MMI-850/1050/1500

Graphic Display Panels and Touch Screens

Features

- LCD Graphic Display with Touch Panel

- 7.7", 9.4" and 10.4" Displays, TFT Color, STN Color or Monochrome

- Connects to Today's Popular PLC's via Single Cable to Programming Port

- FREE Design Mode, Windows™ based Setup Software Included

- 24 VDC Powered

LCD with Touch Panel

The MMI-850/1050/1500 are touch screen interfaces for programmable controllers. They connect directly to most PLCs and do not require the PLC to run any special program for data communication. This greatly reduces PLC programming time. The units display pictorial information, data and messages that are preloaded into them using a Personal Computer. Touch screen areas can be programmed to perform various functions. Free setup software for configuring the MMI-850/1050/1500 is included with each unit. The Easy Builder Screen Editor Software takes advantage of Microsoft Windows graphical interface and object oriented scheme. It offers fast and intuitive configuration. This simplifies application design while reducing development costs. They are designed especially for harsh working environments.

Connect directly to most PLCs

The MMI-850/1050/1500 uses each PLC's communication protocol to read or write data. They do not require the PLC to run any special program for data communication. The MMI-850/1050/1500 allows the user to optimize communications by selecting the data block size that is uploaded with each communication to the PLC. The EasyWindow utility that is provided along with EasyBuilder can be used to further monitor and tweak PLC communication efficiencies.

PLC Driver:

More supporting device drivers are being developed every day.

AB DF1	LG GLOFA Cnet
AB DH485	LG Master K
AB PLC5	Matsushita FP (Aromat)
AB Logix DF1	MITSUBISHI
DELTA DVP	MODICON MODBUS RTU
ENTERTRON MODBUS RTU	MODBUS RTU TCP/IP
FACON FB	OMRON
Fuji NB Series	SAIA PCD
GE FANUC SNP-X	Samsung SPC-10
HITACHI EH-150	Sharp JW Series
IDEC Micro^3	SIEMENS S7-200
IDEC OpenNET	SIEMENS S7/300
INDUSTRIAL INDEXING	SIMATIC TI505
SYSTEMS, INC.	Telemecanique Unitelway
Jetter Nano	Toshiba T Serial
Keyence KV-16DT	VIGOR M Series
KOYO Direct	Yokogawa PLC Series
Lenze	

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General Specifications

Item	Specification
Input power	21-25 VDC, 500 mA @ 24VDC
CE	Complies with EN50081-2 and EN50082-2 standards
EMI	Complies with FCC Class A
Isolation resistance	Exceeds 50 M_ at 500VDC
Vibration endurance	10 to 25 Hz (X,Y,Z direction 2G 30 minutes)
Environmental	NEMA 4 / IP65 front panel (when mounted with gasket seal)
Operating Temperature	32 to 113 °F (0 to 45 °C)
Operation humidity	10 to 90% RH Non Condensing
Enclosure	Plastic: Polybutylene Terephthalate (PBT) and Polycarbonate(PC)

Unit Specifications

Item	1500T	850	1050
LCD Display	10.4" TFT, 256 color	7.7" STN, 256 color	9.4" STN Dark Blue, 4 color
Display area (mm)	215(W) x 162(H)	162(W) x 123(H)	196(W) x 150(H)
Brightness cd/m2	250	150	60
Contrast Ratio	100:1	30:1	15:1
Resolution pixels	640(W) x 480(H)		
Pixel size	0.33(W) x 0.33 (H) mm		
Back light	CCFLx2 (MTBF 25,000 hr)		CCFLx1 (MTBF 15,000 hr)
Touch panel	4 wire resistive type		
Touch granularity	2mm grid		
Touch Feedback	Beeper and or Graphic Indicator		
Surface hardness	4H		
Processor	32 bit RISC CPU 200 MHz		
Flash ROM Memory	4MB		2 MB
System Memory	4MB DRAM		
Battery Held Memory	128kB with Y2K compliant Real Time Clock/Calendar		
Compact Flash Slot	Used for project updates		Not Available
Serial ports	1 RS-232 (controller port) and 1 RS-232 / RS-485 (PC & controller port)		
Parallel port	Standard parallel printer port		
Ethernet Port	RJ-45 8 wire (10 BaseT) TCP/IP		Not Available
System diagnostic	Watch dog timer, power failure detection		
Dimensions Bezel H x W x D inches (H x W x D) mm	Bezel: 9.37 x 12.40 x 2.44 (238 x 315 x 62)	Bezel: 6.93 x 9.09 x 2.16 (176 x 231 x 55)	Bezel: 9.06 x 11.69 x 1.57 (230 x 297 x 40)
Cutout H x W inches (H x W) mm	Cutout: 8.86 x 11.89 (225 x 302)	Cutout: 6.57 x 8.75 (167 x 222)	Cutout: 8.38 x 11.10 (212 x 282)
Weight	Approx. 2.0 kg	Approx. 1.2 kg	Approx. 1.4 kg

*Backlight: (programmable auto shutdown)

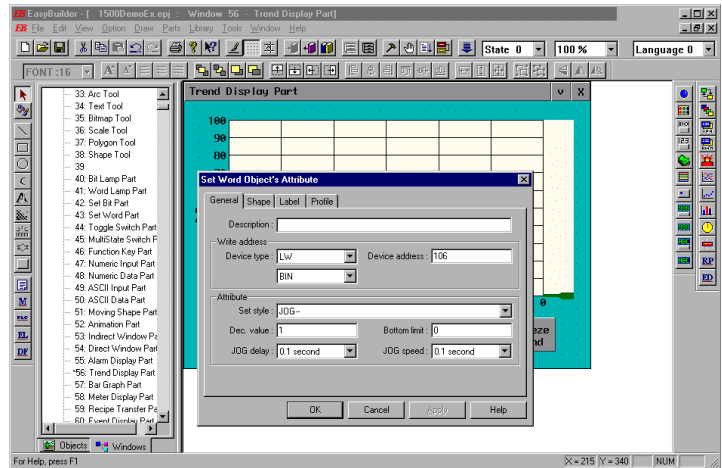|	
Screen editor	EasyBuilder Version 2.5.1 or later (to be run under Windows 98 / NT / 2000 / ME / XP)
No. of window	1 ~ 1999, limited by memory
No. of object	Up to 500 per window, limited by memory
Text strings, Tags & Labels	limited only by memory
Macro Scripts	256 maximum, limited by memory
Libraries per project	Up to 10 libraries can be attached to a project
Bitmap graphics	256 KB per graphic, limited by memory
Support PLC	Most popular PLC's
Support Printer	Simple ASCII, EPSON ESC/P2, HP PCL/(Simple page mode) or compatible

Easy Setup with EasyBuilder Software

EasyBuilder is a graphics editor software program for configuring the MMI Series. EasyBuilder can be downloaded for free from KEP's website (www.kep.com). Typical projects are composed of user defined windows. Each window is composed of a variety of elements called objects. There are drawing objects or putting static text and graphics on the window and Part objects for putting active objects on a window. PLC controlled objects can be used for window control and system functions.

Configuration of the MMI-1500/1050/850 is easy. To setup objects, select an icon from the toolbox, a dialog box appears. Fill in object attributes requested by the dialog to complete the object setup process. Move the object to the right position and drag the boundary of the object. It's a straightforward, simple, and consistent process.
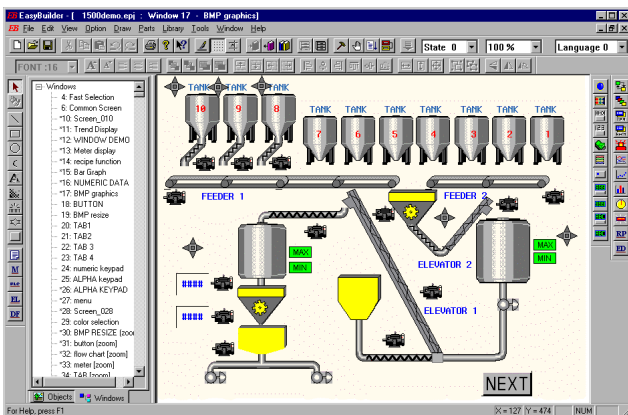
Animation Tools:
Bit Lamp – Place an indicator that is bit triggered
Word Lamp – Place an indicator that is word triggered
Set Bit – Set a bit
Set Word – Set a word
 Toggle Switch – Toggle a bit
MultiState Switch – Increment/Decrement a word
Function Button – Perform a system operation
Numeric Input Extend – Display/Change digital data
Numeric Display – Display digital data
ASCII Input Extend – Display/Change alphanumeric data
ASCII Display – Display alphanumeric data
X,Y Move Animation – Move an object via pixel coordinates
Spot Move Animation – Move an object on a predefined path
Direct Window - Popup Window on Bit
Popup Window on Register
Alarm Display
Trend Graph
XY Plot
BarGraph
Meter
Scrolling Alarm
Event Display
Recipe Transfer
(requires option card)
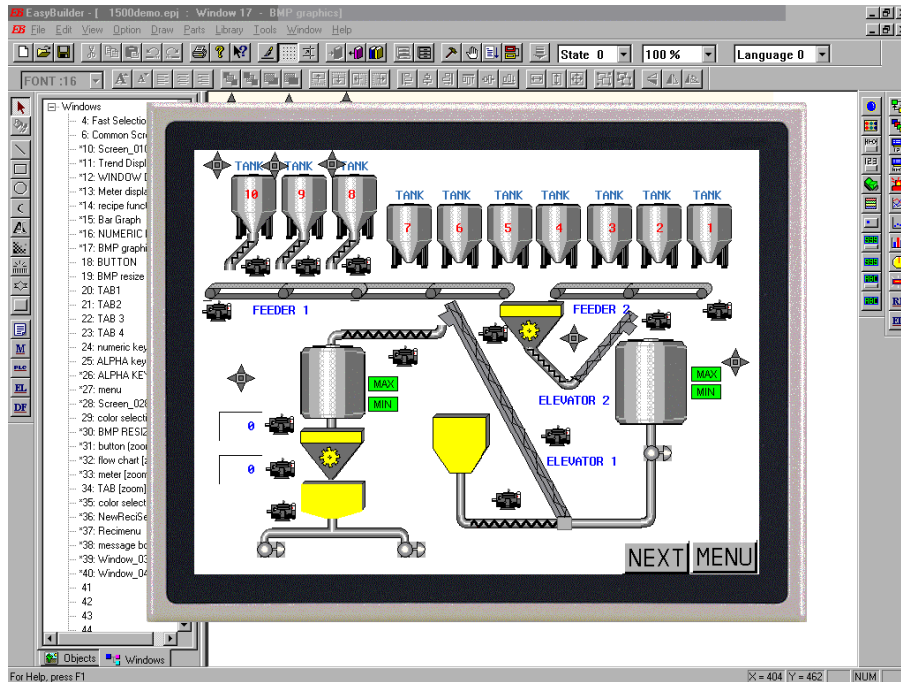PLC Controls: Screen,
backlight, printer
Data Transfer

 Graphics can be produced by using the EasyBuilder's own set of drawing tools. You can import any 256 color BMP format graphic into EasyBuilder to customize your application. Screen Captures and Graphics may also be cut and pasted into Paintbrush for conversion to the BMP format. Libraries with over 300 commonly used graphics are included with EasyBuilder Software. These libraries can be edited and new libraries created to hold new graphics you have created.

Drawing Tools:
Line – Draw straight lines
Rectangle – Draw squares and rectangles
Ellipse – Draw circles and ellipses
Arc – Draw 90-degree arcs
Polygon – Draw multisided objects
Text – Place static text
Scale – Place lines at regular intervals
Shape – Place a static shape from a library
Bitmap - Place a static bitmap from a library

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Other convenient features include: The ability to copy windows and objects between projects. Windows can be stacked (overlapped) to reduce duplicate objects. Tags can be assigned to Data points for easy reference during project development. Labels that change depending on language use can also be incorporated into the project giving it international compatibility. Macro scripts can be triggered by bit actions to perform calculations, data manipulation and logical operations. Up to 256 scripts can be programmed into the unit. The ability to put a system bar (Taskbar) at the bottom of the screen to emulate familiar graphic interface operations.

After completing a project it can be simulated off-line to view approximately how your project will look and respond. There is also an on-line simulation. Connect the PC to your MMI unit and connect the MMI to your PLC. The MMI display is emulated on the PC screen by using the MMI as a bridge to go to your PLC. The PC will mimic exactly how the MMI will respond once the project is downloaded.

To download a project, connect the MMI-1500/1050/850 to COM1 or COM2 port of your PC using the download cable provided with the unit. Execute the download function, it will directly transfer your project data to the MMI-1500/1050/850's flash memory.

The Ethernet Option package includes expanded memory, a compact card memory slot , an additional printer port and a 10 BaseT ethernet port. The compact card slot allows a user to update the project in a unit without connecting a computer or some other programming device. The printer port can be used to print out screen captures and event or alarm information. The ethernet port can be used for unit to unit communications or Modbus TCP/IP communications to controllers.

ORDERING INFORMATION:

Part Number	Description
MMI-850	Graphic Interface with 7.7" STN, 256 color, LCD display and Touchscreen
MMI-1050	Graphic Interface with 9.4" blue, 4 gray scale, LCD display and Touchscreen
MMI-1500T	Graphic Interface with 10.4" TFT, 256 color display and Touchscreen

Accessories
MMI-PDK includes printed manual, programming cable and setup CD.

Note: Setup software and programming cable are included with each unit. The manual is on the CD as a PDF file. A printed copy of the manual is sent with each MMI-TS product order.