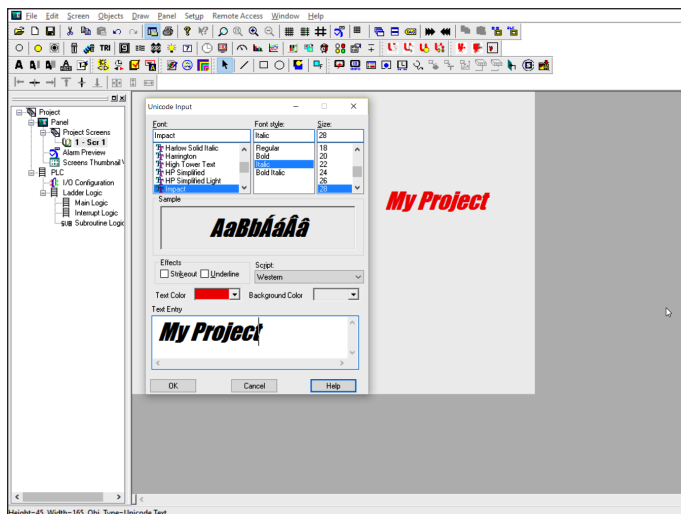
How to add Multiple Languages?

You may add different languages (Chinese, Hindi, Spanish, German, French, Japanese) to your PC through My Computer > Control Panel > Regional and Language options.

A language bar shows up on the task bar and makes it very easy to switch between the languages.
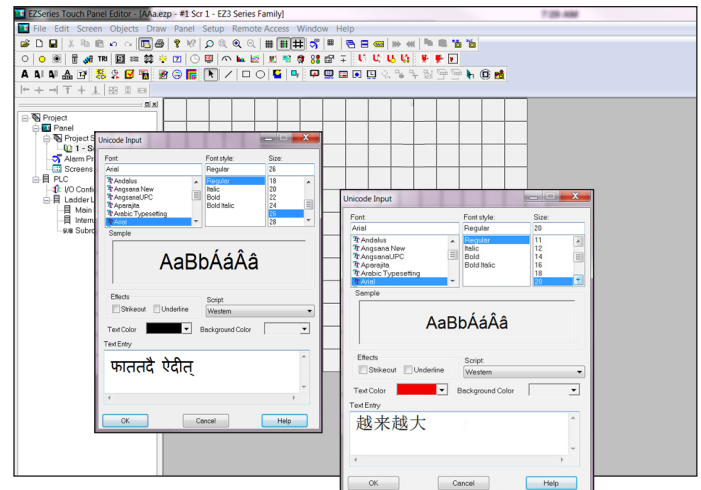
Further, Unicode allows the programmers to enhance the multi language capability of the touch panel objects.

Note: In order to enter text for South Asian languages (Thai, Vietnamese, Arabic etc requiring Cyrillic alphabet or right-to-left script) and Indic languages (Hindi, Tamil etc) you might need to install additional support on your PC. For entering text in East Asian languages (Chinese, Japanese etc) using U.S. keyboard you might need to install an additional Input Method Editor (IME).

EZ TouchPLC

Advanced Alarm Management

Advanced Alarm Management System comprises Alarm Database, Alarm Preview, Alarm History, Alarm Count, Alarm Protection, Send Alarm to Marquee and a lot more.

Alarm Database

Alarm Database is a snap shot of all the alarms and their attributes. It allows the user to add new alarms, edit the existing ones and embed PLC Tags in the alarm text. Max limit of alarms is upto 999. Alarm database can also be imported/exported to excel.
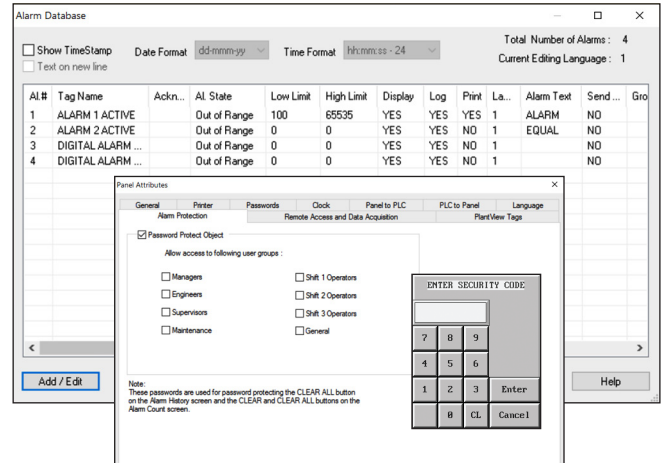
Triggering Alarms

Alarms are triggered by the associated PLC Tags. Our panel has advanced capabilities to monitor the state/value of the PLC Tags. If your data type is DISCRETE, you will be able to select whether the alarm will be displayed when the bit is On or when the bit is Off., whereas if the data type is other than discrete, enter the limits (low or high) and define a set of condition(s) to activate the alarm.

Alarm Protection

Use the Alarm Protection feature to limit access to the Clear All or Clear buttons on the Alarm History and/or Alarm Count screens. Operator will have to enter a password on the popup keypad to be able to use them.

Alarm Preview

To preview and edit the alarm text. Modify the size, position and the background color of the alarm window.

Project Simulation

You may verify the functionality of an alarm on the PC itself, obviously even before transferring the project to the panel.

Alarm Count

The Alarm Count lists all the triggered alarms and shows the total count for each alarm in a given period.

Send Alarm to Marquee

You may send the alarms to a single or multiple marquees connected to the RS232/422 port of the panel, just by configuring the COM1 port of the panel for PRINTER.

Position your Alarm messages anywhere on the screen
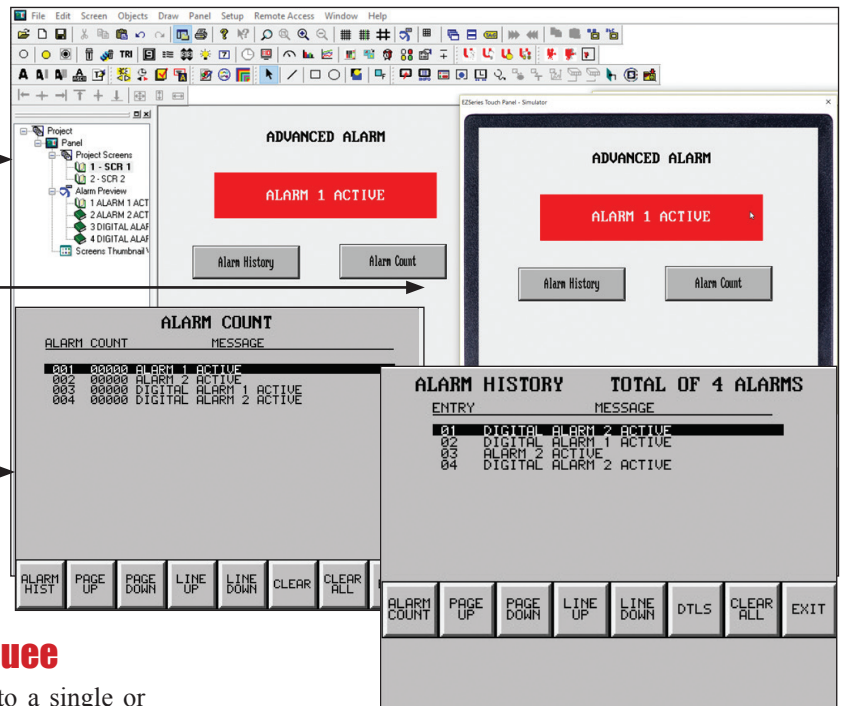
Alarm History

The Alarm History will show each alarm that has occurred with the most recent at the top. When you press the Alarm Detail button, you will get the Entry Number of the Alarm, when it was activated (time and date), when it was cleared, actual value, high/low limits, and which limit is tripped (HIGH/LOW/DIS). Alarm history can be exported/imported to excel.

Email and Text Alarm Messages

Advanced Alarm Management System allows user to program and send emails and text messages to various recipients based on a triggered or scheduled event/alarm .

① Email Server Setup
Program Authenticated or Unauthenticated Server details

Setup Email

Email Server Setup | Alarm Email Setup | Email Reciepents | Schedule Email

Outgoing Server(SMTP) 192 . 168 . 0 . 2   Domain Name Lookup
Port No. (SMTP) 25
Encryption Type None

☑ SMTP requires autentication
User Name EZAutomation
Password ezas123

② Alarm Email Setup
Setup Content of Alert for Email or Text.

Setup Email

Email Server Setup | Alarm Email Setup | Email Reciepents | Schedule Email

Sender email address EZAutomation@gmail.com   Send Test E-Mail

Alarm Email Setup
Subject Line: Alert: Stacker#4 Down
☑ Append Alarm Message to Subject Line
Email Body (Max 1000 char including Alarm message if appended)
Maintenace Alert Code 1383

☐ Append Alarm Message Details to Body

OK   Cancel   Help

Setup Email

Email Server Setup | Alarm Email Setup | Email Reciepents | Schedule Email

Alarm marked for emails, when tiggered, will sent to everyone in the list

Electrician@Ford.com
Supervisor@Ford.com
Plant_Manager@Ford.com
TAG [ASH HOUSE]

Add New Email Address
⦿ Tag
○ Constant
<< Add New Email

Edit Selected Email Address
○ Tag ASH HOUSE
⦿ Constant
<< Edit Selected Email

Delete Selected Email(s)

Setup Email

Email Server Setup | Alarm Email Setup | Email Reciepents | Schedule Email

Mail-Enable Tag
Mail Details
Subject Maintenance Alert
Body Boiler Room 52A needs routine maintenance

Insert in Body
Date   Time
Numeric Tag
Discrete Tag
ASCII Tag

Email Schedule
☐ Tag Based
☑ Scheduled
○ Hourly (at the top of the hour, e.g. xx.00 hours)
⦿ Specific Times (such as every shift)
7, 4, 12AM
Comma seperated times
e.g 8, 9:12, 10:00,11AM, 2PM , 2:2 PM, 22:2
○ Daily at 12:00 AM
○ Weekly On Monday at 12:00 AM
○ Monthly On 1 at 12:00 AM

Preview Body

Email Reciepents
☐ **Mail Reciepent**
☑ Electrician@Ford.com
☑ Supervisor@Ford.com
☐ Plant_Manager@For...
☐ TAG [ASH HOUSE]

OK   Cancel   Help

③ Email Recipients
Email recipients can be based on an ASCII tag address or a constant email address. The benefit of an ASCII tag address is that a user can modify the email on the HMI and NOT have to go to the programming software. (Useful feature for plant personnel change).

To send text messages, enter in the phone number under email recipient with the cell phone carrier they have.

Example: 630-555-5215@sprintpcs.com
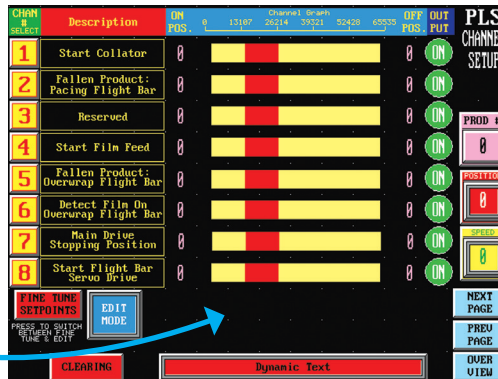
④ Schedule Email
Emails Alerts can be programmed based on triggered events / alarms (Tag based), or scheduled timings. Certain messages can be programmed for individual recipients only (i.e. managers), while other messages go out to all plant operators/electricians. Messages can be programmed to specific times such as Shift Changes, Daily, Weekly, or Monthly.

Unique Visibility Tags - Allows Objects to be Hidden for Maximum Utilization of Screen Real Estate

All objects have the unique ability to appear and disappear based upon both PLC tags, as well as internal tags. In the following example, we show one of the many ways Visibility Tags can be used to expand your screen.

*Here is how one of our customers used visibility tags to reduce the number of screens by 30%!*

1 Normal Run Mode
Operator does not have access to changing PLS setpoints.

2 Setpoint Edit Mode
PLC "PROG_MOD" Tag makes three additional objects appear on the screen. "ON POSITION", "OFF POSITION" and "Updating Setpoint" objects are programmed with "PROG_MOD" variable as their Visibility tag.
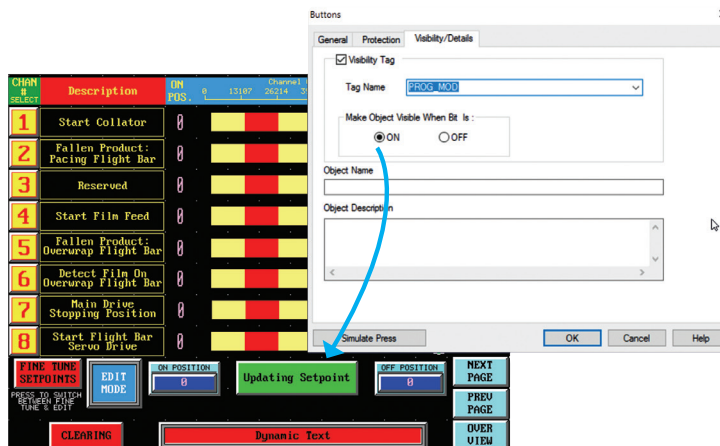
3 Fine Tune Mode
PLC "FINE_TUNE" Tag makes Fine tune objects replace the updating setpoint object. Panels without visibility tags would need screen real estate for both "PROG_MOD" objects and "FINE_TUNE" objects. Visibility tags thus save a tremendous amount of screen real estate. Its not unusual to reduce the number of total screens to half by virtue of this unique feature.

Innovate'n'Save™

REDUCE # OF SCREENS BY HALF
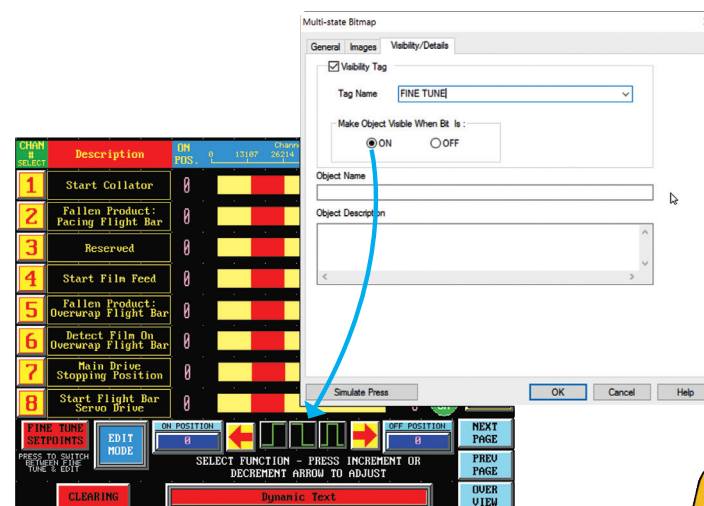
EZTouchPLC Programming Software

Overlapping of Objects

Many times, an operator will want a great deal of information available on one screen at any given time. Getting all this information to fit, however, can be quite a task. Allowing objects to overlap is just one more way you can save a great deal of screen real estate.

Now you can overlap objects, for example a numeric indicator, on top of other objects such as dynamic bit maps or meters!
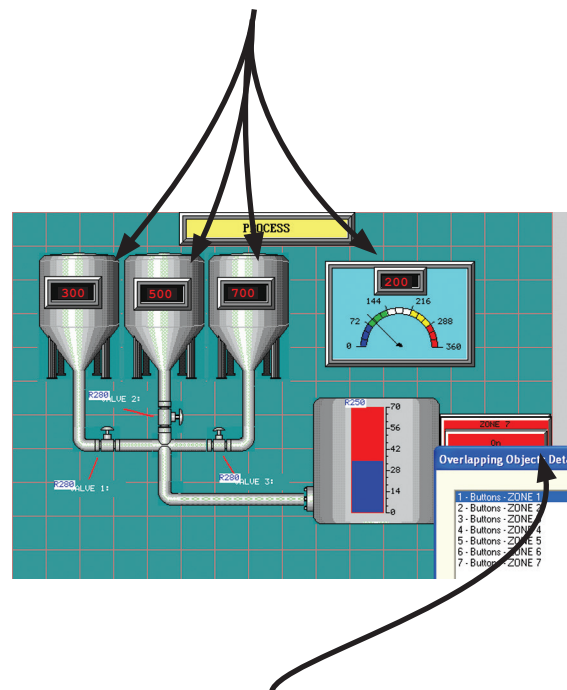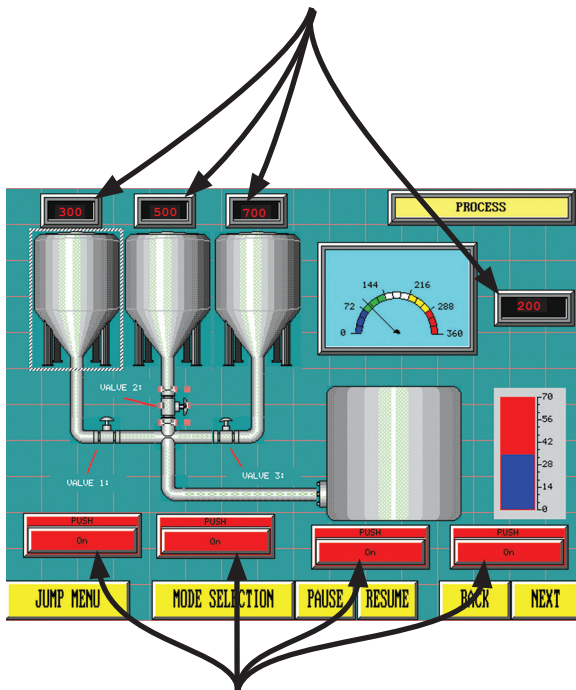
Recipe buttons can be overlapped to change up to 40 operations at a time.

Free Sizing of Touch Objects

EZTouchPLC HMI's Enhanced programming software allows the free sizing of all objects without snapping to the grid or the actual object itself snapping to certain dimensional sizes. You can make all objects as large or as small as you want them to be.

EZTouchPLC Programming Software

Easy as 1-2-3 Programming Software

EZTouchPLC programming software is by far one of the easiest to use programs available in the market. You have seen a presentation of our powerful objects in the last few pages. Now let's take a look at how easy and simple it is to create an object.

The EZTouchPLC programming software is just like any other windows application that comes with a main menu bar with pull-down menus, tear off toolbars with icons that have the hover-over description, a main window area where the screen is designed, etc. You can also build multiple screens at the same time and display them as tiled or cascaded in the main window, as shown in the examples to the right.
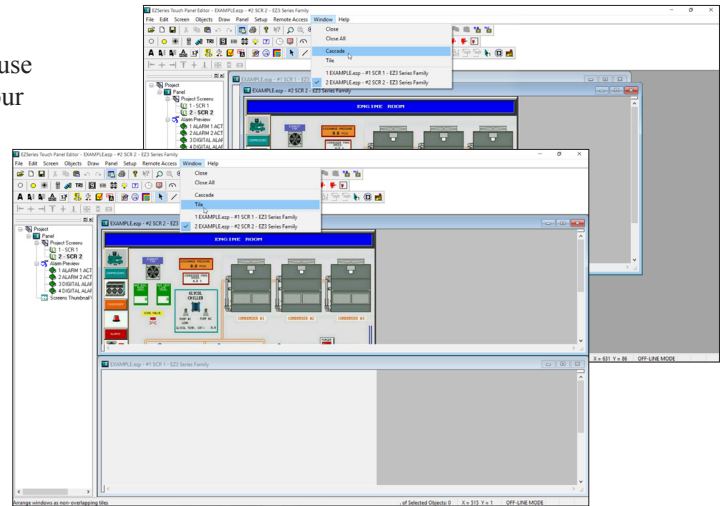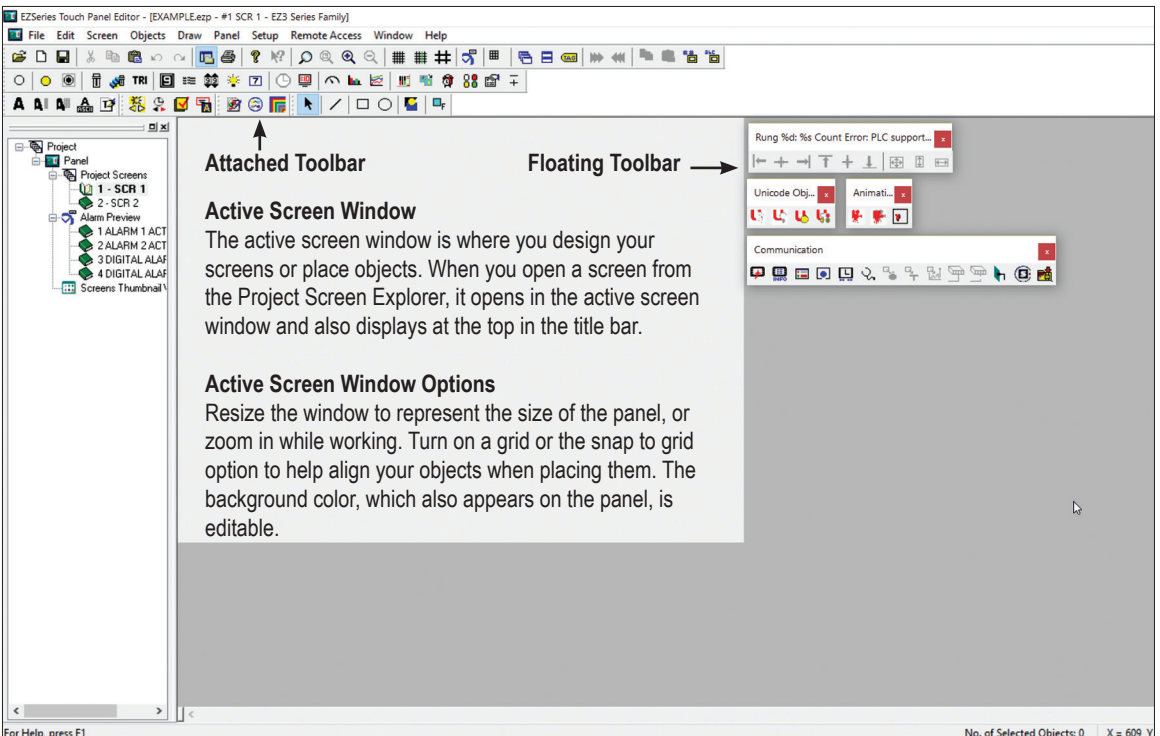
Toolbars and Icons

These toolbars, whether attached or floating, contain all the icons which represent the objects, which can also be selected through the main menu under Objects. Toolbars are fully customizable, and can be moved and resized to where you need them most. The example below shows how 3 floating toolbars (Basic Objects, Drawing Objects and Communication) have been created from pulling them away from under the main menu bar. The Communication toolbar below also illustrates how hovering over an icon will display a brief description. Click on an icon, and the associated dialog box will appear for you to begin building your object.

Main Menu Bar

Project Screen Explorer
This side window displays the screens that you have created within your project. To open and edit a screen, simply double click the name of the screen. The book icons also let you know which screens are currently open.

Attached Toolbar   **Floating Toolbar**

Active Screen Window
The active screen window is where you design your screens or place objects. When you open a screen from the Project Screen Explorer, it opens in the active screen window and also displays at the top in the title bar.

Active Screen Window Options
Resize the window to represent the size of the panel, or zoom in while working. Turn on a grid or the snap to grid option to help align your objects when placing them. The background color, which also appears on the panel, is editable.

Minimum PC Requirements
• Pentium, 133 MHz, CD ROM
• 128MB RAM
• 130 MB free disk space
• WIN95/98/2000/NT4.0/XP/ XP Pro/7/8
• Color SVGA 800x600 minimum 1024x768 recommended

Online Programming, *Patented*

Online program editing is one of the most powerful features of EZTouchPLC panel. It lets you program your panel 'Online' without losing any precious time uploading and downloading projects to a panel. Just connect your panel to your computer, select online programming, edit, and save your entire project while your panel is online with a PLC.

In case you missed our illustration of just how important and powerful this feature is, please review pages 5-11 and 5-37 as it explains in detail this huge time saving feature!

EZTouchPLC Programming Software

1 Using the Objects pull-down menu or an icon in the toolbar, select the object you want to create. In this example, we are creating an Indicator button.
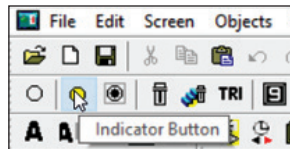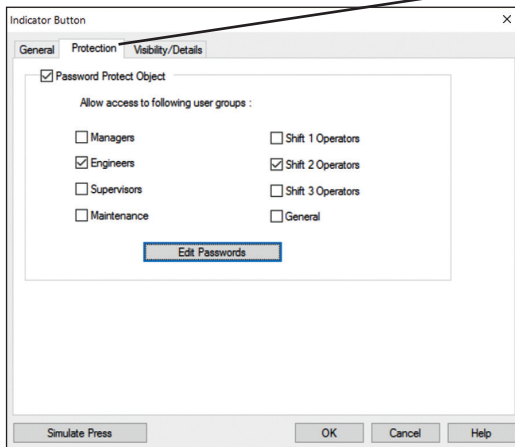
It's as EZ as *1-2-3* to Create an Object

2 Every object has an associated dialog box, as shown to the right. The different tabs at the top contain all the prompts for creating the object for your specific needs.
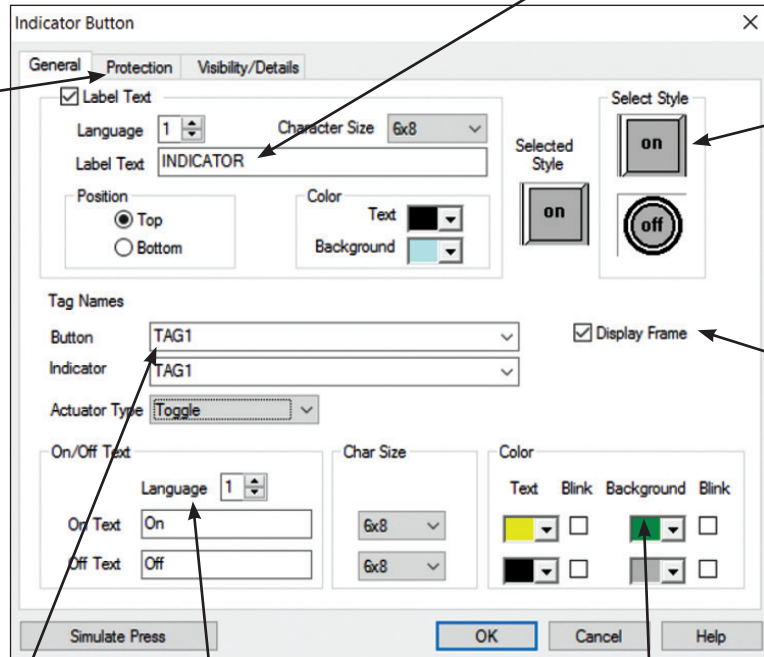
Custom label your objects to ensure that the objects purpose won't be mistaken.

Object configuration dialog box
(Options vary upon object selected)

Select the style in how you want your object to appear on the screen.

Display frame gives an object that desired 3D appearance, which can help differentiate it as a button. (Example shown at step 3)

Password Protection
Allow only authorized users or certain groups the appropriate level of access with password protection, as shown above.

PLC Addressing
Type in the tagname and then right click on the name you just typed. This will bring up the dialog box to the right, to enter the appropriate PLC address string and data type, which determines how the object links to the PLC.
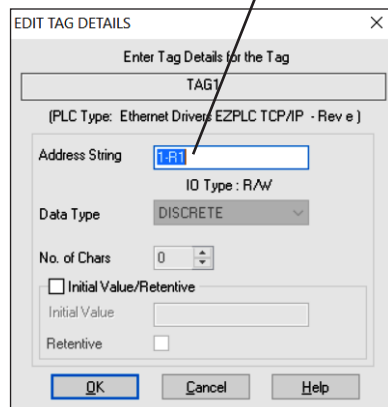
Color Palette
With 65K available colors for an object's text, background, label and more, making an object stand out or look as part of an organized grouping or category is easier than ever.
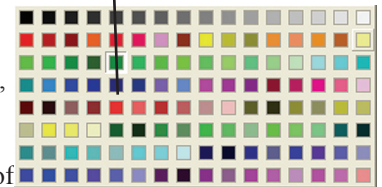
Nine Different Languages
With EZTouchPLC HMI's multiple language capabilities, you can now program the text for Panel components in up to 9-different languages. This means English reading operators can work with the panel in English, while the Spanish proficient operators can work in the Spanish language on the same panel. Also, with up to 9 different languages, OEMs exporting to other countries can develop programs to cover many of the commonly used languages.
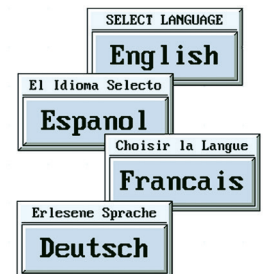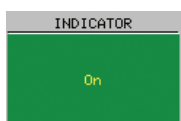
3 Once you are done creating your object, simply click OK and then click on the screen. Resize and move your object as needed. If you feel an edit is necessary, no problem! Double click the object and the dialog box will reappear. It's that EZ!!
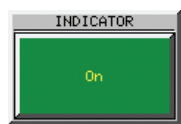
with Display Frame

without Display Frame

EZ TouchPLC

EZSeries Programming Example
EZ as 1-2-3

1 The startup screen would provide you with options for creating and opening projects. First, choose the configuration mode: Edit offline, Read from Panel, Edit Online. Then enter your system parameters by typing in the fields or using the pull down menus.

Select the configuration method from our "Online, Read from Panel, and Edit Offline" options.

Enter system information and use the drop down box for correct selections.

Click OK when you're done!

2 Once you select your options and your new/previously developed screen is open, you are ready to start creating your project using our easy to find toolbar or menu's.

Select any of the 33 objects available in the toolbar or from the Objects Option in the Main Menu Bar

3 Easy Steps are displayed on the right hand margin of the window at all times. Just click on them anytime you need assistance.

Complete the Dialog box (on the right)

And the PLC assignment (below)

Meter created on the screen

3 Click the "Write Program to Panel" button, click OK, and you're done!
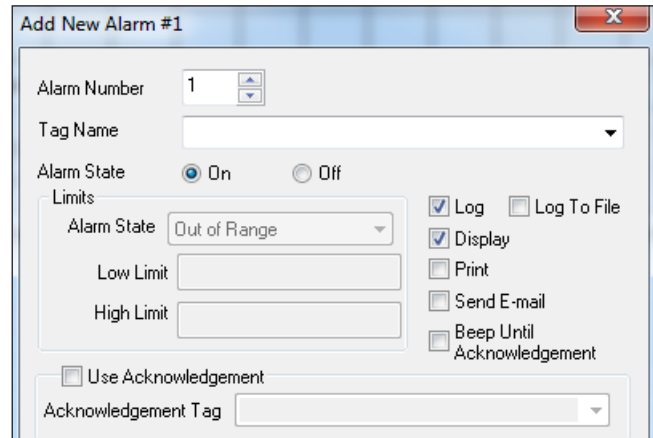Or just click Save if in Online Mode.

Write program to panel meter

EZTouchPLC Alarm and Data Logging Features

NEW *Convenience Features*

EZTouchPLC Programming Software is also compatible with the original EZTouchPLC. This enhanced programming software supports all the new PLC drivers as well as new convenience features requested by our customers.

Alarm Logging

Now with EZTouchPLC HMI Alarm Logging to USB port is just easy. Select the "Log to File" feature on the New Alarm setup window and save the alarms on the USB flash drive in .csv file format.

Data Acquisition on USB Flash Drive or Micro SD Card

EZTouchPLC HMI will schedule your Data Acquisition directly on to the USB flash drive or Micro SD card. This feature helps you collect the data from panel to PC at your convenience.

USB Program Uploader

This feature helps you save your entire project as a .hmi file which can now be copied on to the USB flash drive. When plugged-in to your EZTouchPLC HMI USB port the panel automatically transfers the program to the panel thus your panel is up and running.

New Updated Symbol Factory

Be Creative, Display Hi-Resolution Images

Hi-Res

Colorful

Image Library
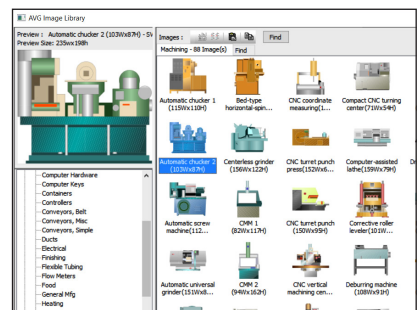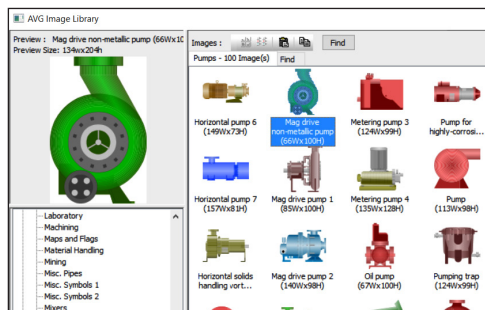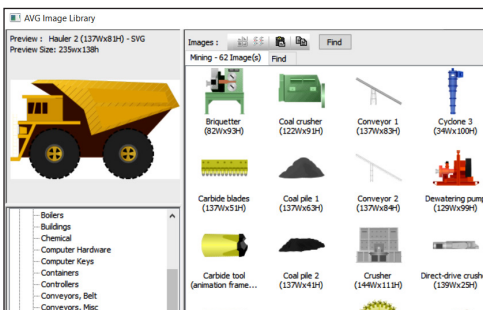
EZiest to Use Programming Software
With Built-in Photo Editor at no extra cost!!

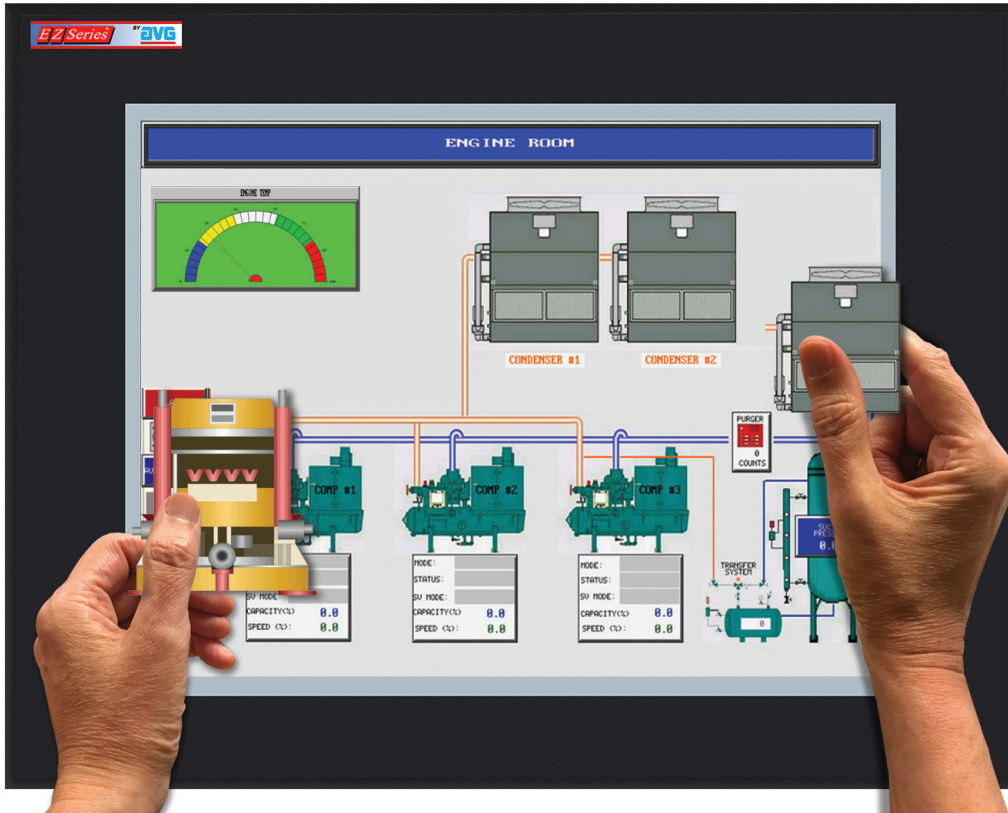The EZ Series Touchpanel editor has raised the bar further in HMI software by including an exclusive, advanced, patent pending, bitmap photo editor that allows any bitmap being imported (such as from the 4000 symbols library) to be edited almost like "Photoshop" within the EZ Software itself.

It eliminates the need to :
1. Have "Photoshop" or "MSPaint" program installed on your computer
2. Bring the bitmap into "Photoshop", edit it and then import it back to the HMI program

Innovate'n'Save™
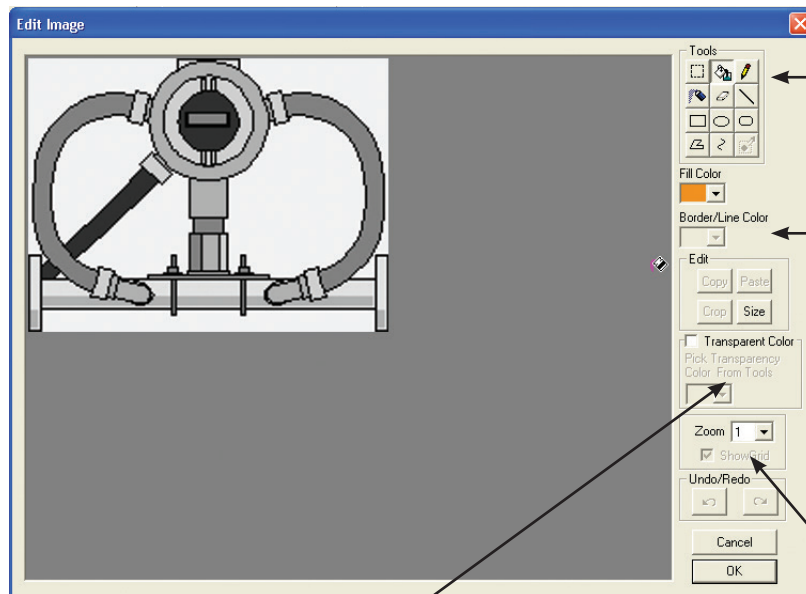
Built-In Shapes, Drawing Pencils, Spray Cans, Eraser and more ...
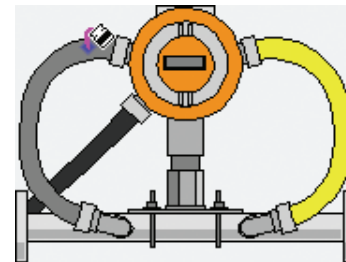
Fill Color
Fill the color on the bitmap of your own choice from the color palette.

Zoom Tool
Zoom tool has 1 to 4 level, making edits in tight spots no longer a problem. For pixel-per-pixel level detail there is a zoom level 4
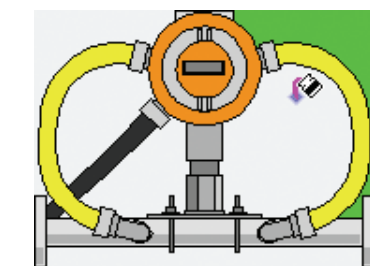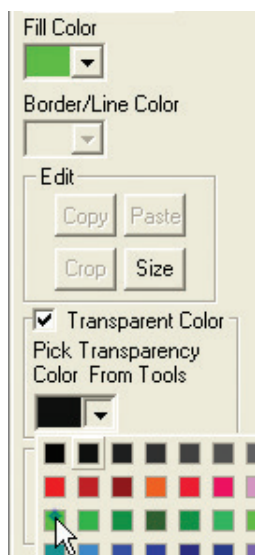
Transparent color
The transparent color is used to make all areas of that color which is the same as the fill color to be invisible or transparent.
In the above example the green fill and transparent color makes it invisible or transparent.
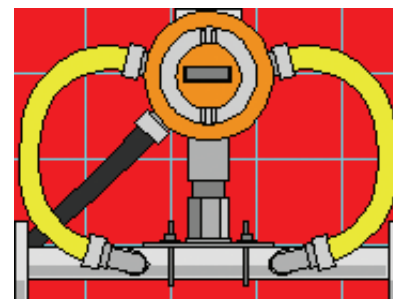
Final bitmap Image
The built-in photo editing feature in EZTouchPLC software eliminates the need for photoshop on your PC

EZTouchPLC Programming Software

Innovate'n'Save™

Display of Tag Addresses on Objects

The PLC addressing uses Tag names, so that you can associate meaningful, easy-to remember names to the addresses. Additionally, tags are useful if you use different PLCs with the same HMI program. You will only need to design the HMI program once! Then just change the tag definitions to match the PLC you have to use - a wonderful time saving feature!
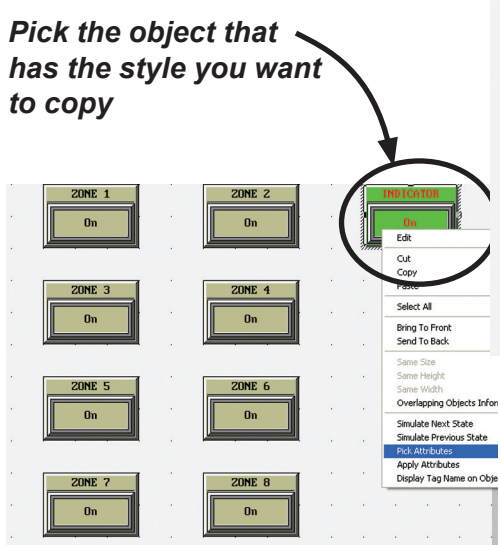
The enhanced ability to display tag addresses on the objects allows EZier screen development and troubleshooting. Here we are showing the tag address for block transfer on AB's Remote I/O.

Pick and Apply Styles...
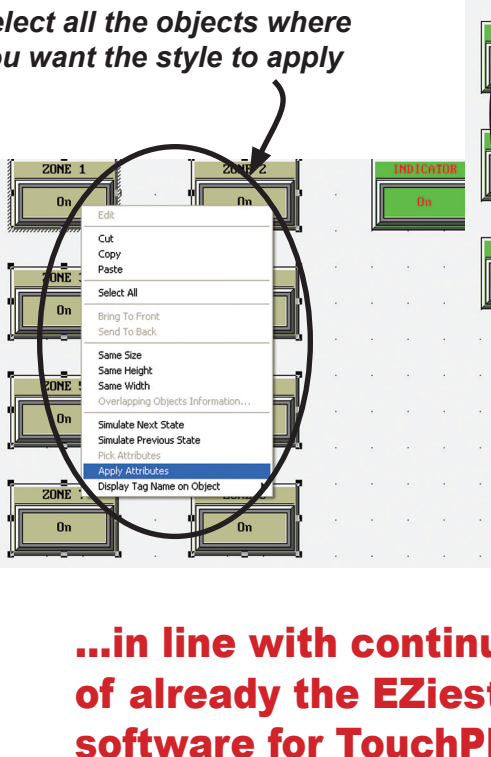
When designing screens, there are many attributes assigned to objects, such as object's colors, object's shapes, text sizes, text colors. All these details in completing a style for the screen takes a great deal of time. This feature allows the ability to "copy and paste" these styles from one object to as many as you select. Another wonderful time saving feature!

The object's style that was picked has now been applied to the other objects

Select all the objects where you want the style to apply
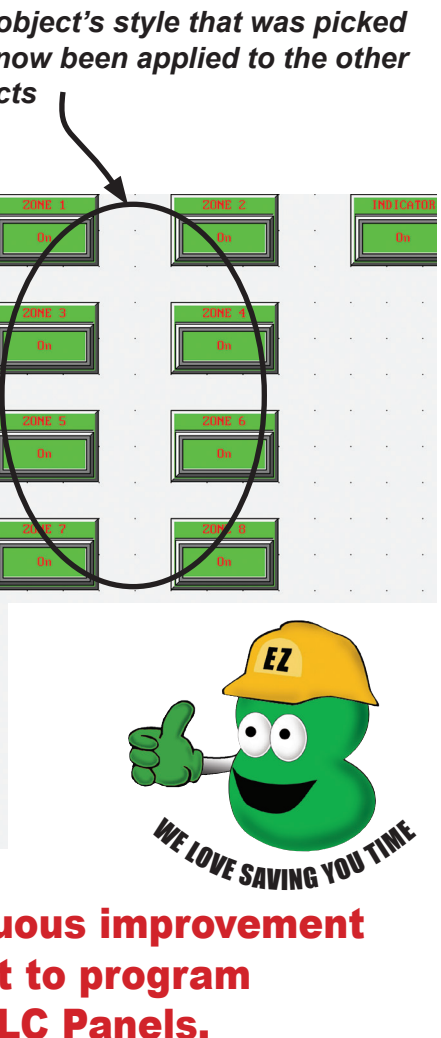
Pick the object that has the style you want to copy

...in line with continuous improvement of already the EZiest to program software for TouchPLC Panels.

WE LOVE SAVING YOU TIME

EZiest to Use Programming Software
In Continual State of Improvement

Project Simulation

1 What is Project Simulation?

This feature allows you to simulate, interact, navigate and debug an entire project right on your PC, before you transfer it to the panel. It ensures that your project looks and operates exactly the same way you intended.

2 How to Interact with the Objects?

On the PC you will have to click on the objects, as you do touch/press them on the panel.

3 How to test the functionality of the Objects?

By changing the tag values of the objects and view their responses. Tag values can be changed either in the tag list or in the separate dialog boxes by right-clicking individual objects.
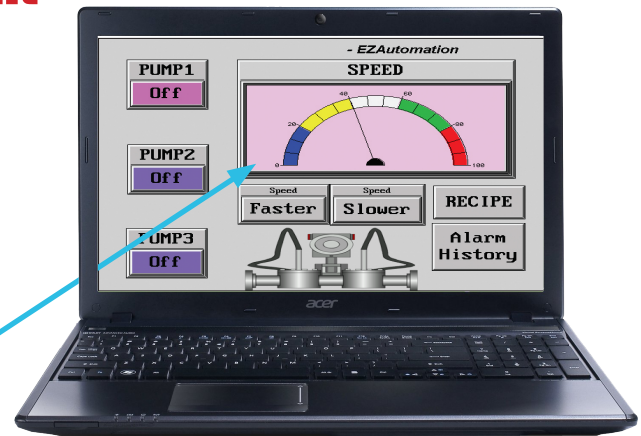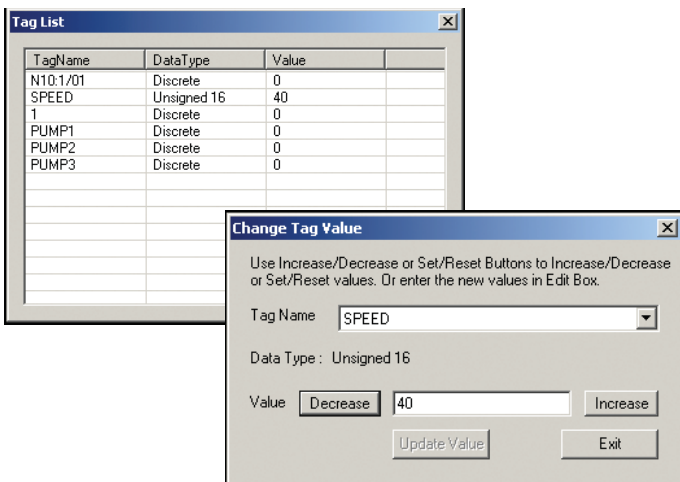
4 What is the purpose of Screen Capture?

This is an option to take the screen shots of the simulator screens and save them for further references. Basically, screen shots give you an idea of how the panel screens will look like.
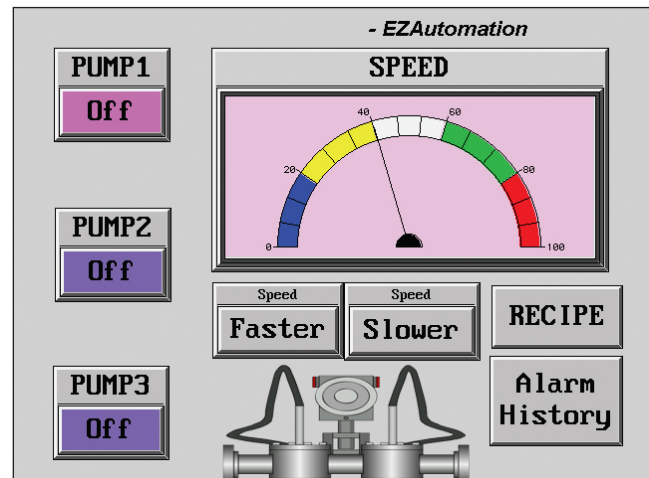
Distortion Free Sizing of Objects

The EZTouchPLC Programming Software has a patent pending feature that saves the programmer from having to size a bitmap in another photo editing software, and then bring it onto the screen. You can size an object whichever way you want it within the EZTouchPLC Programming Software itself. It saves you the headache of going back and forth between two software programs.
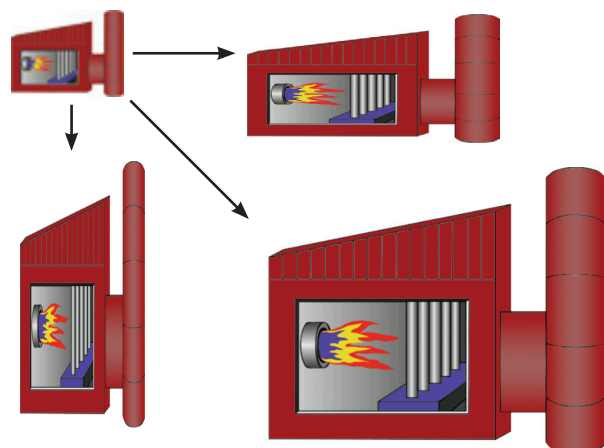
EZTouchPLC Programming Software
Advanced Bitmap Objects

Multi-state Bitmap Object

This object displays images within a given frame on the EZTouchPLC HMI. The object displays one image at a time based upon the bit that is on or the value of a tag. The maximum number of images is limited only by memory size. Our bitmaps use significantly lower memory because of our vector graphics.

Default Bitmap

Bitmap of bit 1

Bitmap of bit 2

Bitmap of bit 3
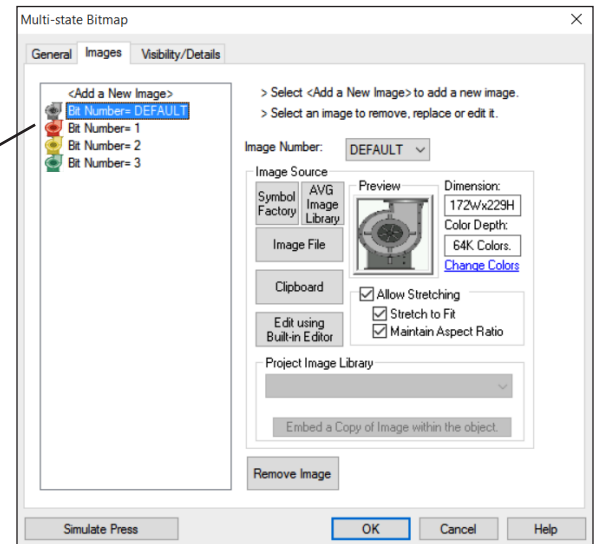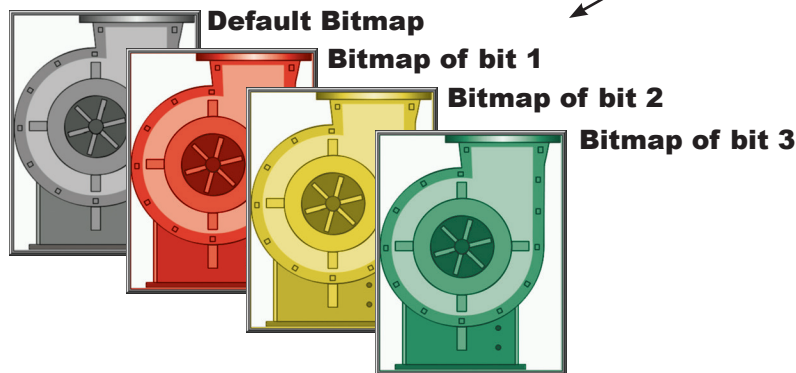
Multi-state Indicator Object

The Multi-state Indicator Object has been created to display preprogrammed messages within a frame on the EZTouchPLC HMI. Each object has its own message storage and does not need an external database. 256 messages can be displayed based upon the value of a bit or of a tag.
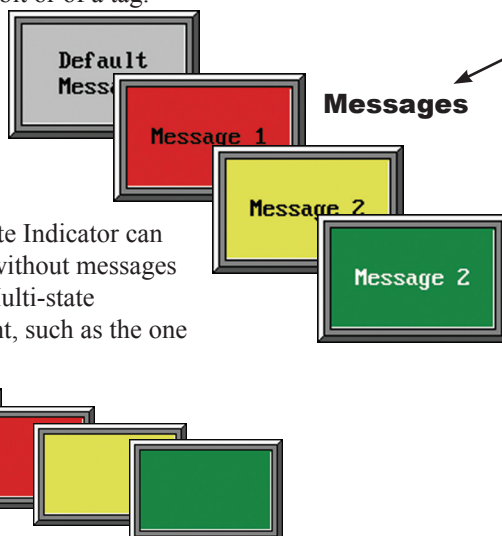
Messages

The Multi-state Indicator can also be used without messages as simply a Multi-state Indicator Light, such as the one shown here.
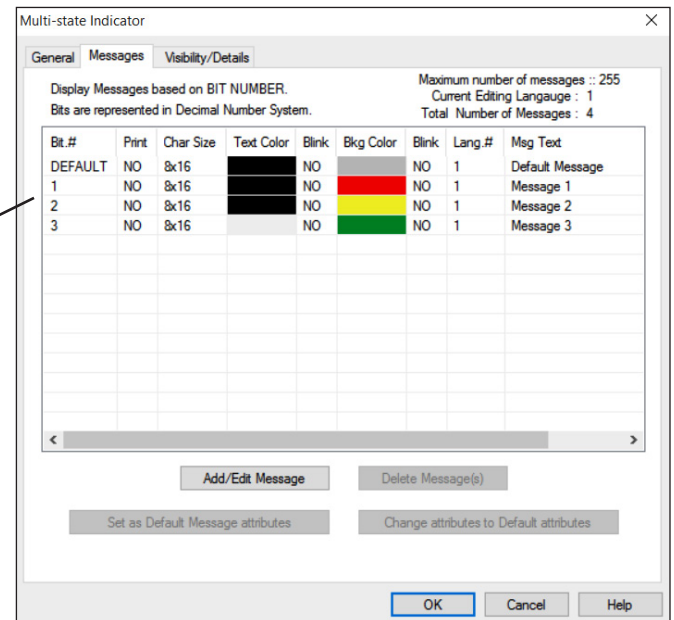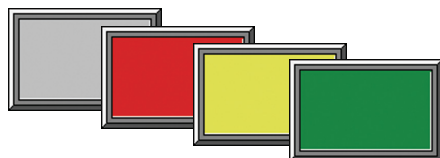
EZiest to Use Programming Software
More Convenience Features

Increment/Decrement Value Object

This object allows you to program a button that allows addition or subtraction of a preprogrammed value read from one tag and written to another as shown to the right.
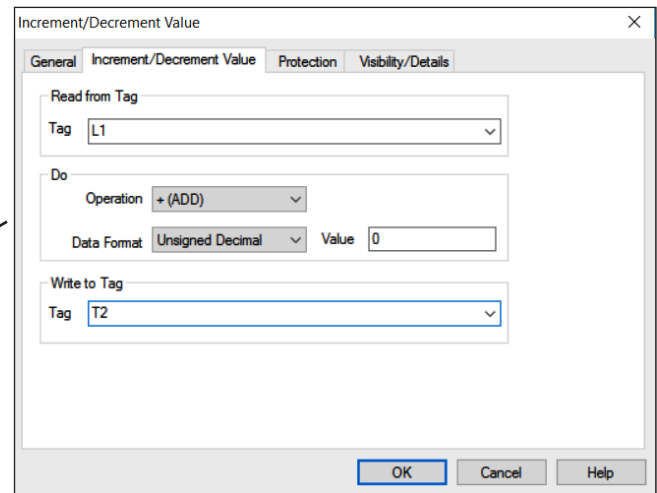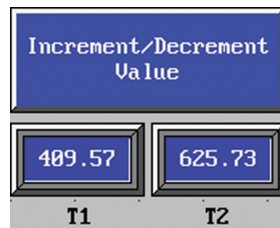
Instant Mouseover View of Colors
Instantly see your color selections as you mouseover the color palette

It is a simple but great idea not found in many of the leading HMIs in the market. When you mouseover different colors, you will simultaneously see it on the target object. No guess work! It speeds up project development. Coupled with our instant transfer (on-line programming) from PC to the Touchpanel, you create and enjoy your graphics with ease.
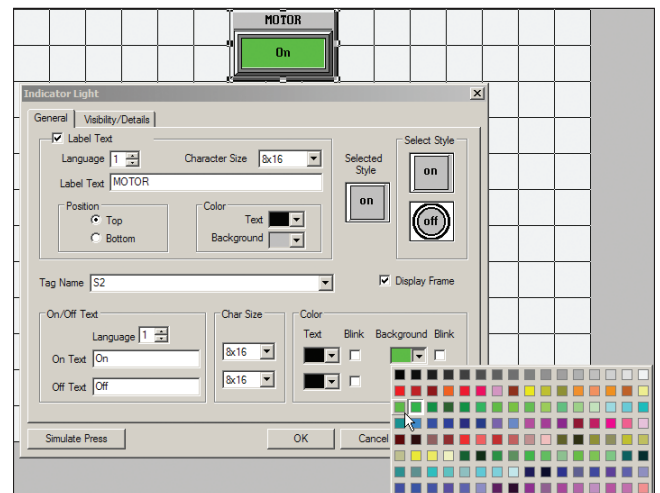
Screen Thumbnail View
Convenience to Speed up your Large Project Development Time

EZTouchPLC Programming Software's Screen Thumbnail View is a unique and time saving feature for the convenience of programmers to avoid searching for one screen when there are more than 100 screen's in the software. On the right side of the Project tree we can find a screen thumbnail view which helps us to search the screen in minutes reducing the large project development time.
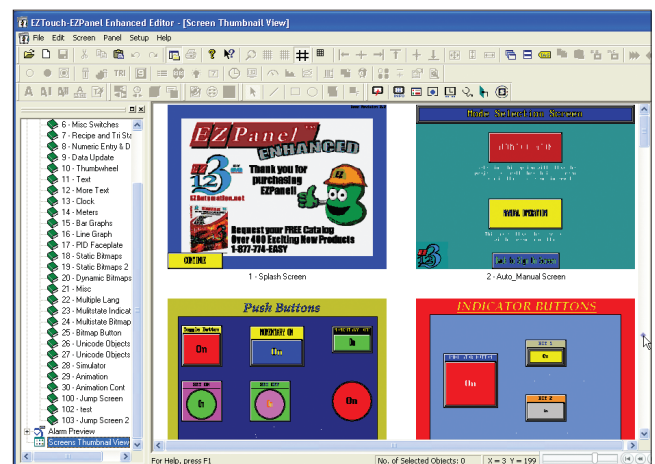
EZDaq Data Acquisition Software

Log Data For Any PLC Tag

Available on RS232 Serial Port as well as Ethernet

It's as EZ as **1-2-3**
collect, save and store PLC tag data

What is EZDaq?

EZDaq is a data acquisition utility designed to collect and save tag data from one or more (connected and running) EZTouchPLC Panels. The EZDAQ software allows the user to easily store and transfer data that is in the HMI (stored on USB or micro SD) to a network or PC

5 Once the Schedule file is created, the application can start collecting and storing acquired data.

What kind of communication medium is required?

EZDaq works on both **Ethernet** as well as **Serial** communication medium.
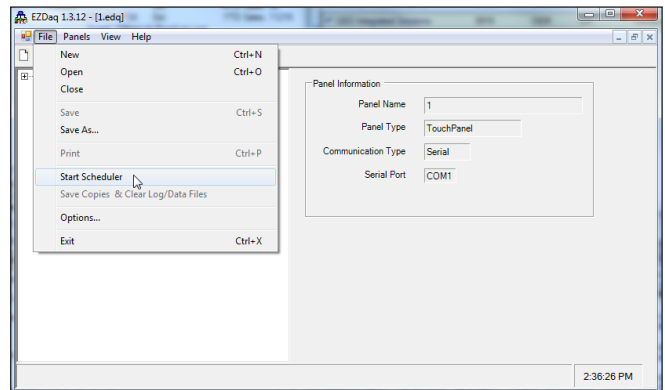
4 While creating the Data Acquisition Schedule file, Panel (from which data has to be collected) must be connected to the PC.

How does it work?

1 Run the EZDaq application on a PC to create a Data Acquisition Schedule file.

2 Specify the tags and a schedule for each tag for data acquisition.

3 The Schedule can be set either on the basis of time or an event.

How to view data?

Data files are organized in a convenient user selectable format (tab delimited or CSV) and can viewed in excel or any text editor.
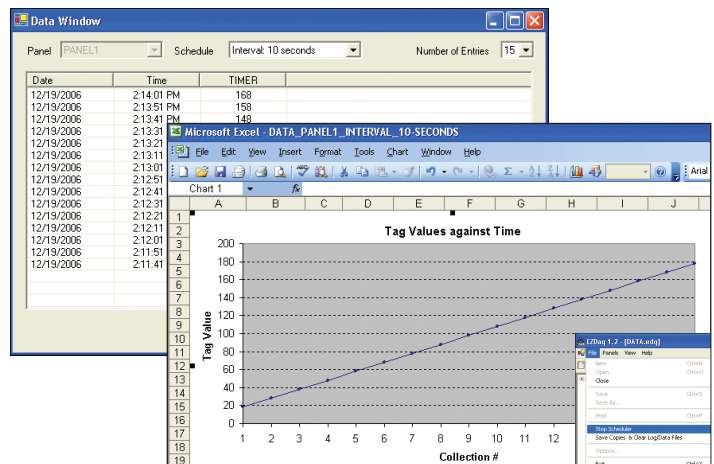
AVG File Manager for EZTouchPLC

Data Logging Transfer Utility

AVG File Manager is a data acquisition utility designed to collect and save tag data from one or more (connected and running) EZ3 HMIs. The utility allows the user to take the data stored on the HMI (stored on either USB or microSD) and transfer the data over Ethernet to a designated folder on the Network. It essentially acts as a paperless chart-recorder. Data is transferred instantaneously as soon as the Move/Copy button is initiated.

FREE
Data Log Utility

RMC File Manager
Download Utility

1 Click on the panel list manager to add/delete panels

2 Select Panel to connect

3 Select the datalog csv file you want to transfer to your computer
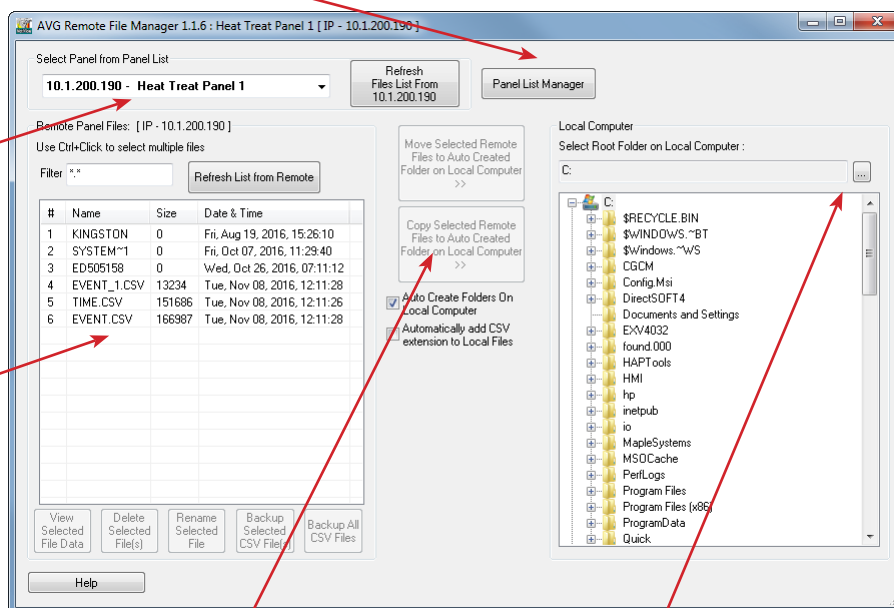
EZ TouchPLC

5 Select move or copy the csv file

4 Select the local folder on your computer to store the csv file

Free to

File Manager

Download

Innovate'n'Save™

EZTouchPLC Programming Software
Database Management

Import / Export of Tag Database

EZ Series programming software allows both import and export of tag database from and to an Excel sheet. This saves a tremendous amount of time when developing PLC software using the same tag names.

The enhanced ability of Import/Exporting the tag database, Highlighting the unused tags, and Instant Syntax checking makes it extremely convenient for the programmer to manage his/her project.

High-light Unused Tags

The Tags in the EZ Software can easily be sorted by name, by type and by PLC address. On top of that you can high-light unused tags in yellow to make it EZ on the programmer to manage his/her project.

Innovate'n'Save™

...in line with continuous improvement of already the EZiest to program software for PLC Touch Panels.

Instant Syntax Checking

The EZ Series Touchpanel software is unique in that, it checks the address syntax of all the PLCs and PLC Networks supported, before the address is allowed to be entered. This feature saves a tremendous amount of time in implementing an HMI PLC Project. **You find your errors at the time of making the error, not when you are finished and saving or downloading the project.**

EZTouchPLC HMI Objects
Simple yet Powerful Objects that Look Great... Now that's EZ!

This and the following pages describe the majority of the objects in the EZTouchPLC editor. For detailed description of more advanced recently introduced objects. refer to pages listed.

On-Screen Recipe Edit
Real-time Animation Objects

Unicode Objects
Advanced Alarm Management

⬭ Pushbutton

Allows you to write to a tag, and offers 5 types of button states: Momentary ON/OFF, Set ON/OFF and toggle.
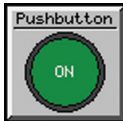
⬭ Indicator Pushbutton

Combines a regular pushbutton with an indicator light, allowing you to write to one bit and read from a second location, determining what the button displays.

◉ Radio Pushbutton

One button can be on at any given time. When a button is pressed it releases any button that may be on, and becomes the active button.

⬚ Switch

Simulate mechanical switches of the same type, e.g.; Throw, selector, slide, toggle, etc.
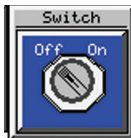
Step Switch

Simulates a mechanical step switch, allowing simultaneous monitoring & control of up to 4 different bits.

TRI Tri-State Switch
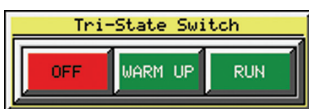
This object controls two bits at a time from 2 different tags. If the first button is pressed, both the bits are off. If the second button is pressed, the first bit on and second bit is off. If third button is pressed, the first bit is off and the second bit is on.

🄈 Numeric Entry

Write a value to a PLC register. A numeric keypad will pop up when this object is pressed on the screen.

▤ Recipe

Download up to 20 preset or variable PLC registers per recipe in the EZTouchPLC HMI. This object can also be used to set values in PLC registers to change a process all together!
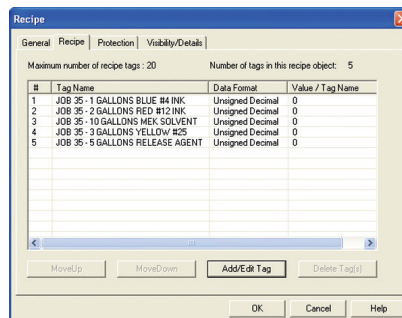
🎰 Thumbwheel

Simulating a mechanical thumbwheel, this pop-up thumbwheel allows operators to scroll each digit up or down, then "ENT" to download entry to the PLC.

💡 Indicator Light

Monitor and display the state of a bit. For example, the indicator light could display the status of a bit linked to a push button.
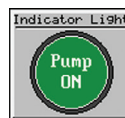
7 Numeric Display

Display a numeric tag value on the screen within a frame.
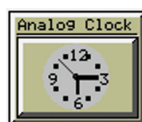
🕐 Analog Clock   🖳 Digital Clock
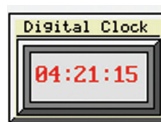
Two options for displaying time.

⌄ Meter

The meter object is an excellent graphical representation of an analog gauge, such as a speedometer or thermometer. Custom design the color bars for alarm zones, select the number of divisions to be displayed and the values of the meter.
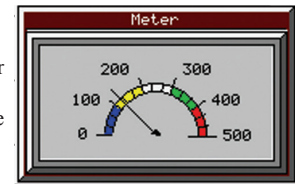
📊 Bar Graph

Allows you to monitor and display a tag value in a bar graph form on the screen. The bar graph can be displayed in various formats and can be programmed to read from top to bottom, left to right, right to left, etc.
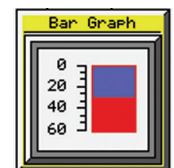
📈 Line Graph

Monitor specific tags and display the value of these data tags as they change over time. You can custom design the legend for X and Y axis and assign labels to major "tic" marks on a chart. This object also has VCR type forward/backward controls to view historical data.
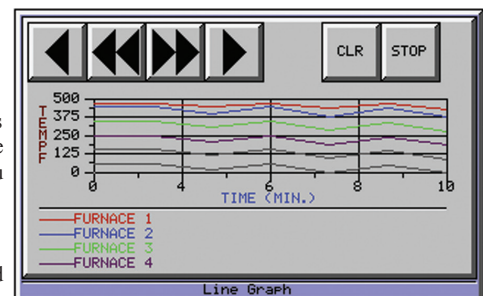
PID Faceplate

Use our PID faceplate for PLC systems capable of PID loops. PID faceplate allows you to display values for three PID loop controlled parameters in the form of bar graphs. These graphs then provide valuable and timely process information. This object also monitors two discrete bits: Mode Bit and Alarm Bit, telling the operator whether the process is in Auto or Manual mode, and if any alarm for the process is active or not.
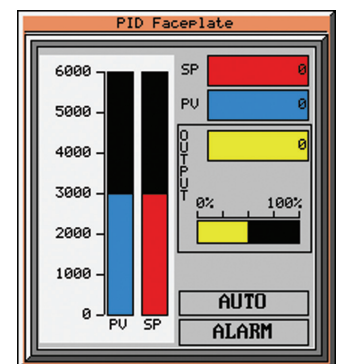
🗔 Screen Change

Use this object to jump or change to (display) another screen.

EZ TouchPLC

EZTouchPLC HMI Objects

Alarm History

Use our pre-built Alarm History button to show Alarm Count and Alarm History with one touch of a button. Alarm History displays all the alarms triggered sequentially with the most recent one right on the top, whereas Alarm Count displays the exact number of times a certain alarm has been triggered. Use this great preventive maintenance tool to replace any components that need to be changed. Any time an alarm is highlighted and selected, it will show you all the details that you'll ever need to know including the time it was triggered, the time it was cleared, date stamp, upper and lower limits along with the limit that tripped an alarm.

Multi-state Indicator

Display preprogrammed messages within a frame. Each object has its own message storage and does not need an external message database. Up to 256 messages can be stored, and the one message that is displayed is based upon the value of a bit or a tag. Messages can also embed data variables. In addition, this object can be used as an indicator light, displaying only colors without messages.
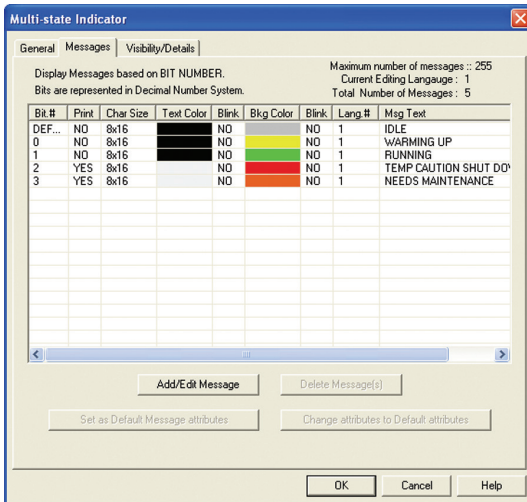
Increment/Decrement Value

This button allows addition or subtraction from a value using two predefined tags and a preprogrammed value. Once pressed, this object will read the value from the first tag, add/subtract the value defined, and write the new value to the second tag.
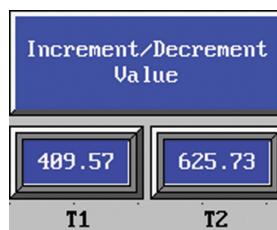
Static Text

Place text anywhere on the screen to provide information, screen description, etc. As with any other object, you can fully customize the colors and size, choose whether to display a frame or not, and whether or not you want its background to be transparent.
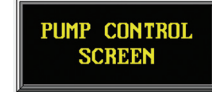
Trigger Text

This object monitors a bit to display different text strings for "ON" and "OFF" conditions. This would be used in applications where you want to provide a message or a description of the process or condition.

Lookup Text

Similar to the Multi-state indicator object, create a Lookup Text object to display pre-programmed messages within a frame on the screen. The difference is these messages are stored in the "Message Database" which acts as a global database for any lookup text object to reference throughout the project. A value corresponding to the tag name is the message number that will be displayed inside the frame. Messages are numbered from 1 to 999, so if the value corresponding to the tag name is 10 for example, the message number 10 will be displayed.

Dynamic Text

The Dynamic Text object will allow you to display the characters from ASCII values stored in a Tag. The tag will read a block of registers in the PLC. Each 16-bit register in the PLC can contain 2 ASCII characters. The maximum number of PLC registers in the block is 20 (a maximum of 40 ASCII characters). This object is typically used for displaying part numbers, VIN numbers, or production numbers. Dynamic Text is triggered by a bit Tag in the PLC. You choose whether the Text is triggered by the bit when it is in the ON state or the OFF state. The Dynamic Text object will then display a text string that is programmed in the PLC.
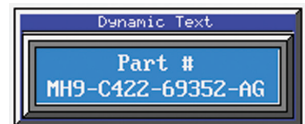
Text Entry

The Text Entry object, when pressed on the panel, brings up a character entry (alphanumeric) keypad. This allows the operator to enter text up to 40 characters to send to a tag assigned to an address in a PLC.

It has many uses, some of which may be: to send part numbers or production numbers to a PLC, or to send a message to a PLC that will, in turn, route it to one or more plant floor message display(s), such as EZMarquee.
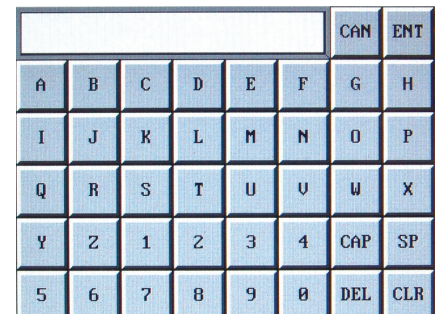
EZTouchPLC HMI Objects

Adjust Contrast

Use the Adjust Contrast object to place a button on the EZTouchPLC HMI screen that gives you access to the panel's adjust contrast feature. Use the UP and DOWN arrows that appear on the bottom to adjust the screen contrast.
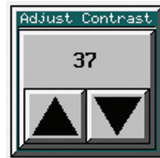
Increment/Decrement Hour

Place an object on the screen that allows you to adjust the hour (up or down) of the internal Real-time clock.
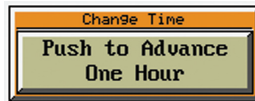
Activate Screen Saver

Place a button on the screen that enables you to activate the panel screen saver, to lengthen the longevity of the panel.
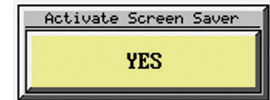
Select Language

This object allows the operator to change the language by pressing the button on the panel. Text that has been programmed for that language will convert to the language that the operator selects.

EZTouchPLC Editor allows you to create Dynamic Bitmaps, Multi-state Bitmaps, Button Bitmaps, and Static Bitmap Objects in a breeze.

There is a built in library of 4,000 objects available for you to copy and paste directly to a project screen and use them in any arrangement or position them just the way you like.

Static Bitmap

A static bitmap lets you simply display a bitmap which can be resized within the editor and stays static on a screen, e.g. a company logo.

All bitmaps can be imported, copied from the clipboard, or pulled in from the symbol factory (as shown to the right) and the EZTouchPLC HMI supports the following formats: .bmp, .wmf, .emf, .gif, .jpeg, .jpg, and .ico.

The Symbol Factory's 4,000+ symbols are available to all bitmap objects in the EZTouchPLC Editor's software.

Sizing Bitmap Objects is EZ!

The EZTouchPLC Editor has a patent pending feature that saves the programmer from having to size a bitmap in another photo editing software, and then bring it onto the screen. You can size an object whichever way you want it within the EZTouchPLC HMI Software itself. It saves you the headache of going back and forth between two software programs.

EZTouchPLC HMI Objects

Bitmap Button

The Bitmap Button object allows the use of bitmaps for the ON/OFF states, instead of text or colors. For example, you could place a throw switch and static text labeling on/ off states. When the operator presses the switch, the bitmap is replaced with the OFF state bitmap, showing the switch down. This is a simple toggle between ON/OFF states. You can also have buttons stay ON or turn OFF only when the operator is pressing the button, as shown farther right. There is even one more option in which a button, once pressed, can only be turned ON or OFF by a non-HMI source, like a PLC.
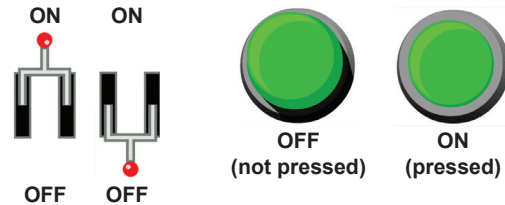
Dynamic Bitmap

A Dynamic Bitmap object, while not an interactive button, can show a dynamic visual representation of a process. Simply select a bitmap to represent the process running and another to represent the process not running, as the ON/OFF states of the bitmap.

For example, if your process uses a pump, and you want a visual representation of when the pump is on or off, then select the dynamic bitmap object. Click the symbol factory button from the On Bitmap section of the dialog box to access the symbol factory. After selecting the pumps category from the list on the bottom left and then the desired pump, click Options. This gives you the ability to change the object's shading, color, orientation, etc.

When finished and out of the Symbol Options box, click Copy, which copies the bitmap to the clipboard. Then click Copy From Clipboard. This places the symbol into the object's On Bitmap state. Repeat these steps for the Off Bitmap, and you are done!
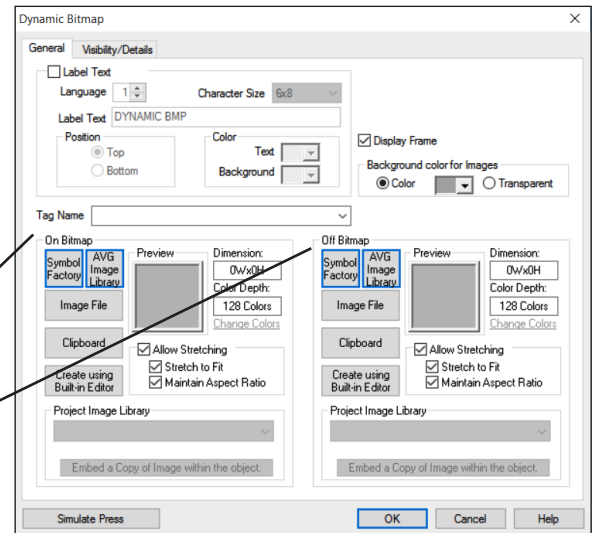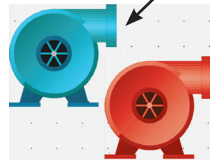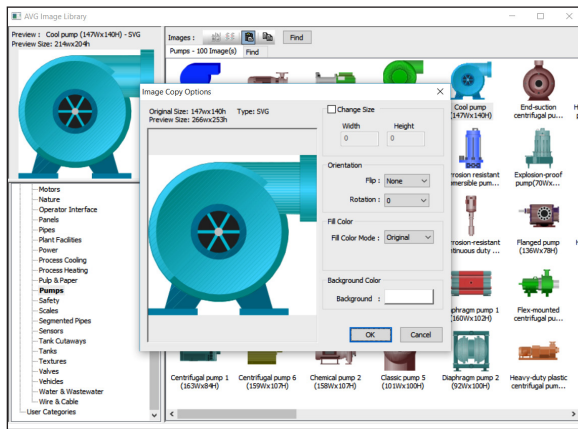
Multi-state Bitmap

Similar to the Multi-state Indicator, this object displays predefined bitmaps instead of messages. Choose up to 16 different bitmaps to represent various conditions of a process. The bitmap shown is based on the value of a bit in a word or a word address. The example below shows how an operator would know the condition of the machine based on the colored bitmap which is displayed.

Off or Idle

Warming Up

On or Running

Caution or Malfunction

Down for Repair or Needs Maint.
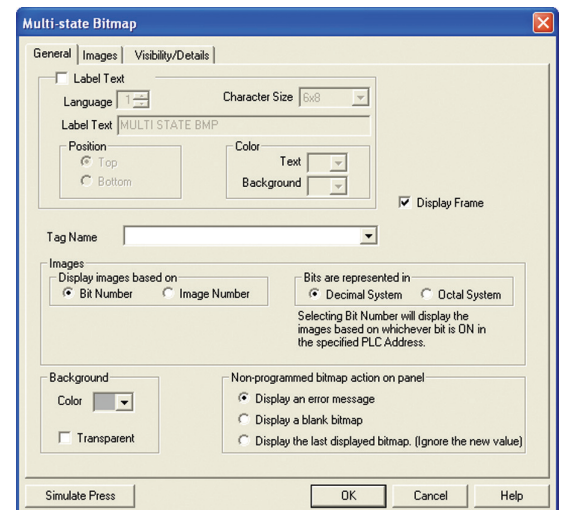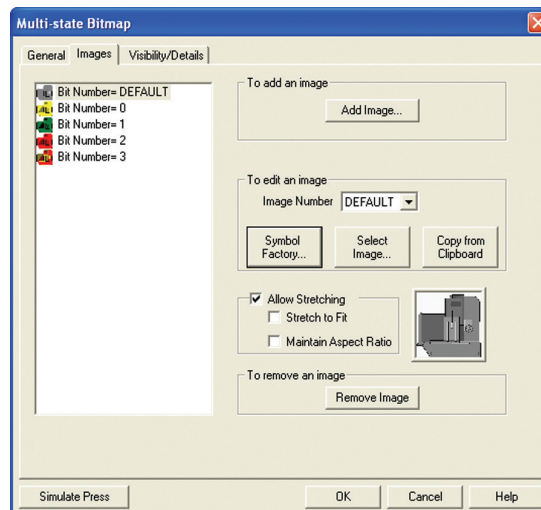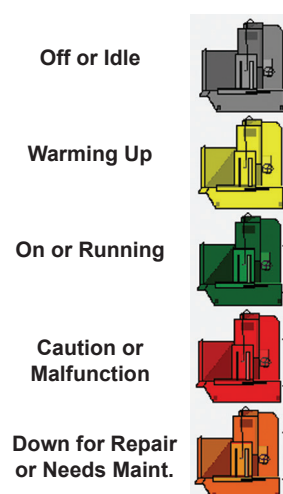
Update Project Screens Over Internet or Email
NO Programming Software or Knowledge of HMI Programming Required

Where OEM Packager makes sense

EZ OEM Packager is a unique utility which allows OEMs and System Integrators to Email the Enduser's HMI program over the internet. The Enduser will not need to have the EZPanelEdit Programming Software. It also protects the OEM/SI from having the Enduser have access to the development HMI program.

Current Methodology
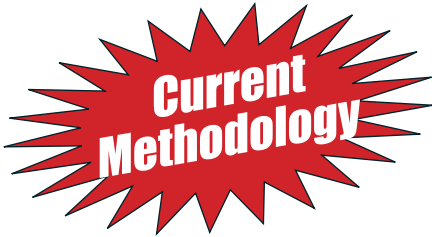
OEM/SIs are typically forced to snail-mail Touchpanel Upgrades/Updates using Compact Flash cards or USB Drives (assuming end user does not have a copy of HMI programming software). Sending compact flash cards through regular mail is a time consuming process and can take several days before the end user receives the update. For International customers this could mean delay of weeks if not more!

1 - 3 Days!

NEW! Methodology

OEM/SI Utility (EZPackager) creates updates in the form of Zip files from the programming software. This update (zip file) can be e-mailed to the end user within minutes. The end user simply extracts the zip file and runs the updating utility (EZPanelUpdater.exe) to complete the update. HMI programming software is not required by the end user for this update.

Less than 10 mins

NO SOFTWARE NEEDED

Innovate'n'Save™

EZ TouchPLC

Superb Brightness, Crisp LED Back-lit Display, Clarity at elevated Temp.,

Brightness and Bulb life

The EZTouchPLC HMIs have the best display brightness, clarity and bulb life. All TFT panels have a wider viewing angle, about 20% better nits (millicandella/sq mt luminous intensity) rating than industry average as well as longer life of its backlight bulbs rated as half brightness in a given number of hours. As you can see from the specifications, EZTouchPLC has about 20% more brightness.

Display Characteristic Table			
Brightness (nits) / Bulb Half Life on Models	EZTouchPLC HMI	PanelView Plus	C-More™
6" TFT color	400 nits 75,000 hrs	300 nits 50,000 hrs	280 nits 50,000 hrs
8" TFT color	400 nits 75,000 hrs	300 nits 50,000 hrs	310 nits 50,000 hrs
10"TFT color	400 nits 75,000 hrs	300 nits 50,000 hrs	280 nits 50,000 hrs
15" TFT color	400 nits 75,000 hrs	300 nits 50,000 hrs	280 nits 50,000 hrs

White LED
More Brightness
Backlight

EZAutomation's White LED backlight technology indeed has more brightness/higher nits and longer bulblife
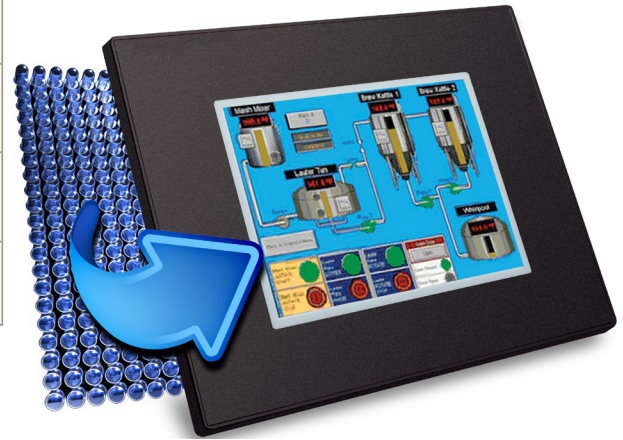
Brightness and Clarity at Elevated Temperatures

EZTouchPLC HMIs have better temperature specifications then most of our competitors. Temperature rating for TFT display is typically 0-50° C where as EZTouchPLC is rated to 0-55° C for 75K hours. Competing products specify 50,000 hours only at 25° C otherwise backlight life decreases dramatically!

Display Comparison under bright light at 25° C
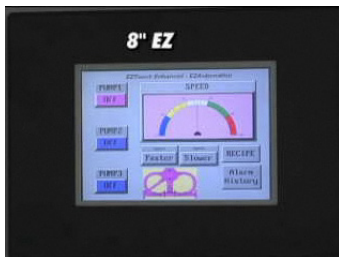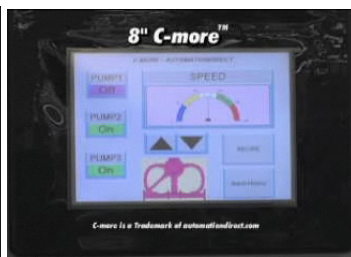
8" TFT - 400 nits   8" TFT - 300 nits

Display Comparison at 50° C ambient
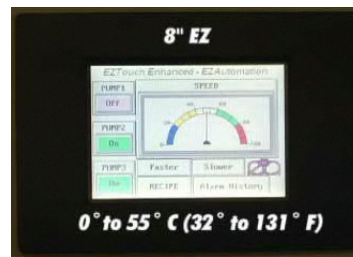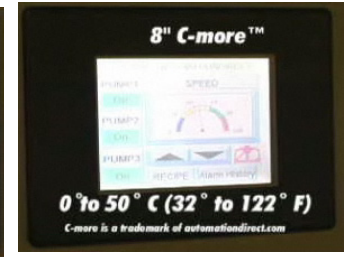
8" TFT at 55° C   8" TFT at 50° C

For product comparisons EZAutomation took these photographs as displayed above in identical settings for both products side-by-side. Actual results may vary depending upon individual test and operating conditions

Say Goodbye to Warped Touchscreens: Offers Robust Hard surface 0.090" Thickness

EZTouchPLC Sport Solid Hard surface 0.090" thick Touchscreen and not your typical paper thin Touchscreen

EZ Series Touchpanels use a hard surface (0.090" thick) touchscreen as a standard which results in :

1. No color ghosting caused by thin film touch screens
2. No Newton rings
3. Clear vision even with a anti-glare coating on the screen
4. Higher reliability for aggressive operators

0.090" Thick standard on all EZTouchPLC

Most competitors use paper thin films as their Touchscreens

Built-in Anti-Glare Touchscreens for Visibility in direct Sunlight

EZTouchPLC Outshines even with Built-in Anti-Glare Touchscreen

The EZTouchPLC HMIs have always had a built-in Anti-glare Touchscreen to improve display visibility in a typical plant environment where there may be lot of light reflections. Even in direct sunlight (see photo to the right) the standard EZTouchPLC with built-in Anti-glare is clearly visible.

EZTouchPLC Revolution: Five Best Features

1. Incredibly Cost Effective Hardware

- **4, 6, 8, 12 module bases**
- **31 different mix-n-match 8 pt. I/O modules (16 pt. coming soon)**
- **Speciality I/O modules like High Speed Counter, PLS, PWM, Thermocouple, RTD etc.**
- **World class I/O at 1/2 the cost of even low cost suppliers like AutomationDirect**

2. Incredibly Cost Effective Software

- **CompactLogix equivalent features across the entire line**
- **Same programming software across the entire line**
- **Low Software cost**
- **No maintenance fees**
- **No upgrade fees for life**

3. Incredibly EZ to Program Drag-n-Drop Software

- **Intuitive Ladder Logic programming that is second nature to electricians and maintenance personnel used to simple relay logic. Simply drag and drop your contacts and coils...**
- **1/2 to 2/3rd reduction in programming time in a typical project**
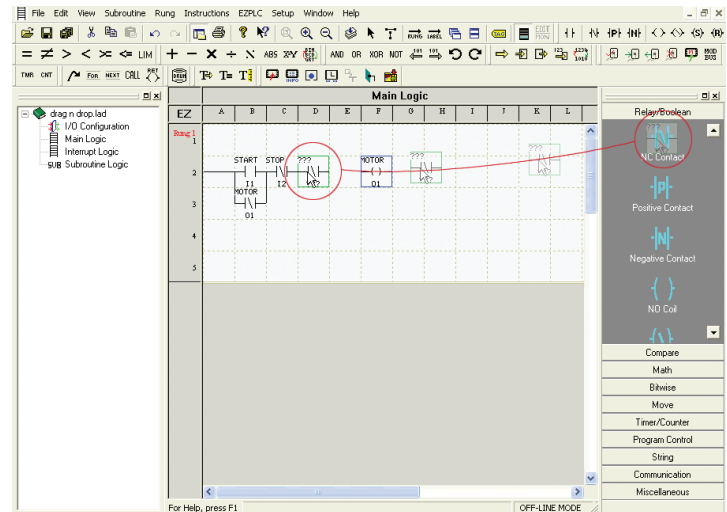
4. Incredibly Fast

- **40μs screw-to-screw response using interrupt**
- **Counter/PLS repsonse time less than 100μs**

5. Same Feature set across board

- **CompactLogix equivalent features across the entire line**
- **Same programming software across the entire line**
- **Advanced math function blocks**
- **32-bit floating point math**
- **8-bit Auto-tuned PID and unique PID monitor**
- **55 Powerful instructions including Drum sequencer, Marquee send, Data convert, Move block, Bit move, Strings, and Subroutines**
- **Password protection for OEM and SI investment**
- **Status LED for each I/O in every model and plug-in terminal blocks**
- **Flash memory module to upload program without laptop or software or cable**
- **RS 422/485 Modbus master port**

Watch the Video exclusive Drag-n-Drop Programming Software

▶ Play

Watch the Video EZTouchPLC Programming Tutorial

▶ Play

EZ12³ BY AVG
EZ AS 1-2-3

All Features Built-in-One Software

64KB User Memory, 8192 Registers

▶ Play

Watch the Video Drag-n-Drop PLC Programming Software

8 Autotuned PID Loops
This micro modular PLC has 8 auto-tuned PID loops to control process variables

8192 Registers

64K Available for Ladder & Memory

3 ms Scantime

I/O Scan

3 ms For 1K Instructions & All Overhead
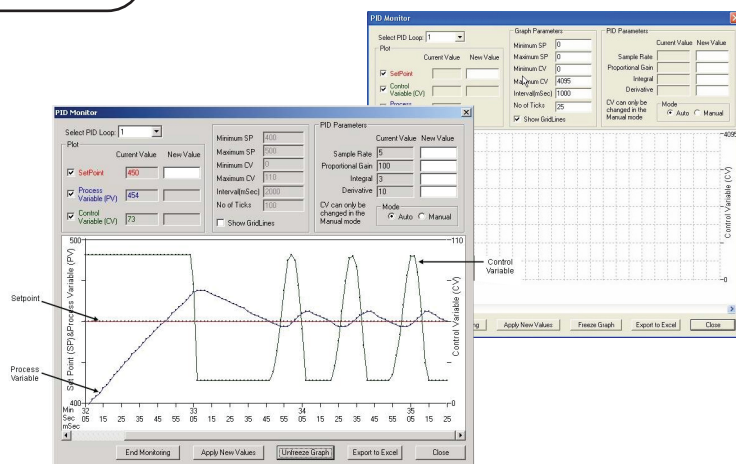
Ladder Scan

Timers, Counters, Drum Sequencer, High-end Ladder logic

Programming Software at a Great Price
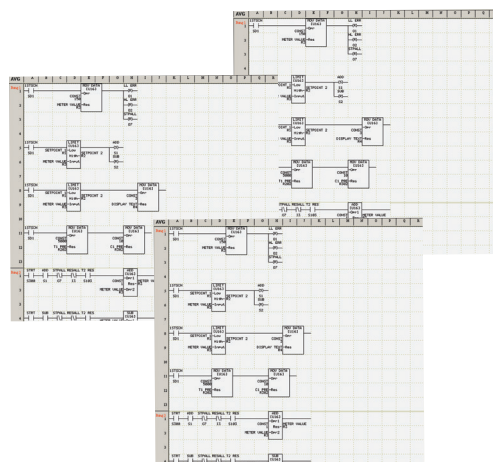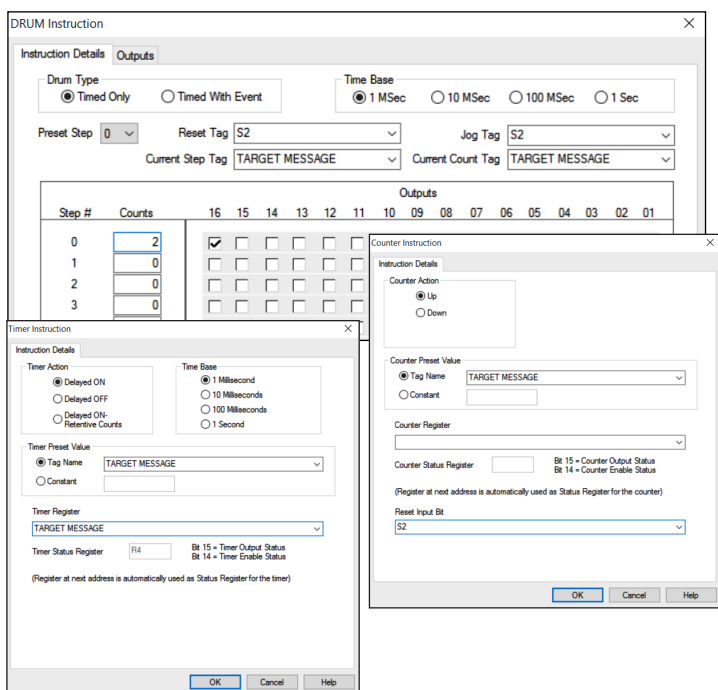
- Windows type folders for quick and easy search
- Free Flow Ladder Logic
- Each Rung Commented
- User friendly dialog boxes like EZ programming software
- Powerful data instruction
- Very intuitive programming

32-bit Floating Point Math
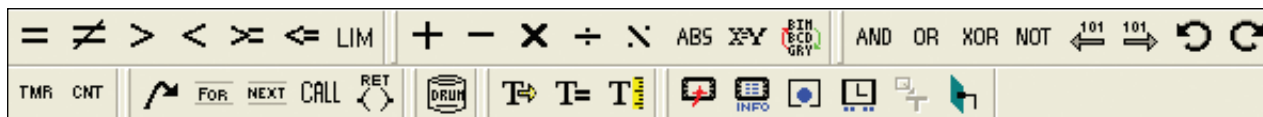
EZ TouchPLC

EZTouchPLC Almost Free, Drag-n-Drop PLC Software

No Cumbersome Licensing and Maintenance Fees

No Complicated Syntax and Rules to Learn

No Class Required

A Very Simple Addressing Format

No Annual Maintenance Fees, Free upgrades for Life

Watch the Video exclusive Drag-n-Drop Programming Software

Play
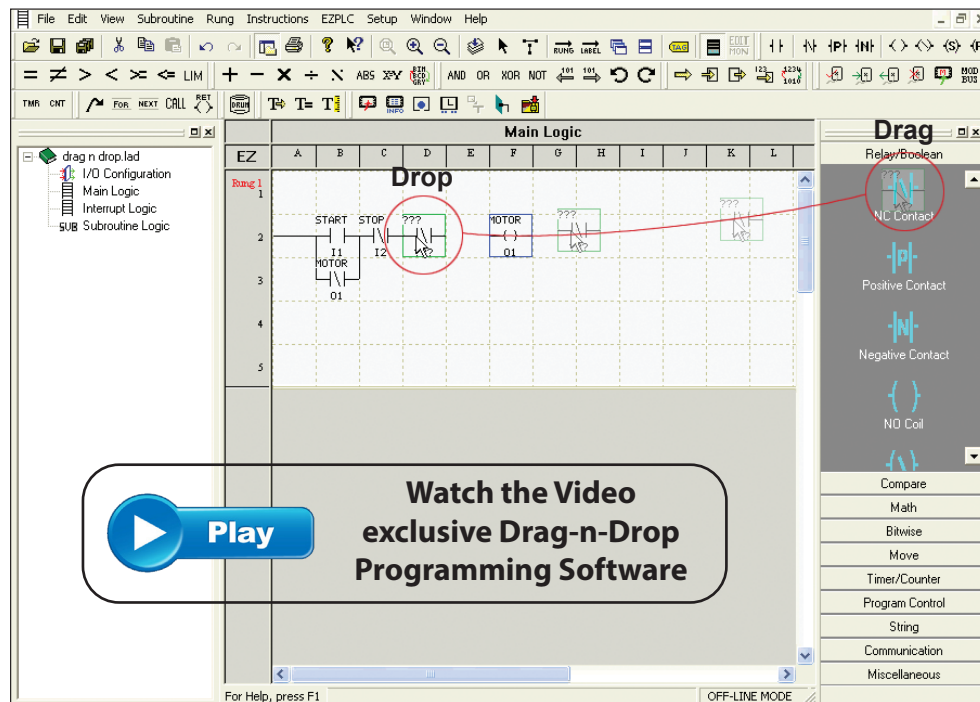
When PLCs came into existence, the PLC manufacturers followed the same convention as in relay ladder logic, however each manufacturer chose their own rules for connecting and adding ladder elements, such as start and stop contacts. Just like English, Spanish, German, Chinese, Hindi and other languages have their own scripts and their own grammar, PLC manufacturers like AB, Modicon, Siemens, Mitsubishi, Uticor and others developed their own grammar and syntax. Once you learned one language, you usually stuck with that brand of PLC.

Today, one single plant is likely to have multiple brands of PLCs, requiring Electricians & Maintenance personnel to remember these multiple languages. One may have learned AB Language months ago, but had not gotten a chance to use it. Troubleshooting the PLC system months later, it is going to be difficult trying to remember the correct syntax. If it is a Siemens PLC, it might take the same person a week to just get started. **It is in this context the EZTouchPLC Drag-n-Drop software was developed. It is essentially a graphical language. You draw the ladder intuitively.**

No complicated syntax and rules Can be learnt in a few minutes.

Just like drawing a ladder diagram on paper

EZTouchPLC Programming Software
An order of magnitude simpler!

DL205 Programming Software
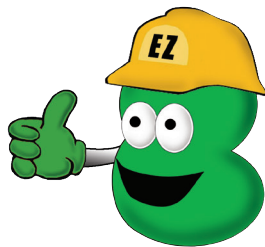
PC-R60-U DirectSOFT
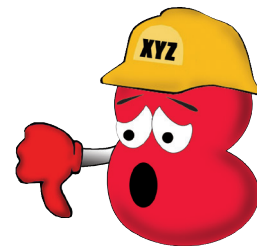
The Incredible EZTouchPLC Can Handle 8 Auto-tuned PID Loops with Unique PID Monitor

What is PID Loop?

PID is one of the most popular control algorithms used in the industry to control the variables involved in an industrial manufacturing process, for the proper operation of the process. PID stands for Proportional, Integral and Derivative control algorithm. With a proper choice of P, I, and D settings, a user can maintain a process value very close to the setpoint. In addition, if the setpoint changes, the PID algorithm can quickly bring the process back under control. EZTouchPLC supports up to 8 PID loops. For each loop you have to define several parameters, as shown below in the PID Setup window. You may change most of these parameters during run time, using EZTouchPLC editor in online mode.

PID Loop Auto Tuning

To achieve a stable and responsive process control, it is very important to select the proper PID parameters. Experienced users can estimate good starting values for these parameters and later tweak them to optimize the PID loop performance. This is called "the manual tuning of the process". Whereas, for those who want help in estimating the starting values of the parameters like P, I, and D coefficients, EZTouchPLC provides an Autotune feature.

Autotune Control

Each PID Loop is controlled by the Start Autotune discrete variable (which is at Discrete Base+4). If the variable goes from false to true and the loop is in manual mode, EZTouchPLC would start autotuning that loop.

Autotune Setup

The EZTouchPLC can autotune PID loops, i.e. it can estimate the values for the Proportional Gain, Integral (Reset) time, and Derivative (Rate) time for PID loop. The dialog box allows you to setup the loop for autotune. EZTouchPLC used Ziegler-Nichols method to estimate PID parameters.
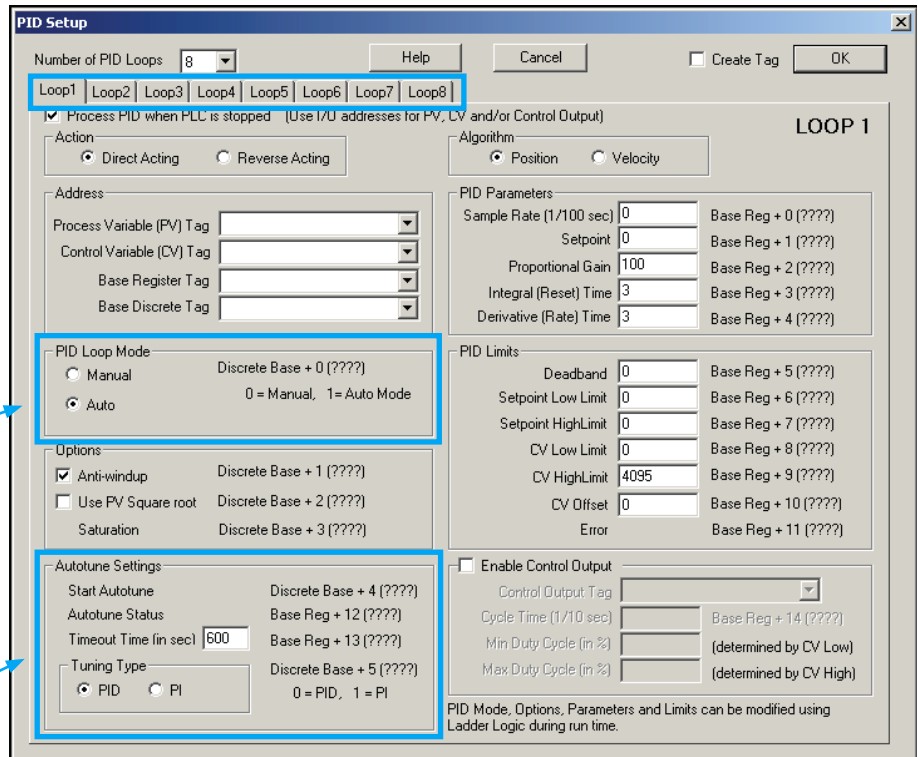
Start Autotune

(Shown on the dialog box for information only.)
The Start Autotune discrete is at Discrete Base+4. EZTouchPLC initiates autotuning of a loop when this bit transitions from 0 to 1. Autotuning of the loop is started regardless of the selected "PID Loop Mode" of the loop. Once Autotune is started, you can stop it by setting this bit to 0.

Timeout Time (in sec)

User programs Autotune timeout in seconds in this register. If EZTouchPLC can not finish autotuning within this time, the Autotune is aborted. User should program this field based on the dynamics of the process.

Autotune Status

(Shown on the dialog box for information only) During Autotune, EZTouchPLC reports the status of Autotune in the register.

Register Value	Description
0	Tuning in progress
1	Tuning done
2	User cancelled tuning
3	Control Value could not be incremented
4	The tuning algorithm failed to fit the curve
5	Division by zero error
6	Could not determine dead time
7	One or more of P, I or D was out of range

Note: Autotune is performed by EZTouchPLC observing open loop response to a step change in the control value. Before starting Autotune, the process should be in a steady state. During Autotune, watch the process variable closely for it to be within the safe limits.

EZ to Auto Tune PID

Tuning Type

User selects if PI or PID tuning is required.

PID Monitor

You can use the PID Monitor function to monitor and make real-time changes to your PID Loop. In order to use it, you must be connected to the PLC and select Main Menu > EZTouchPLC > PID Monitor. A PID Monitor window will show up. Here you can change the current values of the parameters by entering a value in the New Value field. Once all of the parameters are defined, press the Apply button and then Start Monitoring button at the bottom, to begin monitoring your PID Loop. A graph will begin to appear as shown in the image below.
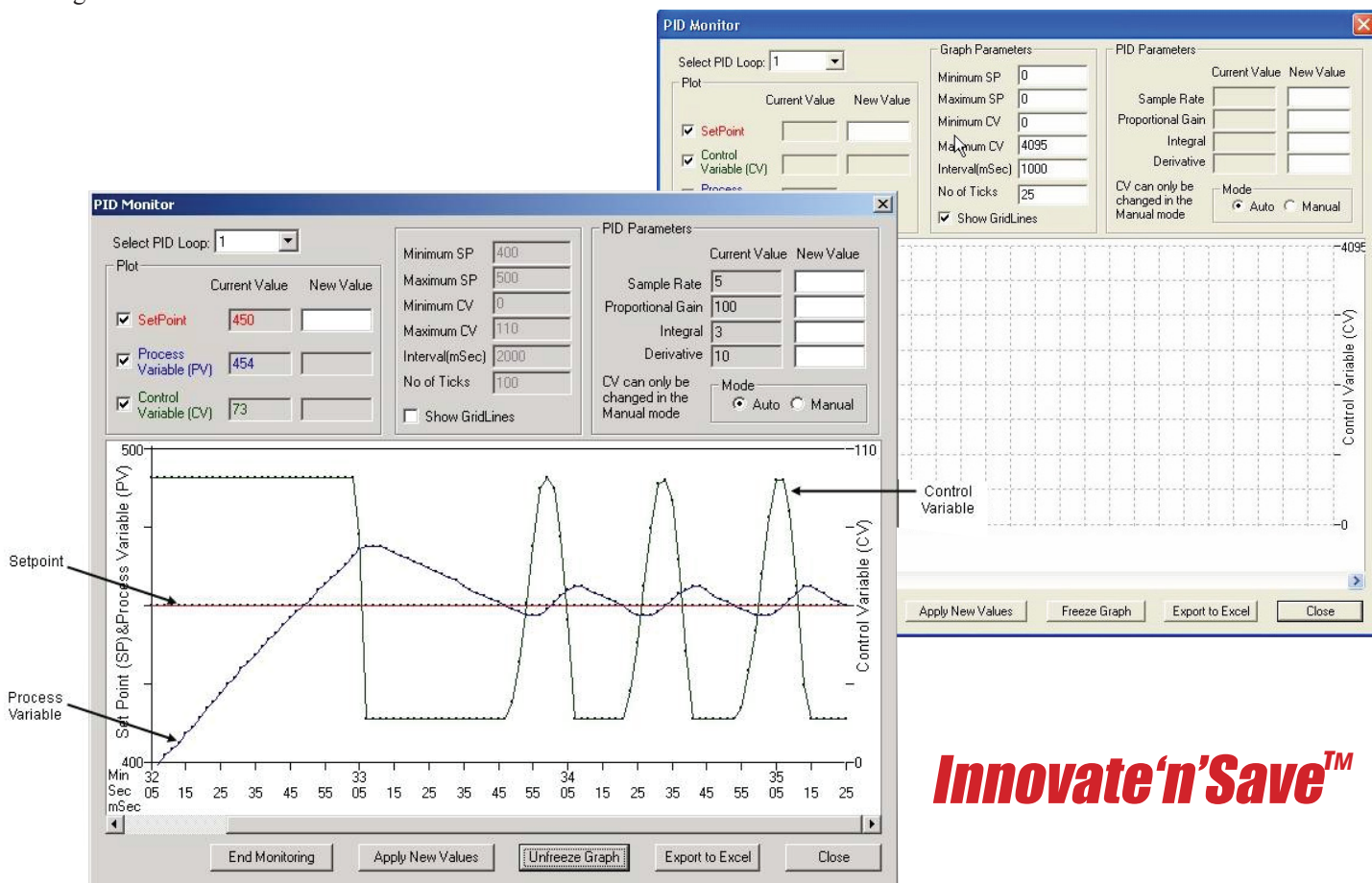
Innovate'n'Save™

In the illustration above, the Setpoint and Process Variable, were set to 450 and are represented in the graph by the line running through the middle of the graph.The Minimum SP of 400 is shown at the bottom left and the Maximum Limit of 500 is shown at the top left of the graph. The Control Variable was set to 110 and is represented on the right side of the graph.

You Have Seen Our Incredible Hardware!
Our Programming Software is Even Better

▶ Play

Watch the Video exclusive Drag-n-Drop Programming Software

EZTouchPLC Editor has Windows type Folder organization for Quick EZ Search just like RSLogix and other high end programming software that costs thousands of dollars. The EZTouchPLC Editor has a structured programming software. You do not have to scroll through literally hundreds of rungs to find your I/O mapping, subroutines or interrupts.
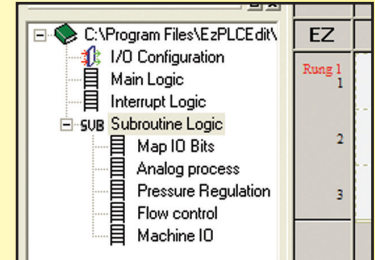
Unique Patent Pending Free Flow Logic ...

Let's take an 8 PLC output programming and ladder logic example

THEIRS

12 Rungs and Lots of Wasted Space

Other editors require you to generate one rung per output instruction requiring you to fill up many pages with ladder logic.
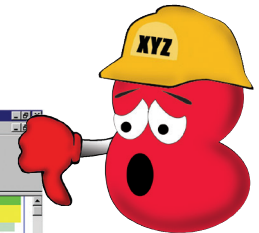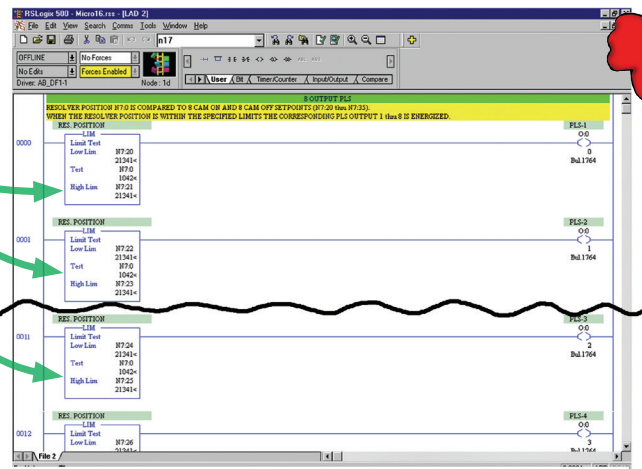
NO COURSE EZ SOFTWARE REQUIRED

Just One Rung!

EZTouchPLC Free Flow Ladder Logic

The concept of this patent pending Free Flow Ladder Logic is to create less restricted rungs of logic. This saves the user rung space and valuable scan time. On the right you will see an example of Free Flow Ladder-Logic. As you can see the Free Flow logic allows logic to be placed and connected anywhere in the rung rather than creating a new rung. This allows the user to spend more time on other parts of the machine development and let the CPU do more of the work of solving the logic.

1-877-774-EASY
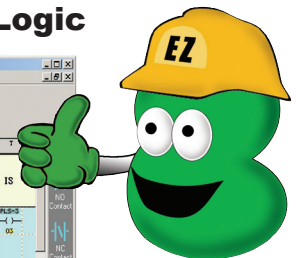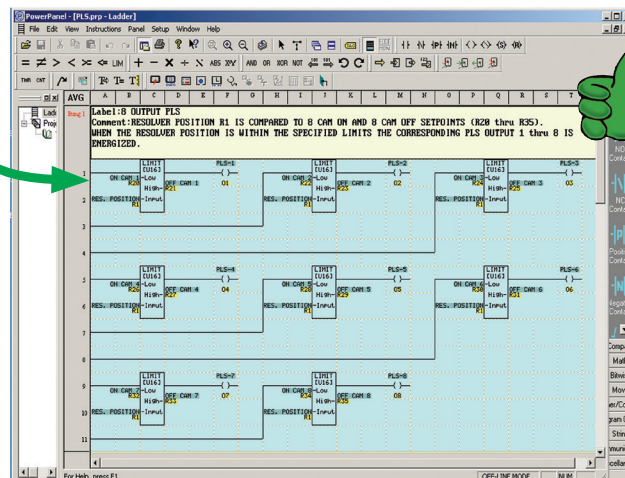
EZTouchPLC® / Advanced Pre-defined Function Blocks

Advanced Function Blocks:

Timer

EZTouchPLC supports 3 types of timer specified by the user. Time On Delay, Time Off Delay and Delayed on Retentive Counts.

Counters

This function block instruction counts Up, Down, or Up/Down depending on the user setting. Also, keeps track of the number of time power flow switches.

Compare Values

This instruction uses a mathematical operator as a basis of comparison of two data values. When the data values satisfy the selected mathematical relationship (>,<,=,etc.) the compare contacts turns On.

Alarm

This instruction allows you to monitor an input value and enable alarm bit outputs based on pre-defined set points.

Average

This function block calculates the average on a variable input value.

Change of Value

This instruction reads two consecutive values from a tag at a pre-determined Sample Rate and outputs the amount of change.

Min/Max Values

This instruction stores the lowest and highest values of a numerical tag.

Ramp Generator

This instruction increases or decreases the value of an output based on user defined rate.

Linear Scaling

Scale a input variable from one type of unit in to another type of unit. For example, take a 16-bit integer and scale to a floating 32-bit

Non-Linear Scaling

Scale a non-linear input variable in to a non-linear output using up to 16 break points.

User-defined Fault

Compare up to 8 tags or constant values against other tags or constant values and generate Faults or Stop Program based on the results.

Flasher

Cycle an output bit ON/OFF based on a user-defined programmable rate (ms).

Math Editor

The Math instruction solves a user-defined formula during the execution of the ladder program. Once the enable rung transitions from OFF to ON the formula will be solved and the result will be stored in the data format and location selected for the result.

Packing Strings

Combine data from two or more numeric, boolean or string tags in to one common string tag.

Un-Packing Strings

Extract data from a string and place in to one or more numeric, boolean or string tags.

FREE TECHNICAL SUPPORT

FREE SOFTWARE

EZTouchPLC® / Powerful Ladder Logic Instructions

Advanced Instructions:

32-bit floating point calculations

The EZTouchPLC supports 32-bit floating point mathematical and logical operations. The data options allow you to use signed or unsigned integer data as well as floating point data type.

Data Conversion

This instruction is meant to make ladder programming EZ and flexible. You can copy the data in one register, convert its data type and save it into another register without altering the 'source' register. The data can be converted from binary to BCD or grey code or vice versa.

Move Block

This instruction adds convenience to handling data inside the ladder program. You can move blocks of memory. All you need to specify is starting point of your source address, number of data elements to move and starting point of destination memory address. Along with Move Block, Fill Block and Move table of Constants also make life of a programmer much simpler.

String

These instructions operate on ASCII string data type. You can Move string data between registers, base rung power flow upon string comparison and compute string length to store the length value in a different register.

Subroutines

Capability to use subroutines is a huge plus in EZTouchPLC programming. For large and complex programs, user can define many subroutines and use them in the main ladder program. These subroutines can be called from the main logic. Return instruction allows user to return to the main logic at any step.

Drum Sequencer

This is a time or event based sequencer that updates up to 16 outputs per step, up to 16 steps. Time base of each count is user defined and each step has its own counter. User can define an event to trigger the count. The rung power flow is allowed after completion of all the steps in a drum.

Marquee Instructions

Now you don't have to spend days to send signals to your marquee. Send to marquee instruction allows you to communicate to the marquee via ASCII strings. A unique message number is assigned to each message in the message database. This instruction looks up the message number, corresponding to the intended message to be displayed and sends it to the marquee. User can define actions if a message number cannot be found in the database.

Interrupt Routine

This is how your EZTouchPLC would process external events that require "instantaneous" response. User can write a separate interrupt logic routine. At the instance of an external event, the PLC would interrupt the main logic, execute this interrupt logic on a priority, and scan corresponding I/O. It would return to the main logic automatically after processing the interrupt routine.

ASCII Instructions

User can send/receive ASCII string data to/from any register in PLC to a predefined serial port. User can also define the Control address and character count of the source register. Similarly, user can send ASCII string data to a Marquee directly from the main logic.

Bit Move Instructions

Bit move instructions allow the user to move word data from a register type memory address to a bit in a discrete memory location and backward

EZ TouchPLC

NO COURSE
EZ SOFTWARE
REQUIRED

EZ FREE FLOW SOFTWARE

EZTouchPLC® PLC Programming

Rich Instruction Set

Relay/Boolean Instructions
- NO Contact
When the corresponding memory bit is a 1 (on) it will allows power flow through this element
- NC Contact
When the corresponding memory bit is a 0 (off) it will allow power flow through this element
- Positive Transition
When the corresponding memory bit switches from 0 (off) to 1 (on) it will allow power flow through this element
- Negative Transition
When the corresponding memory bit switches from 1 (on) to 0 (off) it will allow power flow through this element
- NO Coil
Sets the corresponding memory bit to 1 (on)
- NC Coil
Sets the corresponding bit to 0 (off)
- Set Coil
Sets the corresponding bit to 1 (on) and remains On even if the rung condition goes to false (use RESET COIL instruction to turn the corresponding bit Off)
- Reset Coil
Sets the corresponding bit to 0 (off) and remains off even if the run condition becomes false (use SET COIL instruction to turn the corresponding bit Off)
- NO Immediate Input
When the corresponding memory bit is a 1 (on) it will allow power flow through this element. The NO Immediate Input is updated immediately with the current memory Bit status when processed in the program scan
- NC Immediate Input
When the corresponding memory bit is a 0 (off) it will allow power flow through this element. The NC Immediate input is updated immediately with the current memory Bit status when processed in the program scan
- NO Immediate Output
Sets the corresponding memory bit to 1 (on). The NO Immediate Output Bit is updated immediately when processed in the program scan
- NC Immediate Output
Sets the corresponding memory bit to 0 (off). The NC Immediate Output Bit status is updated immediately when processed in the program scan

Compare Instructions
- Equal to
Allows power flow through this element if the data value of "Opr1" register is Equal to "Opr2" register
- Not Equal to
Allows power flow through this element if the data value of "Opr1" register is NOT Equal to "Opr2" register
- Greater than
Allows power flow through this element if the data value of "Opr1" register is Greater Than "Opr2" register
- Less than
Allows power flow through this element if the data value of "Opr1" register is Less Than "Opr2" register
- Greater than or Equal to
Allows power flow through this element if the data value of "Opr1" register is Greater Than or Equal to "Opr2" register
- Less than or Equal to
Allows power flow through this element if the data value of "Opr1" register is Less Than or Equal to "Opr2" register
- Limit
Allows power flow through this element if the data value of "Input" register is within the data values of "High Limit" and "low Limit" registers

Math Instructions
- Add
Adds two data values in "Opr1" and "Opr2" registers and stores the result in "Result" register
- Subtract
Subtracts "Opr2" register data value from "Opr1" register data value and stores the result in "Result" register

- Multiply
Multiplies two data values in "Opr1" and "Opr2" registers and stores the result in "Result" register
- Divide
Divides "Opr1" register data value by "Opr2" register data value and stores the result in "Result" register
- Modulo
Divides "Opr1" register data value by "Opr2" register data value and stores only the remainder in "Result" register
- Absolute
Converts a negative data value from "Opr1" register to a positive value and stores it in "Result" register
- Conversion
Copies the data value of "Opr" register, converts it into "Result" registers data type, and stores the data value in "Result" register
- Binary Conversion
Converts the data value of "Source" register in Binary, BCD, or GRAY code to the data value of "Result" register in Binary, BCD or GRAY Code

Bitwise Instructions
- AND
Performs a bitwise AND operation between the data values of two registers "Opr1" and "Opr2". The result is stored in "Result" register
- OR
Performs a bitwise OR operation between the data values of two registers "Opr1" and "Opr2". The result is stored in "Result" register
- XOR
Performs a bitwise XOR operation between the data values of two registers "Opr1" and "Opr2". The result is stored in "Result" register
- NOT
Performs a bitwise NOT operation on the data value of "Source" register and stores the result in "Destination" register
- Shift Left
Performs a logical Shift Left on the data value of "Opr1" register by the data value of "Opr2" register and stores the result in "Result" register
- Shift Right
Performs a logical Shift Right on the data value of "Opr1" register by the data value of "Opr2" register and stores the result in "Result" register
- Rotate Left
Performs a logical Rotate Left on the data value of "Opr1" register by the data value of "Opr2" register and stores the result in "Result" register
- Rotate Right
Performs a logical Rotate Right on the data value of "Opr1" register by the value of "Opr2" register and stores the result in "Result" register

Move Instructions
- Move Data
Moves data value of "Source" register to "Destination" register
- Bit Move
Moves either words to bits or bits to words with user-specified length for the number of words to move. Maximum of 16 words can be moved at a time
- Move Block
Moves a block of memory area. "Source" register defines the starting area of memory address/register to Move from and "Destination" register defines the starting area of memory address/register to move to. The number of elements to move is user defined
- Block Fill
Fills a block of memory area. "Source" register defines the data value to Fill with and "Destination" register defines the starting area of memory address/register to Fill to. The number of elements to move is user defined. The number of elements to Fill is user defined
- Move Table of Constants
Loads a table of user defined constants to a consecutive memory/register locations with the starting memory address/register location defined by "Destination" register

Timer/Counter Instructions
- Timer
This instruction starts timing when called and once it reaches the preset value as defined by the data value of "Timer Preset Value" register, it will stop timing and will allow power flow through the element
- Counter
This instruction starts counting either Up or Down by the increments of one until the counter reaches the data value of "Counter Preset Value" register. The Counter will then allow power flow through the element

Program Control Instructions
- Jump
Skips the rung containing Jump instruction (after execution of the rung) to a rung with the label specified in the JUMP instruction and continues executing the program thereafter
- For Loop
Executes the logic between the FOR Loop and NEXT instructions by the data value of "Loop Count" register
- Next Statement
Specifies the return/end point for the FOR Loop instruction
- Call Subroutine
Calls a Subroutine specified by the label in CALL Subroutine instruction and is terminated by the RETURN instruction
- Return
Terminates a subroutine and returns back to the main logic

String Instructions
- String Move
Moves the data value (string type) of "Source" register to "Destination" register by the number of characters specified by the user
- String Compare
Allows power flow through this element if the data value (string type) of "Source1" register is Equal to "Source2" register by the number of characters specified
- String Length
Computes the length of a null-terminated "String" register (string type) and stores the result in "Save Length in" register

Communication Instructions
- Open Port
Opens the serial port for communication using the parameters specified by the user
- Send to Serial Port
Send an ASCII string data from "Source" register to the serial port with control and character count from user defined "Control Address" and "Character Count Address" registers respectively
- Receive From Serial Port
Receives an ASCII string data from serial port to "Source" register with control and character count from user defined "Control Address" and "Character Count Address" registers respectively
- Close Port
Closes the serial port opened for communication
- Send to Marquee
Sends ASCII instructions for marquee communication. The message to be displayed on a marquee is selected by the data value of "Message Number" register which looks up the message number for a corresponding message from the central message database. If message number is not found in the message database, user selected action for unmatched messages is done.

Miscellaneous Instructions
- Drum
Time and/or Event driven drum type sequencer with up to 16 steps and 16 discrete outputs per step. The outputs are updated during each step. Counts have a specified time base (1MSec to 1 Sec) and every step has its own counter along with an event to trigger the count. After the time expires for one step, it transitions to the next step and completes up to 16 steps total. After the completion of all the steps this element allows power flow through it

EZTouch miniPLC, An Engineering Marvel
3.5" or 6" TFT, 12 DI, 8 DO, 4 of 5 Amp 1 form C RLY, 2 AI, 1 AO + 250 KHz Quadrature Encoder Input

30 Exceptionally Innovative Unique Features, same as EZTouch Modular PLC. Lasts twice as long: NEMA 4X, 400 nits, 75KHrs@55°C & Drag-n-Drop Software

List of Innovative Features

1. Status LED for each I/O
2. Plug-in terminal blocks
3. Highest Processing Power per cubic inch
4. 250 KHz Encoder
5. Integrated Drag-n-Drop Ladder Logic Software
6. 55 High-end Instruction set
7. Great function blocks
8. Advanced HMI functions
9. Patented Online-edit
10. On Screen Recipe Edit
11. Great graphics, animations
12. Datalogging
13. Alarm Management
14. Remote Monitoring & Control and the list goes on...

Latest Innovation

New

Tiny EZminiWifi to program/edit HMI without cable

PLC is FREE

Attention to detail:
- **Plug-in Terminal blocks**
- **Status LED for each I/O**
- **5 Amp contacts with Snubbers**
- **Flyback diode on DCO**
- **Very low profile 5" x 4" x 2" deep**
- **Ethernet option**

Innovative Unique Features

- An Engineering Marvel, 3.5" or 6" TFT, 12 DI, 8 DO, 4 of 5 Amp 1 form C RLY, 2 AI, 1 AO + 250 KHz Quadrature Encoder Input
- Incredible Prices: 3.5" with 27 I/O @ $299, 6" with 27 I/O @ $449 "PLC is FREE"
- All displays are TFT, rated at 400 NITs, 75K hours at 55 degree C.
- Patented HMI on-line edit, No downtime
- Status LED for each I/O
- Plug-in terminal blocks
- Highest Processing Power per cubic inch
- 250 KHz Encoder
- Integrated Drag-n-Drop Ladder Logic Software
- 55 High-end Instruction set
- Great function blocks
- Advanced HMI functions
- On-Screen Recipe Edit
- Great graphics, animations Datalogging
- Alarm Management
- Remote Monitoring & Control
- Best looking objects and animations.
- Remote Monitoring and Control, Smart phones & Ethernet.
- Communicate to all PLCs with industrial Ethernet protocol.
- Dual PLC Drivers with automatic tag conversion.
- Mfr. cost reduction & IP protection for qualified customers.
- Most Rugged 0.090" thick anti-glare touch screen.
- Fastest touch response time of any HMI.
- Unique Visibility tag for best screen space utilization.
- Unicode for multiple languages.
- Easiest Programming Software, design time in hrs not days.
- Full Project simulation on your PC. Custom start-up screen.
- "C level" scripting and logic expressions.
- Data-logging, Recipes, Emails, USBs. Free Chart recorder.
- Most advanced Alarm management and logging.

EZTouchminiPLC Features & Benefits

Incredible 3.5" and 6" EZTouch.miniPLC models, PLC is Free!

These EZTouch.miniPLCs have incredible features at the price points they are offered. $299 for 3.5" and $449 for 6" display. The PLC in these miniPLCs has 12 DC In, 8 Short Circuit proof DC out, 4 5 Amp relays, 2 12 bit Analog In and 1 12 bit Analog out. 2 of 12 DC In can be used for quadrature encoder running up to 250 Khz pulse rate. The terminal blocks are removable and plug-in. EZTouch.miniPLC has a real time clock, has all the functionality of 32 Bit floating point math, Advanced function blocks, PID and PLS outputs. It is a prime example of Innovation by Design, Exceptionally Innovative products, Made in America and brought to you Factory Direct with no other supply channels in between with their own mark-ups. These EZTouc.miniPLCs are heads and shoulders above Samba units from Unitronics with 40% more IO, high end PLC functionality and at lesser prices. There is simply no comparison! EZTouch.miniPLCs have the option of having an Ethernet port also with all the Ethernet I/P, Modbus TCP/IP, GE SRTP, Siemens ISO over TCP/IP protocols allowing them to communicate to external networks also.

Patented HMI on-line edit, No downtime Watch it in action.

All HMIs except for EZtouch, require the machine or process to be shut down to make a change in the HMI program. While a new program is being uploaded to the HMI, it is non-functional and hence the machine can't be allowed to operate during this time. Every time the HMI program is edited, there is machine down time of typically an hour. All EZTouch series HMIs have a patented on-line edit exceptionally innovative feature that allows the HMI program to be edited without the machine missing a beat.

Easiest Integrated HMI and PLC Drag-n-Drop PLC programming software, common to all models, just for $149

There is a reason why our company is called EZAutomation and our HMI is called EZTouch. We make it so easy to learn our programming language that no user, hundreds of thousands so far, thank you, ever had to attend any class to learn the programming. Most of our competitor's products, like from Rockwell, Siemens, Mitsubishi, Unitronics, Schneider, Maple and others require a 3-5 day class to learn how to program their products. Our programming language is so intuitive and so simple that the design time for any screen and the entire project is reduced to hours instead of days. PLC software is equally intuitive, simple drag and drop as if you are drawing a ladder diagram. It has great function blocks, project simulation and troubleshooting features. The programing software is fully integrated into one for EZTouch.miniPLC. Additionally note that the Integrated Programming Software is universal and scalable for all models from top to the bottom.

Highest Reliability and Noise Immunity in industry.

EZTouch.miniPLC has been designed to meet the HALT/HASS standards that are used for electronic products used in the space program for shuttle launch, which means high shock and vibration along with thermal shock. In addition the EZTouch.miniPLC has a very high immunity to noise.

Advanced functionalities, PID, Math, High Speed counters.

The EZTouch.miniPLC is a very high end PLC with 55 instructions, 8192 registers, Flash memory, Real Time Clock, 32 Bit floating point math, 8 PID loops, High speed counters.

Highest Processing power per cubic inch.

EZTouch.miniPLCs are uniquely compact living up to the AVG theme of "Maximum Processing Power per cubic inch". AVG is a vertically integrated company with in-house capability of high density PCBs, thick film hybrids, flexible boards and semiconductors allowing us to be extremely innovative. In EZTouch.miniPLC we have been able to pack:

1. 3.5" or 6" LED backlit display
2. Ethernet port for EtherNet/IP, Modbus TCP/IP etc.
3. 10 DC Inputs
4. 8 Short circuit proof DC Outputs
5. 2 250K Hz Encoder Inputs
6. 4 5 Amp 1 Form C Relay outputs with snubbers
7. 2 12-bit Analog Inputs
8. 1 12-bit Analog Output
9. Real time clock
10. LED indicators next to each I/O points

11. Plug-in removable terminal blocks
ALL IN 5" x 4" x 2" PACKAGE

Status LED for each I/O in every model.
We have served the Automation industry since 1968. In fact, one of the AVG divisions, Uticor is the inventor of PLCs themselves. We have been around the block and totally understand the value of maintenance and down time in a manufacturing plant. We always make troubleshooting as convenient and EZ as possible. That is why, all our IO points have an LED right next to the output terminal and the terminal block is always Ezily removable and plug-in.

Choice of 3.5" or 6" displays
EZTouch.miniPLC displays are all with LED backlight rated at 400 NITS and 75K hours at 55 degree C ambient.

At least 2 for 1 of Unitronics, Maple HMI+PLC models, & Cmore and Separate Domore PLCs.
If you compare the HMI+PLC offering of EZAutomation and Unitronics, you will find that apples to apples, Unintronics Uni Series, Maple HMC Series, and Automationdirect Cmore/Domore, shall be at least 3 for one, and if you compare the apples to oranges, that is EZAutomation's EZTouch.miniPLC to their equivalent models, they will be at least 2 for 1.

All models have EZ Wifi $49 option to connect to your laptop without cable
This tiny little module that plugs into one of the serial ports in the EZTouch.miniPLC (we recommend installing on every unit) allows a programmer to connect his/her laptop to it without a cable. So many times, it is not so easy to reach the Operator console to connect the programming cable to the HMI/PLC. Combination of our patented On-Line Edit feature and EZminiWifi becomes an exceptionally innovative solution to making changes on HMI screens and PLC ladder logic without having to open up the control cabinet and connecting the Programming cable.

Fastest touch response time of any HMI
All EZTouch HMIs have a super fast response time of less than ½ of a second, that is the response to touching any object on the screen is instantaneous. Its two to four times faster than any other HMI.

Full project simulation on your PC for EZTouch. miniPLC Series.
EZTouch.miniPLC programming software allows you to preview and test your entire HMI project by our Project simulation feature in the software. You can simulate the entire project on your PC itself before loading it up in your EZTouch.miniPLC. It's a great time saver for programmers.

"C" Level scripting and logic expressions
Each tag in EZTouch HMI can be defined with a logic expression and C level scripting to get mathematical burden off the PLC and reduce the memory requirement in the PLC. Such a high end HMI can reduce the task of PLC to do simple ladder logic, even though the PLC inside the EZTouch.miniPLCs has sufficient horsepower of their own.

Data logging, Recipes, EMails, free chart recorder on Ethernet models.
EZTouch.miniPLC thru its Remote Monitoring and control feature over Ethernet can transmit vast amount of data that can be captured in a remote server eliminating the need for an external chart recoder. EZTouch.miniPLC also offers advanced Recipe Management to program different variables of a Recipe simultaneously. In addition, EZTouch. miniPLC HMIs have another advanced feature of sending emails or texts to designated personnel in the event of an alarm.

On-Screen Recipe Edit
All EZTouch HMIs have an exceptionally innovative feature of on-screen recipe edit where you can edit the recipe on the HMI itself without needing to connect to a laptop with programming software.

Remote Monitoring & Control smart phones & Ethernet
EZTouch.miniPLCs with Ethernet have a remote monitoring and control feature where you can monitor and control the functionality of an HMI remotely via a Smart phone with iOS or Android OS.

Most advanced alarm management and Logging
Alarm management in EZTouch HMIs is at a very advanced level. It has an Alarm database, alarm history, alarm preview, alarm count, alarm message to a marquee, alarm preview, alarm simulation and alarm reset protection.

Dual Driver capability to communicate to other PLC networks.
EZTouch.miniPLCs have the capacity to talk to multiple PLCs at the same time. Therefore, besides, the PLC inside, it can also talk to another network like EtherNet/IP.

Best looking objects and animations.
EZTouch HMIs have the best looking objects simulating real life panel actuators and indicators. And the animation of process is great.

Most Rugged 0.090" thick anti-glare touch screen.
All EZTouch HMIs except the 12" model have an extremely rugged customized touch screen that is 0.090" thick as compared to paper thin touch screens used in our competitor's products, increasing the durability of the EZTouch touch screen.

Unicode for multiple languages.
All EZTouch.miniPLC HMIs have a Unicode feature for multiple languages, that is each Object can be displayed in different languages. This allows every operator of the HMI to be able to communicate to it in the language of his or her choice.

Unique Visibility tag for best screen space utilization.
EZTouch.miniPLC HMis have an extremely innovative Visibility tag on all objects. Object appears on the screen only if the visibility tag is true. Along with EZTouch.miniPLC's feature of overlapping objects, visibility tag is a great space saver on the screen.

Patented HMI on-line edit, No Machine Shutdown, No downtime!

Exclusive to EZTouch®

Instant Screen Change

EZTouch Patented Online-Edit No Down time

You wouldn't buy a PLC today if it didn't have On-Line Edit...

...So why should you have to buy a Touch Panel without On-Line Programming?
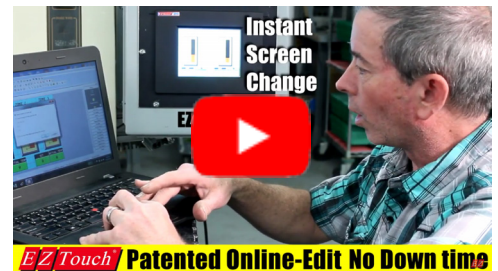
Only the EZTouch® has On-Line Programming

1. After a machine upgrade including a new PLC and Operator Interface, our System Integrator asked the Machine Operator what he would like to see better yet. The Operator said the new "computer" was great with all the colors but he missed the old pressure gauge.
2. Our System Integrator immediately pulled out his notebook computer, hooked it up to the Touch panel,

launched his programming software and put it in On-Line mode.
3. And then, right in front of the operator's eyes, moved the other objects on the screen and put an Analog Meter exactly to the operator's color taste, without ever having to shut down the machine.
4. All this took less than 2 minutes.Operator: "Now that is nice!" Let's get these on all the machines."
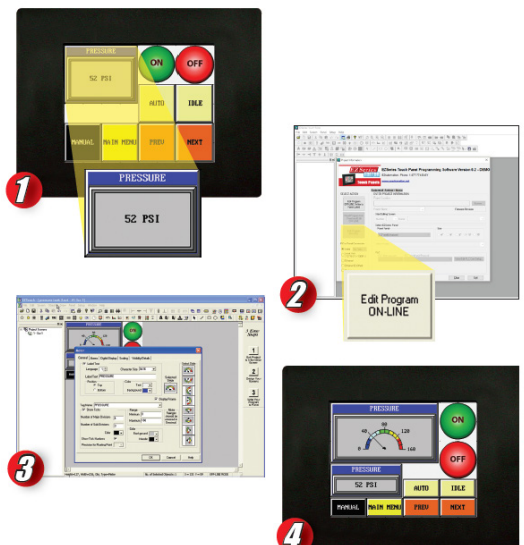
PLC Communications and Drivers

Industrial Ethernet is fast becoming the hardware communication platform for an increasing number of plants all over the world. But Ethernet without the proper supporting protocol (software driver) is like having a great vehicle without tires. Not so with EZAutomation, our EZTouchminiPLC can communicate to all major ethernet networks including but not limited to:

- Allen-Bradley Ethernet I/P to Controllogix and Compactlogix
- DF1 protocol over Ethernet for Micrologix & SLC 500 series PLC's
- Siemens Ethernet ISO over TCP/IP
- Modbus TCP/IP
- SRTP for GE networks

EZTouchminiPLC WIth Ethernet Supported Drivers:

Allen Bradley:
- A-B Ethernet I/P (MicroLogix 800, Control & Compact Logix)
- A-B DF1 over Ethernet (for Micrologix & SLC 500 PLCs)

Automation Direct:
- DirectNET (Direct Logic PLCs)
- Do-More PLC (Ethernet)
- ECOM Ethernet (Direct Logic PLCs)
- Entivity Think&Do (Modbus TCP/IP)
- Productivity Driver (Ethernet)

AVG / EZAutomation:
- EZ Ethernet

GE:
- GE SRTP over Ethernet

Modicon / Schneider:
- Modbus TCP/IP
-

Siemens:
- Siemens Ethernet ISO over TCP/IP

Remote capability over PC, Tablet or Smart Phone (Apple iOS and Google Android)

EZ RMC™ Remote HMI
for iOS and Android Devices
$4.99

Download on the App Store

ANDROID APP ON Google play

If you need assistance, be sure to visit the RMC Support page.

iPad Tablet EZ RMC™ Remote HMI is an application designed for your mobile devices on both iOS and Android platforms, for the monitoring and control of your EZTouch HMIs from EZAutomation.net. Enjoy direct access to your EZTouch HMI from anywhere at the tips of your fingers, on your phone or tablet. The EZ RMC™ Remote HMI is available on both the iTunes App Store as well as the Google Play store.
Features:

- Realtime View and Control of your EZTouch HMI panel
- "Pinch" style zoom for more in-depth view of your HMI project
- Save screenshots directly from the App
- Multiple user accounts can be configured for each panel project, with multiple levels of security, including either only Viewing ability, or both Viewing and Control
- Record your most used panels in your Favorites for quick access, and designate one HMI for direct access by default when the App is opened

Compatibility:
- iOS App works with all iOS devices (iPad, iPhone, iPod Touch) running iOS version 6 or later
- Android App works with devices running OS version 4.0.3 - Ice Cream Sandwich or later

Direct access to your EZTouch HMI is at your fingertips - from anywhere.

EZTouch mini.PLC ® / Specification Sheet

EZTouch.mini.PLC Model Specifications		
Model	3.5" EZTouchminiPLC	6" EZTouchminiPLC
Part Number	EZ-T4C-MINIPLC - $349 EZ-T4C-MINIPLC-E - $459	EZ-T6C-MINIPLC - $499 EZ-T6C-MINIPLC-E - $599
Total I/Os	Fixed I/O PLC, 12 DC Inputs (250 KHz Quadrature Encoder input configurable), 8 DC Sourcing Outputs, 4 Relay Outputs, 2 Analog In (0-10V), 1 Analog Out (0-10V)	
Digital Inputs	4 configurable Sinking or Sourcing electrially isolated inputs, 8 Sourcing inputs (3 inputs configurable for a Counter Quadrature input with A, B, and RST signals up to 250 KHz)	
Digital Outputs	8 Sourcing Outputs (50 V, 500mA per output, Short Circuit Proof with Fly Back Diodes and Overload Protection)	
Relay Outputs	4 Relay Outputs (1 Form C Relays rated at 5 Amps each with RC Snubber Protection)	
Analog I/Os	2 Analog In (0-10V), 1 Analog Out (0-10V) - 12 bit Resolution (0 to 4095)	
Display Type	3.5" TFT / 5.7" TFT (128 Color Palette)	
Brightness/Life	400 nits / 75,000 hours@55 °C (White LED)	
Screen Resolution	320 x 240	
Touch Screen	48 Resistive Touch Cell (8x6)	
Num of Display Screens	Up to 999 Limited by display memory	
Display Screen Saver	Yes, Backlight Off	
Maximum Power Consumption	Backlight ON: 12 Watts @ 24VDC, All I/O ON max power 30 Watts	
PLC Features	Full Featured with Free-Flow Ladder Logic, Function Blocks, Advanced Math and Auto-Tuned PID control	
# of PLC Registers	Non-volatile registers/Bits: 8192 16Bit, Registers: 256, S-bits: 128	
PLC Typical Scan Time	5ms	
Real Time Clock/Cal.	Built-In, Lithium coin cell battery with 5 year life expectancy, with a low battery indicator	
PLC LED Indicators	Input Power, CPU Status	
Electrical Noise	Nema ICS 2-230 Showering arc; ANSI C37.90a SWC; Level C Chattering Relay Test	
Withstand Voltage	1000VDC (1 minute) between power supply input terminal and protective ground)	
Insulation Resistance	Over 20M Ohm between power supply input and terminal and protective ground	
Enclosure	Nema 4, 4x (indoor)	
Operating Temperature	0 to 55°C (32 to 131°F)	
Storage Temperature	-20 to 60°C (-4 to 140°F)	
Vibration	5 to 55Hz 2G's for 2 hours in X,Y,and Z axis	
Shock	10G for under 12ms in the X,Y, and Z axis	
Humidity	10-95% RH, Non-Condensing	
Communication Ports	Built-in 9-pin D Sub (female) RS232/485/422 and Ethernet Ports (optional model)	
Agency Approval	UL, CUL, CE	
External Dimensions	5.06" x 4.08" x 1.783" (129 x 104 x 45.3mm)	8.050" x 6.150" x 2.8" (204.47 x 156.21 x 71.12 mm)
Weight	2 lbs	

EZTouch mini.PLC® / 4" TFT Color

4" Color EZTouch.mini.PLC (3.5" TFT) Overview

EZTouchminiPLC is an engineering marvel with a 3.5" TFT Color HMI Touchscreen + Full Blown PLC + 27 I/O points great for all types of control applications.

The EZTouchminiPLC offers advanced HMI functions including great graphics, animation, data logging, alarm management, Advanced PLC ladder instructions and function blocks.

Features:
HMI:
• 3.5" TFT Color Touchscreens
• Built-in Image Library (4000+ Symbols)
• Advanced Alarm Messages & Screens
• Email & Text Message Alerts
• Trending Graphs
• Data logging
• Up to 999 User designed screens
• Patented Online Edit of HMI (No Machine Downtime, Edit on the Fly) Ethernet Port for Remote Access and connectivity to PLCs, AC Drives, or 3rd party devices
• Dual Driver Support to simultaneously interface with Major Brand PLCs or AC Drives (Allen Bradley, ABB, Omron, Siemens, Mitsubishi, Automation Direct etc.)

PLC:
• Total I/O: 27 points. 12 DC Inputs (250 KHz Quadrature Encoder input configurable), 8 DC Sourcing Outputs, 4 Relay Outputs, 2 Analog In (0-10V), 1 Analog Out (0-10V)
• Auto-tuned PID,
• Advanced Math Function Blocks
• Recipe Editing
• Date, Time and Event Based Control
• Advanced Ladder Logic Instruction Set
• Quadrature Input for High Speed Counter up to 250 KHz
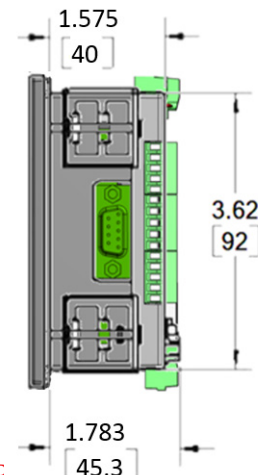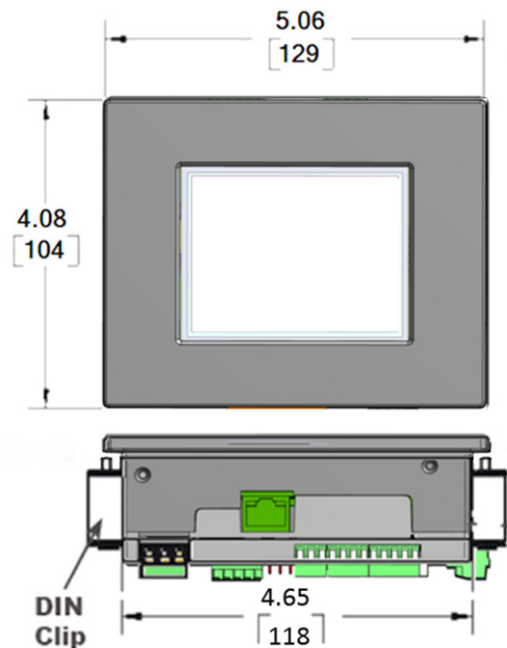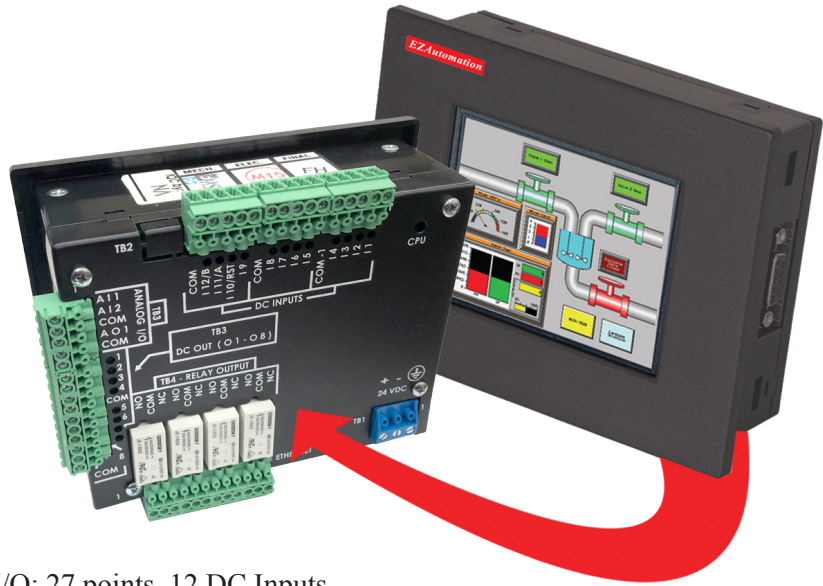
Part Number	Description	Price
EZ-T4C-MINIPLC	3.5" TFT Color, 12 DC Inputs, 8 DC Sourcing Outputs, 4 Relay Outputs (5 Amp each), 2 Analog In (0-10V), 1 Analog Out (0-10V)	$349
EZ-T4C-MINIPLC-E	3.5" TFT Color, 12 DC Inputs, 8 DC Sourcing Outputs, 4 Relay Outputs (5 Amp each), 2 Analog In (0-10V), 1 Analog Out (0-10V) with Ethernet	$459

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EZTouch mini.PLC ® / 6" TFT Color

6" Color EZTouch.mini.PLC (5.7" TFT) Overview

EZTouchminiPLC is an engineering marvel with a 5.7" TFT Color HMI Touchscreen + Full Blown PLC + 27 I/O points great for all types of control applications.

The EZTouchminiPLC offers advanced HMI functions including great graphics, animation, data logging, alarm management, Advanced PLC ladder instructions and function blocks.
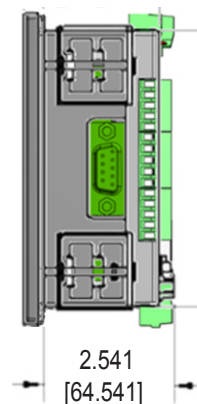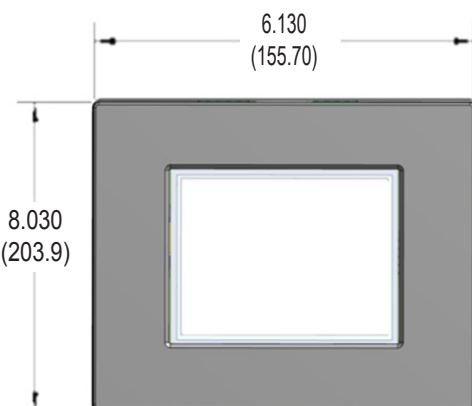

Features:
HMI:

• 5.7" TFT Color Touchscreens
• Built-in Image Library (4000+ Symbols)
• Advanced Alarm Messages & Screens
• Email & Text Message Alerts
• Trending Graphs
• Data logging
• Up to 999 User designed screens
• Patented Online Edit of HMI (No Machine Downtime, Edit on the Fly) Ethernet Port for Remote Access and connectivity to PLCs, AC Drives, or 3rd party devices
• Dual Driver Support to simultaneously interface with Major Brand PLCs or AC Drives (Allen Bradley, ABB, Omron, Siemens, Mitsubishi, Automation Direct etc.)

PLC:

• Total I/O: 27 points. 12 DC Inputs (250 KHz Quadrature Encoder input configurable),
8 DC Sourcing Outputs, 4 Relay Outputs, 2 Analog In (0-10V), 1 Analog Out (0-10V)
• Auto-tuned PID,
• Advanced Math Function Blocks
• Recipe Editing
• Date, Time and Event Based Control
• Advaced Ladder Logic Instruction Set
• Quadrature Input for High Speed Counter up to 250 KHz

6.130 (155.70)

8.030 (203.9)

2.541 [64.541]

Part Number	Description	Price
EZ-T6C-MINIPLC	5.7" TFT Color, 12 DC Inputs, 8 DC Sourcing Outputs, 4 Relay Outputs (5 Amp each), 2 Analog In (0-10V), 1 Analog Out (0-10V)	$499
EZ-T6C-MINIPLC-E	5.7" TFT Color, 12 DC Inputs, 8 DC Sourcing Outputs, 4 Relay Outputs (5 Amp each), 2 Analog In (0-10V), 1 Analog Out (0-10V) with Ethernet	$599

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