Silver Series

5.6″, 5.7″, 7.7″ & 10.4″ Touchscreen Operator Interfaces

Powerful
Affordable
Full-featured

idec
SIEMENS
GE Fanuc
Allen-Bradley
CONTROL MICROSYSTEMS
EMERSON Motion Control
KEYENCE
Compumotor

OMRON
GALIL
Koyo
MODBUS TCP/IP (Point-to-Point)
MODICON (Schneider Electric)
MITSUBISHI
YASKAWA
Panasonic (Aromat)
Bristol Babcock
QuickSilver Controls

Maple Systems INC.

The Silver Series

Operator Interface Touchscreens

Maple Systems now offers a new lineup of Operator Interface Touchscreens (OITs) guaranteed to meet your needs and your budget. The new Silver Series has advanced features, more power, and more versatility --- all at no additional cost!

Select from our economical 5.7” 4-color touchscreen to our top-of-the-line 10.4” 256 color TFT touchscreen with ethernet connectivity, compact flash storage, and 4 MB of storage memory for graphics-intensive screens! The Silver Series also has many software features not found on more expensive models.

Compare the following Silver Series features and see for yourself why the Silver Series operator interfaces are the best value in OITs on the market today...

Making the Connection

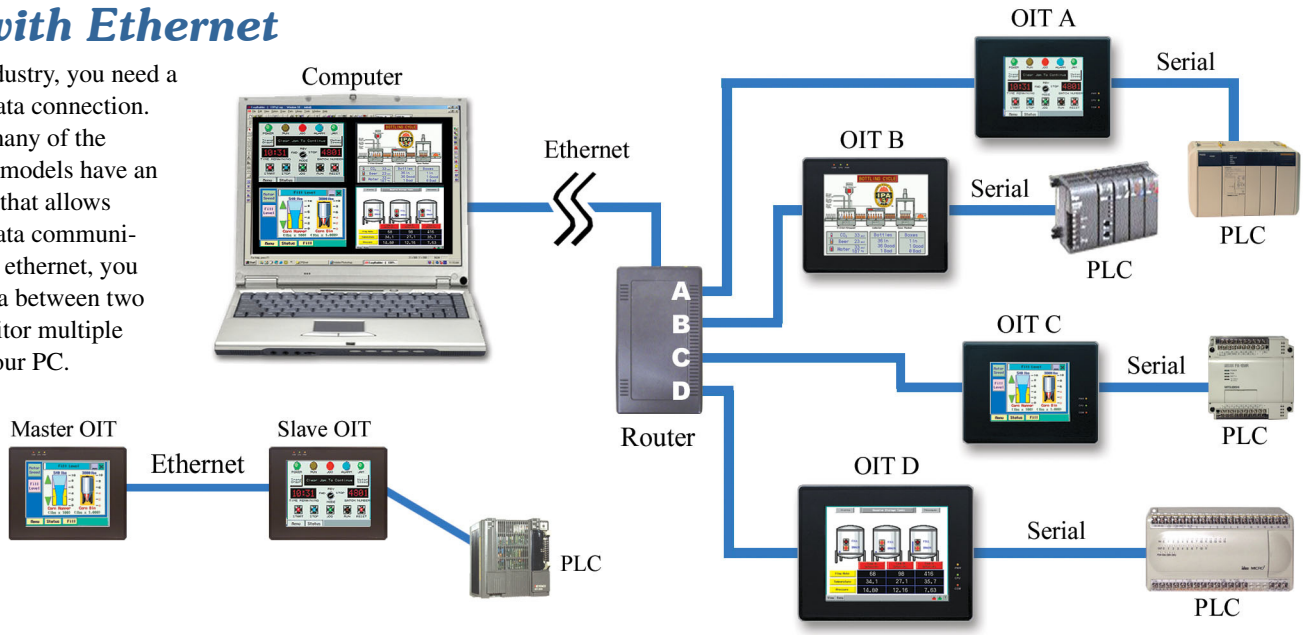
An OIT isn’t very useful if it doesn’t connect to the PLC or controller that you need. That’s why the Silver Series supports over 85 controllers from more than 35 industry-leading manufacturers, including:

NOTE:
If you don’t see a driver for the controller you need, check our website since we are constantly creating new drivers. Or call us, we’ll be happy to consider creating a driver just for your needs.

Allen-Bradley	Emerson Motion Control	Koyo	Sixnet
Aromat	Entertron	Mitsubishi	Telemecanique
ASCII Slave	Galil	Modbus RTU	Toshiba
Baldor	GE Fanuc	Modicon	Tolomatic
Beckhoff Automation	Giddings & Lewis	Moeller	Trio Motion
Bristol Babcock	Hitachi	Motorola	Twido
Compumotor	Idec	Omron	Wago
Control Microsystems	Industrial Control Links	QuickSilver	Watlow Electric
Control Technology Corp (CTC)	Industrial Indexing Systems	SAF Drives	Whedco
Delta Products	Keyence	Siemens	Yaskawa

Now with Ethernet

In today’s industry, you need a high-speed data connection. That’s why many of the Silver Series models have an ethernet port that allows high-speed data communications. With ethernet, you can share data between two OITs or monitor multiple OITs from your PC.



0910-0015A, Rev. 02

Hardware that You Can Depend on

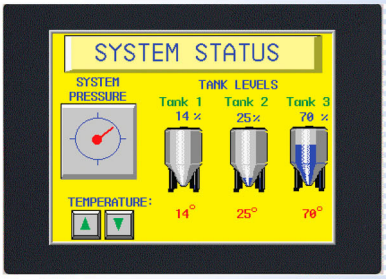
The Silver Series is designed to meet today's tough standards for durability and control. Rated for Nema 4 IP65 installations, these OITs also meet CE requirements for electric noise emissions and immunity. The touchscreens use bright displays that support 256 color graphics to give a vivid representation of real-life objects such as lamps and switches. The built-in RISC-based 200Mhz processor and high-speed data communications port assures fast screen updates and reaction to keypresses. The analog resistive touchscreens have a minimum lifespan of over 1 million keypresses guaranteeing optimum performance. The large memory storage of the Silver Series allows you to create many graphic-intensive screens for complex projects. With these features, the Silver Series is designed to meet your OIT needs for many years.

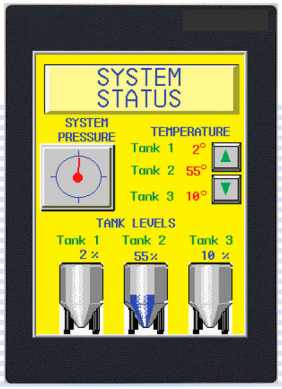
No Limit to Size or Number

With the analog resistive touchscreen, the Silver Series offers more versatility when placing objects on the screen than most competitive OITs:

- Place objects of any size on the screen
- Position the objects anywhere --- no worries about grid placement
- Overlay objects to perform multiple functions

Bright Displays — Any Size, Any Way

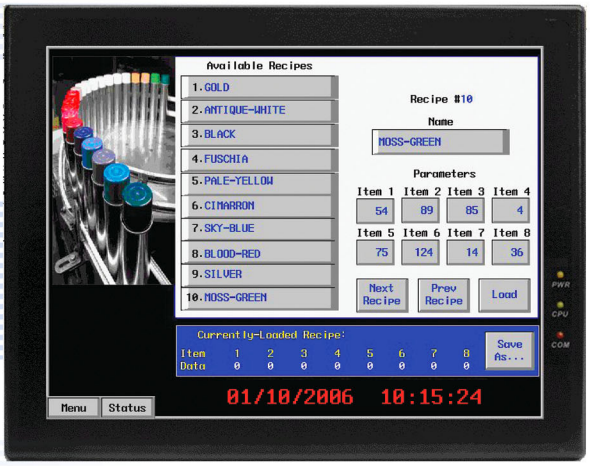




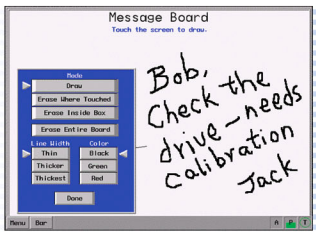
The Silver Series has several different models that support 5.7", 7.7" and 10.4" sized screens with varying resolution and brightness. For added flexibility, you can also mount the OIT onto the panel in landscape or portrait mode.

Built-in Clock and Internal Memory Storage

Each Silver Series has a built-in Real Time Clock for displaying time and/or date. The clock can also be used to record time-critical events. Internal non-volatile memory can be used to store recoverable data and recipe information.



Write a Message



The analog resistive touchscreen enables the operator to write messages on the Silver Series OIT for others to view.

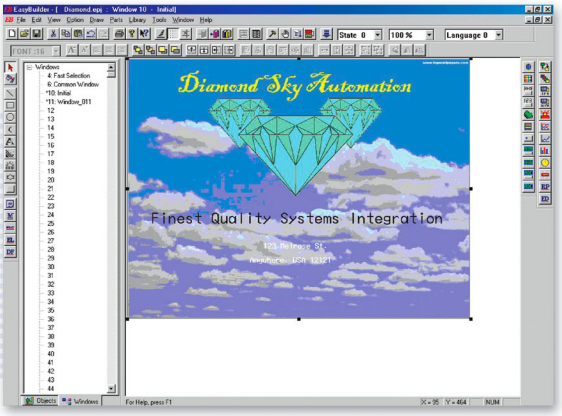
Printer Output

Connect a parallel printer that uses the HP PCL or Epson ESC/P2 language to the printer port of any of the larger Silver Series models.

Design the Screens You Want

The Silver Series' full-featured, easy-to-use configuration software, EZware-500, gives you the power to design your screens exactly the way you want. Online help gives you the answers you need instantly, and familiar drag and drop technology makes it easy to move or resize images.

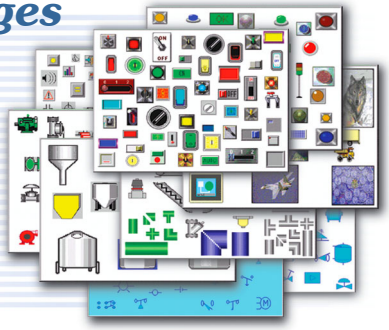
Versatile Screen Design



Using the EZware-500 software, designing screens for your OIT is a snap:

- Create up to 1990 screens (dependent upon available memory)
- Import bitmaps that can be permanently stored in your image libraries
- Create your own graphic shapes using the built-in drawing tools
- Copy projects, screens, or objects easily
- Zoom feature for detailed work
- Group objects together and save them for reuse into a library
- Multiple text sizes and colors available

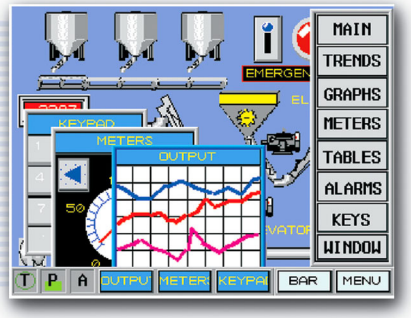
Over 500 Predefined Graphics Images



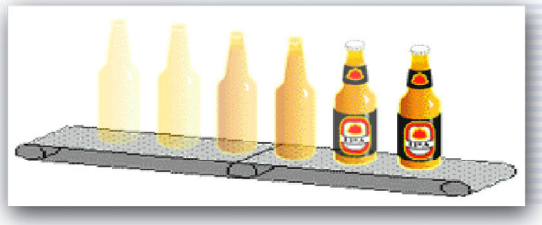
Don't have time to create your own images? Save time by using ours. EZware-500 has over 500 of the most commonly used industry symbols — including lamps, switches, motors, pumps and more.

Windows Operation

Create popup windows that are displayed only when you need them. Popup windows can be minimized to an icon or moved around the screen. Use the optional menu bar for fast keys.



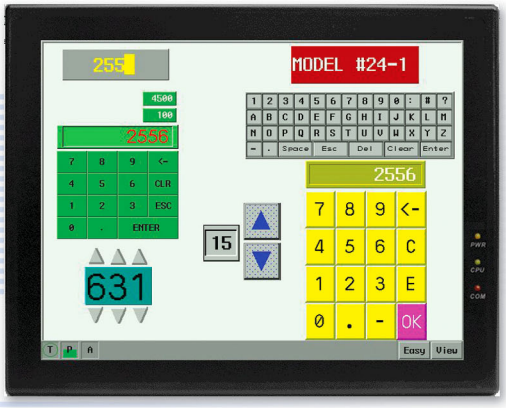
Use Animation



Enhance your screens using animation and moving shapes. Simulate a sequence of events on your OIT screen. You can also display up to 32 different states of an object according to values read from the PLC.

Data Entry

Select from a variety of keypads in the image libraries or create your own. Data can be entered using numeric or ASCII character formats. Linear scaling, password protection, and floating point format are all supported. Display internal memory data, or bits and register data from the PLC or controller. Use keys to jog data with each keypress.



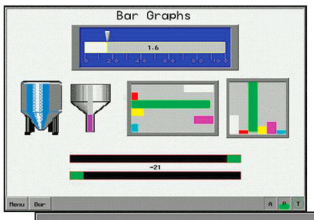
Multi-language Feature

Configure up to four different text labels for each object on the OIT screens. This allows the programmer to create one project that can be used in up to four languages.

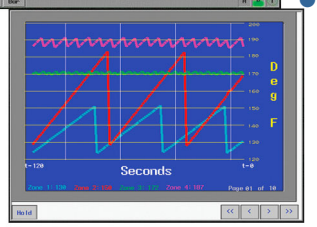
Using the Features You Need

The Silver Series can display important information to the operator using a wide variety of intuitive graphics objects. Each of the objects below can be easily placed and resized onto the OIT screen. Unlike competitor's versions, the EZware-500 software also allows you to customize each object to make your OIT unique for your particular application.

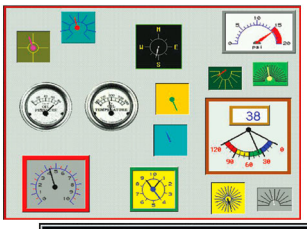
Trends and Graphs



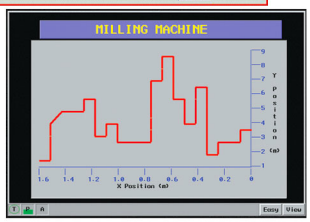
- **Bar Graphs —**
  - Variable Alarm limits
  - Selectable colors for alarm, normal background and frame
  - Scalable using Scale object



- **Trend Graphs —**
  - Retrieve PLC data over time
  - Up to 16 channels
  - Select single or multiple pages
  - Sampling rate: 0 to 65,000 sec.
  - Plot points per graph: 10 to 255
  - Hold, scroll, and clear features



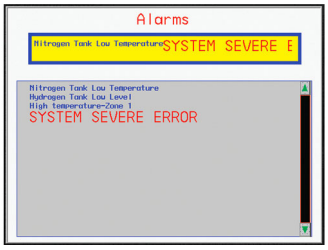
- **Meters —**
  - Analog with four formats
  - Two needle indicator styles
  - Easily change range and color



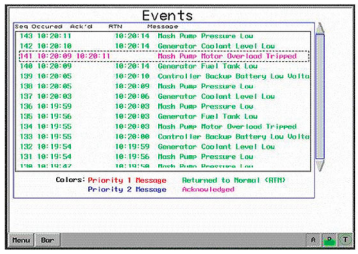
- **XY Plots —**
  - Display line graphs using data
  - Select single or multiple pages
  - Sampling rate: 0 to 65,000 sec.
  - Plot points per graph: 10 to 255
  - Hold, scroll, and clear features

Alarms and Capturing Events

Use the alarm and event feature to capture and display abnormal operation.



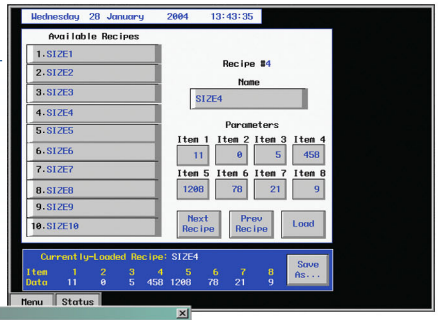
- **Alarms —**
  - Monitor unlimited alarm conditions in the PLC
  - Select color and size of alarm messages
  - Display as a rolling marquee or as a list
  - Scroll alarm lists
  - Alarm lists are fully size configurable



- Events ---
  - Display a history of alarms
  - Maximum of 1000 events
  - Select colors to show alarm state, back to normal state and acknowledged alarm
  - Display time and/or date of alarm, when back to normal, and when acknowledged
  - Scroll event lists

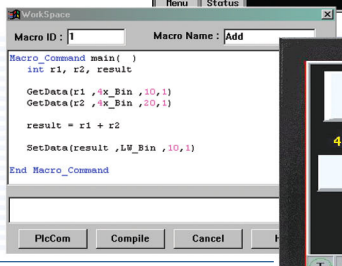
Recipes and Internal Storage

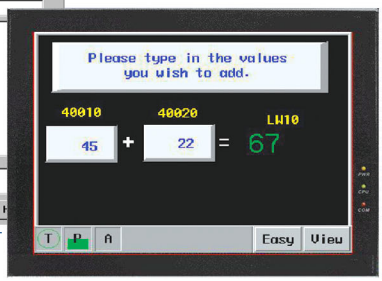
Use the non-volatile internal memory of the OIT to store data for recipes. Up to 65,535 registers available for storage. Recipe data can be downloaded or uploaded to the PLC with the press of a button. Preset values can be changed and stored back into non-volatile memory.



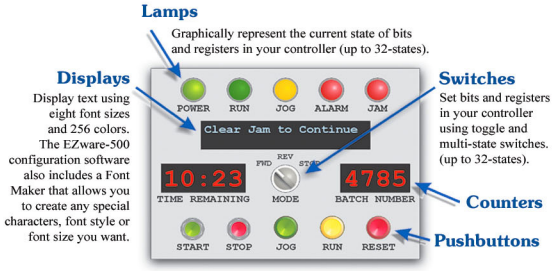
Macro Script Feature

Create BASIC-like scripts with the macro feature. Use scripts to read and write to PLC registers and use mathematical expressions. Create up to 255 scripts for each project. Each script is triggered by an internal bit in the OIT or by the PLC.





Create Exactly What You Want



There is no limit to the freedom you have when creating screens for your OIT. Multiple text sizes allow text to be displayed in varying colors and sizes. Assign up to 32 different states to any object. Lamps can be configured to blink, shown with a text label, or any color of your choosing. Use predefined lamps, function keys, keypads, or create your own custom objects.

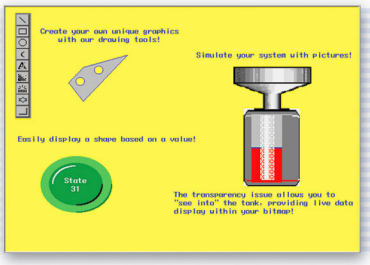
EZ to configure, EZ to use

Loaded with features and easy to use? What could be better! The Silver Series has been designed with simplicity and ease of use as our goal --- allowing you to program your OIT exactly the way you want quickly and easily. Here's how we did it...

Supports Multiple Controllers

With a wide selection of communications drivers to choose from, you don't have to waste time learning a new OIT when using a different PLC.

Easy To Program

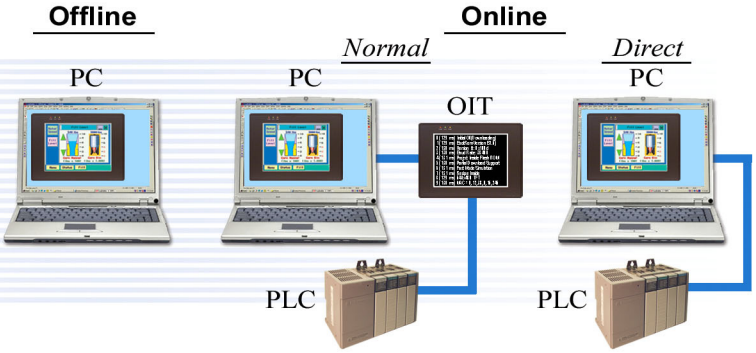


The EZware-500 configuration software saves you time by:

- Importing bitmaps that can be saved to a library and adjusted to any size that you need
- Multiple objects that are used frequently can be saved to a group library and reused again
- Projects can be saved, compiled, and instantly tested by clicking a single button

Simulation Mode

The Silver Series has three modes for project simulation — one offline and two online. Use offline simulation to immediately test the operation of the OIT on your computer (no OIT necessary)! Online simulation allows testing your project using your computer and your PLC. No need to waste time downloading the project to the OIT first before testing.

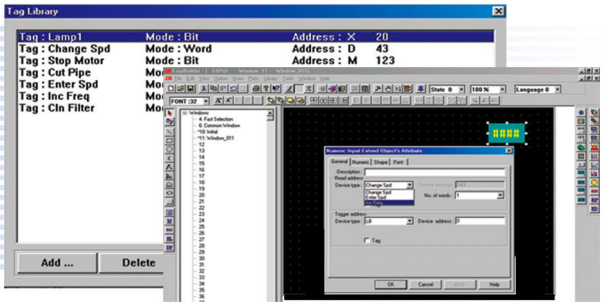


Compact Flash Support

A huge time-saver, especially for OEMs. Store your project onto a compact flash then quickly download the project into each OIT you must program. You can also easily make OIT project updates in the field.

Tag Database

Need to change PLCs and don't want to totally reprogram your entire OIT? Our tag database makes it easy to do this quickly and easily, allowing you to change object tags rather than changing each object's assigned PLC address.



Technical Support

Maple Systems provides the means to assist you when you need help. We have a highly trained technical support staff available to take your phone call or correspond via email. Our website provides many resources such as specifications, demo software, training guides and technical documents. We are available when you need us.

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Specifications & Features

Display & Touchscreen
Backlight – CCFL with up to 40,000 hour life span
Touch Accuracy – 0.08 inches [2 mm]
4-wire Analog
Surface Hardness – 4H

Hardware
Microprocessor – 200 MHz 32-bit RISC
Flash Memory – up to 4 MB (depending on model)
DRAM – 4 MB
Non-volatile Recipe RAM – 128 KB
Real-Time Clock Chip – standard

Mechanical
Material – plastic ABS
Mounting – panel

Environment
Ratings – IP65, NEMA 4
Operating Temp. – 32 to 113o F; 0 to 45o C
Storage Temp. – -4 to 140o F; -20 to 65o C
Relative Humidity – 10% to 90% (non-condensing)
Voltage Resistance – 500 VAC (1 minute)
Isolation Resistance – exceed 50 Mohms at 500 VDC
Vibration Endurance – 10 to 25 Hz (x,y,z direction; 2G; 30 minutes)

Certifications
UL/CUL Listed
Complies with EN50081-2 (1993) & EN50082-2 (1995)

Power Requirements
Input Voltage – 24 VDC

Communications
- One RS-232/RS-485 serial port (DE9P) used for OIT configuration and RS-485 controller communications
- One RS-232 serial port (DE9S) used for RS-232 controller communications
- Baud rates from 9,600 to 115,200
- Point-to-point serial communications for all protocols
- One 10 Base-T ethernet port (enhanced models) used for PC monitoring and Point-to-Point connection using MODBUS TCP/IP

Compact Flash Support
- Available on enhanced models
- Allows easy project downloads to OIT

Display in portrait or landscape format
- Change appearance according to your needs

Screens & Pop-up Windows
- Up to 1990 user-definable screens (full-size) or pop-up windows (partial-size) (actual usage dependent upon memory)
- Up to 6 pop-up windows can be displayed at one time
- Pop-up windows can overlap
- Pop-up windows can be minimized to the task bar or moved by the operator
- User-definable startup screen
- User-definable common window for displaying objects that should always be shown
- Fast selection window for quick access to screens
- Change screens or call pop-up windows using PLC registers or function keys

Touchable Objects
- Can be any size
- Place any number in a screen or pop-up window
- Locate anywhere in a screen or pop-up window

Graphic Objects
- Drawing tools for lines, rectangles, circles, arcs and polygons
- 256-colors available
- Overlay existing graphics to create complex graphics
- Create two-state graphics to represent PLC coils
- Create multi-state graphics to represent PLC registers

Tag Libraries
- Assign tag names to PLC/controller bit or data registers
- Easily change to different PLC

Multi-Language
- Assign four labels per object
- Create project with multi-languages

Recipes
- Battery-backed recipe memory for non-volatile memory storage
- Up to 65K of recipe registers
- Upload/download data to PLC with press of a button

Graphic Libraries
- Includes more than 500 of the most common symbols
- Store new graphics in the libraries
- Use the same libraries in multiple projects
- Import preexisting bitmaps (up to 256 colors)

Text
- Eight font sizes
- Display in 256-colors
- Character set can be modified to include special characters of your creation

Function Keys
- Display a new or previous screen
- Display or close a pop-up window
- Display a message board
- Edit a PLC register using numbers or ASCII characters

Bar Graphs
- Display with or without a background shape
- Define the direction – up, down, left, right
- Constant or variable hi/lo alarm limits
- Adjustable color, size, span and zero reference
- Unlimited number of bar graphs per screen

Meters
- Four formats in two styles – up half, full up, full bottom, 3/4 full
- Adjustable color, size, span and zero reference
- Unlimited number of meters per screen

Trends
- Periodically retrieve data from up to 16 PLC registers
- Vary sampling time from 1 to 65,535 seconds
- Hold feature for pausing the sampling
- Single or multiple page display
- Adjustable color and size

Alarms
- Monitor an unlimited number of PLC registers and coils
- On-screen alarm indicator
- Horizontal scrolling bar scrolls through all active alarms
- Alarm list displays all active alarms

Events
- Monitor PLC coils or registers for “events”
- Display screens or pop-up windows on an event trigger (the screens can be configured to set PLC coils)
- Acknowledge and “return to normal” capabilities

XY Plot Graph
- Retrieves data from 2 PLC registers
- Select single page or multiple page
- Sampling time 0-65,535 seconds
- Scroll and hold control options

PLC Register Control
- Decimal, hex, binary, or floating point representation
- Linear scaling to present analog or digital data in readily understandable terms (i.e., degrees, speed)
- Jogging capability – incremental or time rated
- Use single or multi-state graphics to represent
- Masked format for password protection

Macro Script
- Read or write to PLC register
- Create mathematic expressions
- Triggered by bit
- Up to 255 macros per project

Other Features
- Animated object movement using multi-state graphic objects tied to a PLC register
- On-line simulation mode for quick debugging
- Multiple OITs easily connected to one PLC
- Message board for writing messages
- Backlight screen saver

Phone: 425.745.3229 Fax: 425.745.3429 www.maplesystems.com

Models	HMI520M	HMI520T	HMI520TE	HMI530T	HMI530TE	HMI550H	HMI550HE
	Classic	Classic	Enhanced	Classic	Enhanced	Classic	Enhanced
Display Type	5.7″ STN 4 color blue	5.6″ TFT 256 color		7.7″ TFT 256 color		10.4″ TFT 256 color	
Display Size (WxH) Viewing Area	4.5″ x 3.5″ [114 x 89 mm]	4.5″ x 3.5″ [114 x 89 mm]		6.1″ x 4.6″ [155 x 117 mm]		8.5″ x 6.0″ [216 x 152 mm]	
Display Brightness	60 cd/m^2	500 cd/m^2		400 cd/m^2		400 cd/m^2	
Display Contrast	15:1	150:1		250:1		300:1	
Display Resolution	320x240 pixels	320x234 pixels		640x480 pixels		640x480 pixels	
User Memory	1 M Bytes	1 M Bytes	2 M Bytes	2 M Bytes	4 M Bytes	2 M Bytes	4 M Bytes
Ethernet Port (10 Base-T)	No	No	Yes	No	Yes	No	Yes
Compact Flash Slot	No	No	Yes	No	Yes	No	Yes
Printer Port	No	No		Yes		Yes	
Dimensions (WxHxD)	8.0″x5.9″x1.9″ [204x150x48mm]	8.0″x5.9″x1.9″ [204x150x48mm]		9.1″x6.9″x2.2″ [231x176x55mm]		9.1″x6.9″x2.2″ [231x176x55mm]	

About Maple Systems

Elevating the Art of the Operator Interface . . .

Maple Systems is unique in the industrial marketplace. We are operator interface (OIT) experts who have specialized in the design, manufacture and support of operator interface solutions for 25 years. This specialized experience is evident in the quality, versatility and affordability of each of our operator interface terminals.

Our controller support is unsurpassed, with operator interface terminals that communicate with over 80 families of controllers from industry-leading manufacturers like Allen-Bradley, Omron, Siemens, Koyo, and GE Fanuc, as well as the hundreds of PLCs and motion controllers that use Modbus and ASCII communications. And each of our products has all of the features you need at extremely affordable prices.

Presented by

Whether you need to display simple text or complex data entry and process monitoring, our team of OIT experts can help you to find the perfect solution for your application.

425.745.3229
425.745.3429 (fax)
www.maplesystems.com
808 134th St SW, Suite 120
Everett, WA 98204

Value ... Performance ... Personalized Solutions ...
From the Operator Interface Specialists