

A Combination of **STRENGTH AND AESTHETICS**

SPEEDY, STABLE, SMART



Four reasons to Upgrade >>> **iE/XE/mTV with cMT X**

Speedy

Superb

- ▶ Quad-core high performance CPU
- ▶ Memory space 35x larger
- ▶ Touch gesture operation
- ▶ 64 bit data access
- ▶ Tag-based communication protocols
- ▶ Superior quality

Breaking Through Limitations
Unparalleled User Experience >>>

Easy

Stable

- ▶ Graphical UI-based configuration: Action Trigger
- ▶ Flexible historical data management
- ▶ FTP file transfer
- ▶ cMT Diagnoser: quick troubleshooting
- ▶ Macro debugging
- ▶ Multi-language keyboards

Better Results
Made Easier >>>

Intelligent

Integration

- ▶ Smart communication protocol: MQTT, OPC UA
- ▶ Database integration: MySQL, MS SQL
- ▶ Web 2.0: Viewing data charts on the web
- ▶ WebView: Monitoring via a browser
- ▶ Integrating peripheral devices: Smart Meters, Ethernet Printers, Camera (USB, IP CAM)

All-around Value-added through
Resource Integration >>>

Safety

Monitoring

- ▶ cMT Viewer: Secured, multi-user, remote monitoring
- ▶ LDAP: Centralized user management
- ▶ CODESYS: PLC Functionality
- ▶ JavaScript: Customized interactive design

Seamless Transition
Future Factory is Here >>>

Breaking Through Limitations, Unparalleled User Experience

Noticeable Upgrades – Performance, Display, Storage, Communication

Speedy



Superb

Top-notch Processor

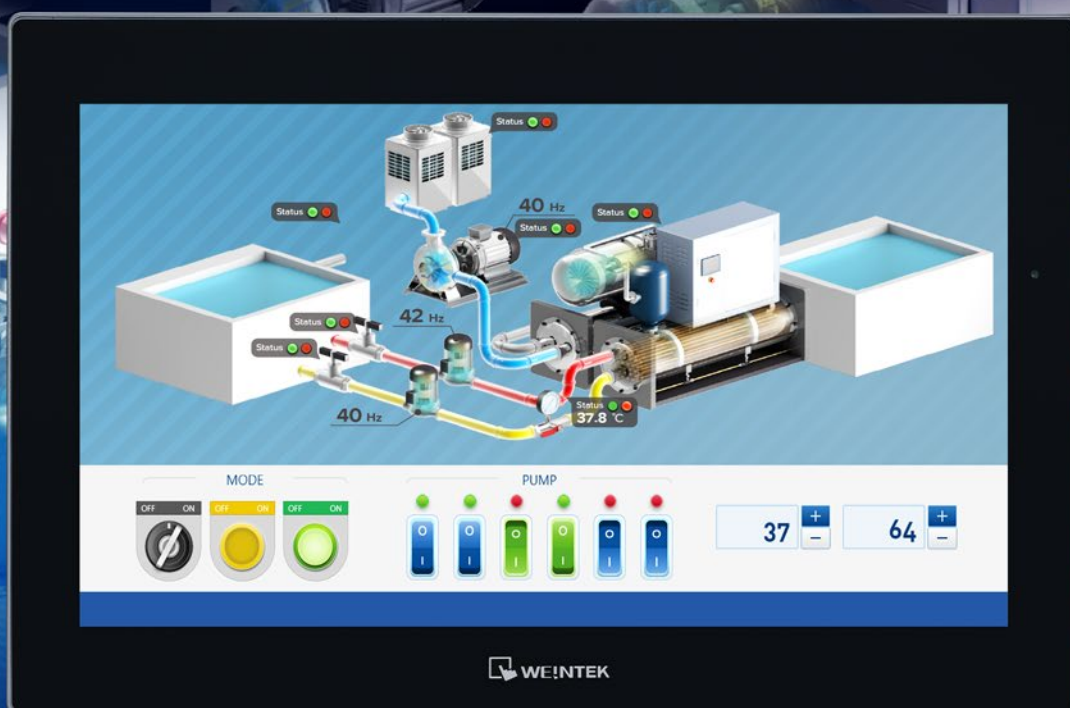
Quad-core CPU overcomes the most difficult computational challenges and makes for very smooth operation. Expectations for speedy and smooth operation experience are easily met.

Up to 4 times

more computing power

Outstanding Display, a Joy to the Eye

Vivid and colorful.
Customizable opacity for optimized visual experience.



Use it like a Smartphone

Smooth window transition effects
Intuitive multi-touch gestures
Fast zoom in /out of charts



Expanded Memory Space

Have more pictures, save more data, but leave worries behind.

Similar size from the outside,
but much more memory space inside for

iE Series cMT X Series
22MB → 768MB **35X historical data**

iE Series cMT X Series
22.5MB → 64MB **3X project content**

iE Series cMT X Series
255 → 500 **2X Macros**



Powerful Communication Capability Realizing Secure and Efficient Data Transfer

- ▶ Supports 64 bit data type
- ▶ Supports OMRON EtherNet/IP (NJ/NX Series), Siemens S7-1200, Rockwell EtherNet/IP (CompactLogix), Beckhoff TwinCAT PLC, CODESYS, etc.
- ▶ The cMT X Series supports tag-based communication which not only enables optimized use of PLC memory space but also enhances quality, speed, security, and efficiency of data transmission.



64 bit



Better Results Better Results Made Easier

Every little touch adds up to increased productivity.

Easy
×
Stable

Manipulate Pictures without Losing Quality

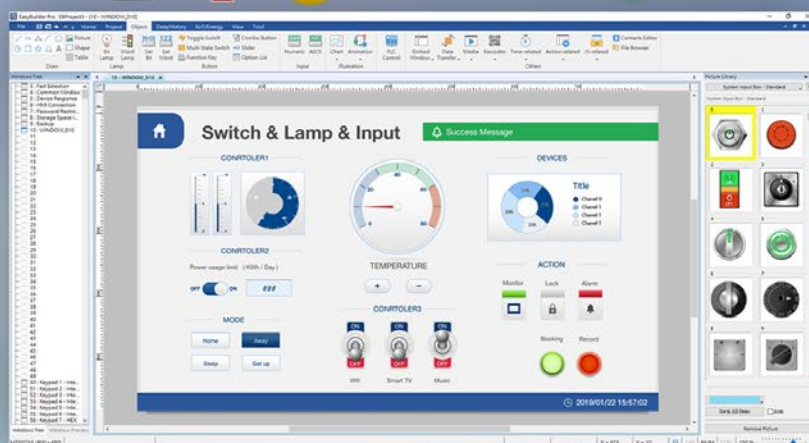
SVG vector images can be resized according to HMI screen size.

Provides flip or rotate features.



Professional Picture Library

Distinctive object styles make your interface very eye-catching.
Rich libraries of pictures ready for use.



Flexible History Data Management

Rather than organized by day, data on the cMT X Series is stored in a searchable database, so data from any time can be accessed via a friendly graphical UI.

«On-site»

Easily swipe and zoom in / out to the desired range.

Remote»

View logs in the Web2.0 page, and what's more exciting is that you can download the Excel file for further analysis on the web.

Trigger a Series of Actions with One Button

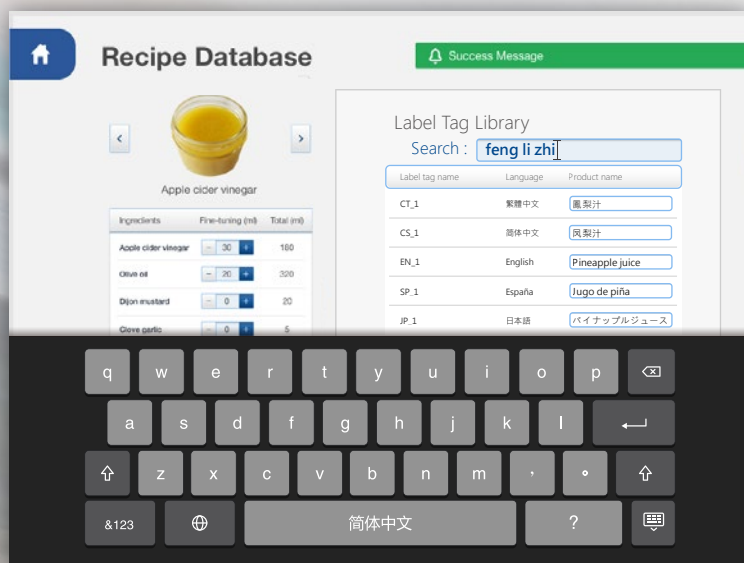
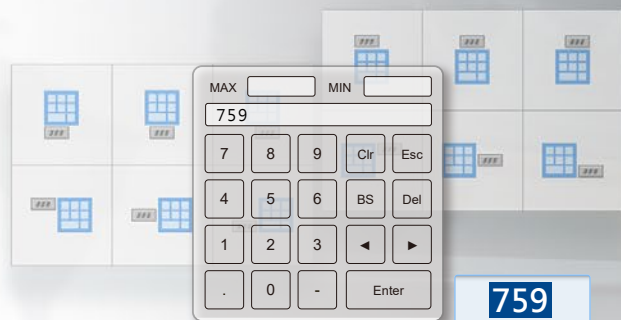
Predefined action sequence can be triggered using a Combo Button, saving the trouble for writing complex macros and making project maintenance a piece of cake.

Automatic Archiving, Immediate Data Sharing

Moving files using an external USB drive is no longer necessary. The cMT X Series can let you read the latest operation manuals, access and transfer files with other devices.

Enhanced Operational Flexibility, Customized Keyboards

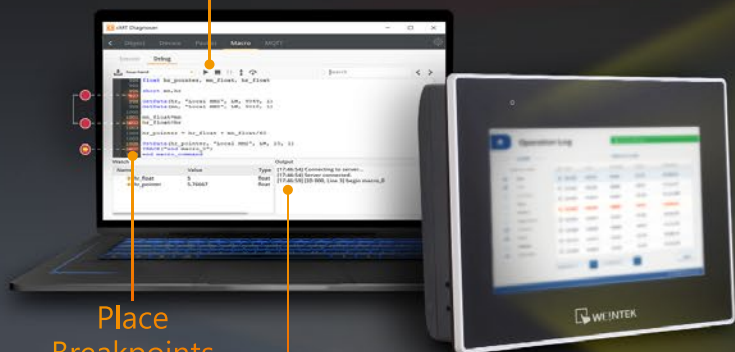
The cMT X Series is supplied with multi-language keyboards and the popup position of the keyboards can be customized to prevent it from unwanted covering of other user interface elements.



Action
Toolbar

Place
Breakpoints

Monitor
Variables



Quickly Identify Errors, Cut Down Development Time

Don't let the **bugs** delay your software development. Macro Debugger and MQTT monitoring tool are here to help you quickly catch the bugs and resolve issues, increasing working efficiency.

All-around Value-added through Resource Integration

The cMT X Series is beyond your imagination.

Intelligent

Integration

Efficient Recipe Update

Before, recipe updates were done with a USB device, one at a time.

Now a cMT X HMI serves as a recipe datacenter, and SQL commands can be used to add, modify, delete, or read recipe data without delay.

MySQL
MS SQL Server



Time/manpower saving



Quick sharing of recipes



No need for file conversion



Virtually no limit to memory space



Recipe data safeguarded

*Database integration is only available on the advanced models.

Data Integration for Effortless Analysis

MySQL and MS SQL support that helps to realize centralized data management. Synchronization of Data Log, Event Log, and Operation Log to Database for data analysis and troubleshooting.

MySQL
MS SQL



*Database integration is only available on the advanced models.

Cloud Integration for Easy Implementation

Supports MQTT, OPC UA, Modbus communication protocols

- ▶ Integration: Built-in IIoT protocols facilitate integration of IT and OT systems.
- ▶ Flexibility: Data format may be user-defined.
- ▶ Connectivity: A wide range of third-party cloud services are supported: (AWS IOT, IBM Cloud, Microsoft Azure, Google Cloud, Alibaba Cloud, Tencent Cloud).



MQTT
OPC UA
Modbus



*OPC UA Server is only available on the advanced models.

Smart Meter for Energy Monitoring

A cMT X HMI with Smart Meter offers an energy monitoring solution which ensures that energy demand does not exceed the contracted amount. This solution helps users fully manage energy demands and plan for replacing inefficient devices.



*Smart meter is only available on the advanced models.

Printer Driver Support for Carefree Print Jobs

The cMT X supports a wide range of major brand printers so that print jobs can be sent directly from the HMI without having to use a PC or EasyPrinter.



Ethernet



Multimedia Functionality

The cMT X Series supports continuous video recording as well as video playback to help users keep track of onsite machine status.



Monitoring Onsite Machine Status with Only a Browser

Open your Browser – the most Familiar Experience

Opening a browser on an HMI makes configuring devices easy.

Opening a browser on portable devices enables production status monitoring anywhere, anytime.
A new league of remote monitoring experience that requires no APPs.



Browser-based HMI monitoring



Dynamic data and chart visualization



Remote project update



User permission management

*PLC Web Browser is only available on the advanced models.

Future Factory is Here

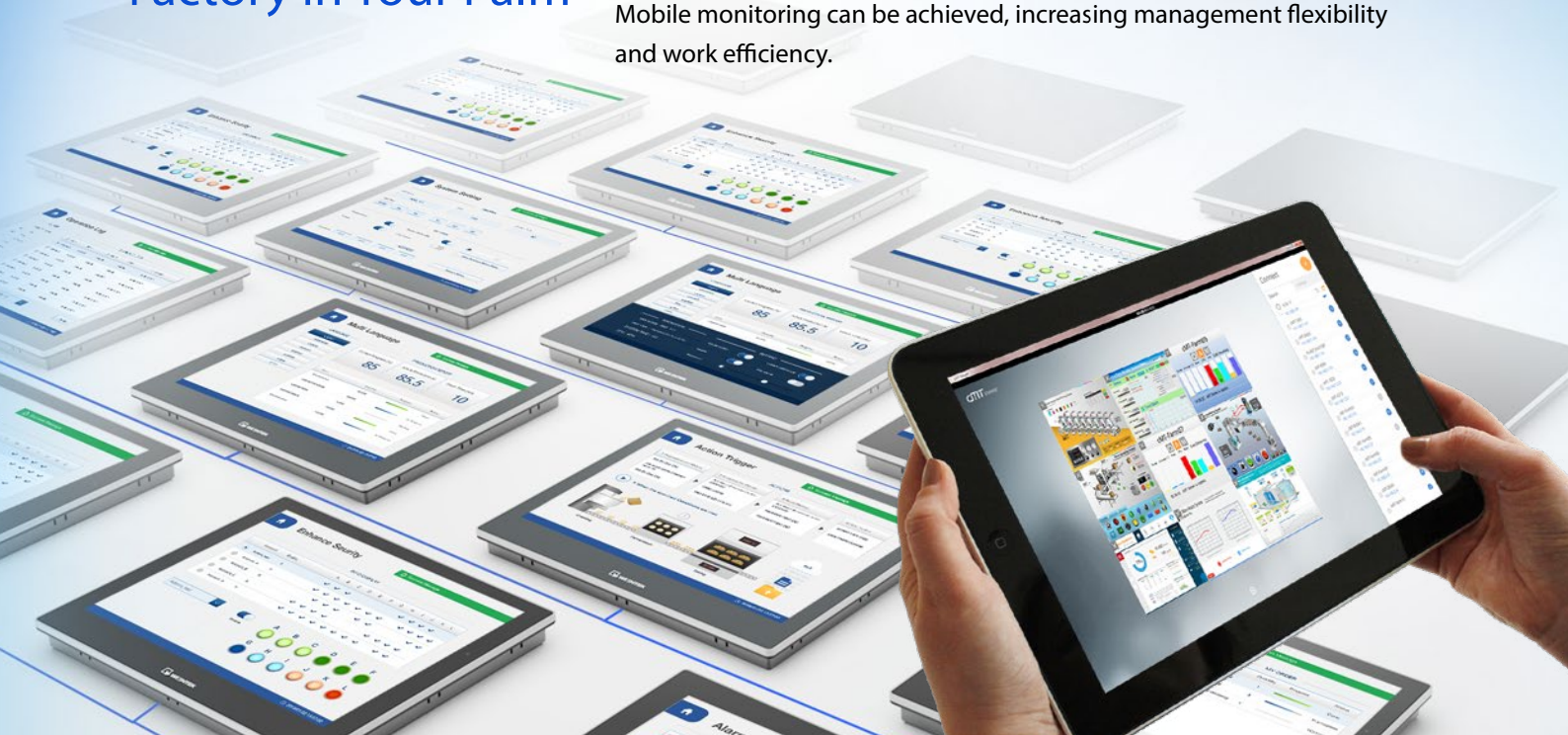
Eliminating obstacles with ease

Safety

Monitoring

Factory in Your Palm

With cMT Viewer, the entire factory can be inspected on hand-held devices. Mobile monitoring can be achieved, increasing management flexibility and work efficiency.



Secure Multi-party Collaboration

cMT Viewer is a powerful mobile monitoring tool that allows up to 50 HMI screens to be monitored and help keep data updated. The Control Token feature ensures multi-party collaboration is still safe.



Centralized Account Management

LDAP mode validates user login on a centralized server. Not needing to manage user authority on each device enhances security and efficiency.



Your HMI is also Your PLC

HMI integrated with PLC. An ideal 2-in-1 solution.



JavaScript Support Brings Countless Possibilities

A never-before-seen tool that enables the design of powerful interactive features.

Users are free to design custom objects that are suitable for their application.

May be used to obtain open data for applications as required.



Seamless Upgrade to cMT X from iE

What the iE Series can do, the cMT X Series can do better.

Updated instructions are available to assist you in finding the corresponding settings windows quickly.

Upgrading to the cMT X Series is quick and easy.



Model	Recommended Replacement Model	
	Standard	Advanced
mTV-100	N/A	cMT-FHDX-220
MT8071iE	cMT2078X	cMT3072X/ cMT3072XH
MT8073iE	cMT2078X	cMT3072X/ cMT3072XH
MT8102iE	cMT2108X	Under development
MT8150XE	cMT2158X	cMT3152X
	cMT3161X	cMT3162X

cMT X Series

Upgrade iE / XE Series and mTV to cMT X Series

Non-stop Software Innovation, Smarter UI Design Tool, Faster Communication and Computation

Always Improving *What the iE Series can do, the cMT Series can do better.*

HMI's were originally developed with single device control in mind. As Industry 4.0 pushes legacy factories to retrofit their equipment with smart capabilities, demands for data visualization and system integration will continue to increase.

Based on the solid architecture of Weintek's old HMI series, we have developed the next generation HMI to facilitate implementation of IIoT and integration of data systems and further refined our design and debugging tools to expedite your project development. Meanwhile, we provide solutions with leading core technologies in areas like communication speed and data processing.

iE



cMT X

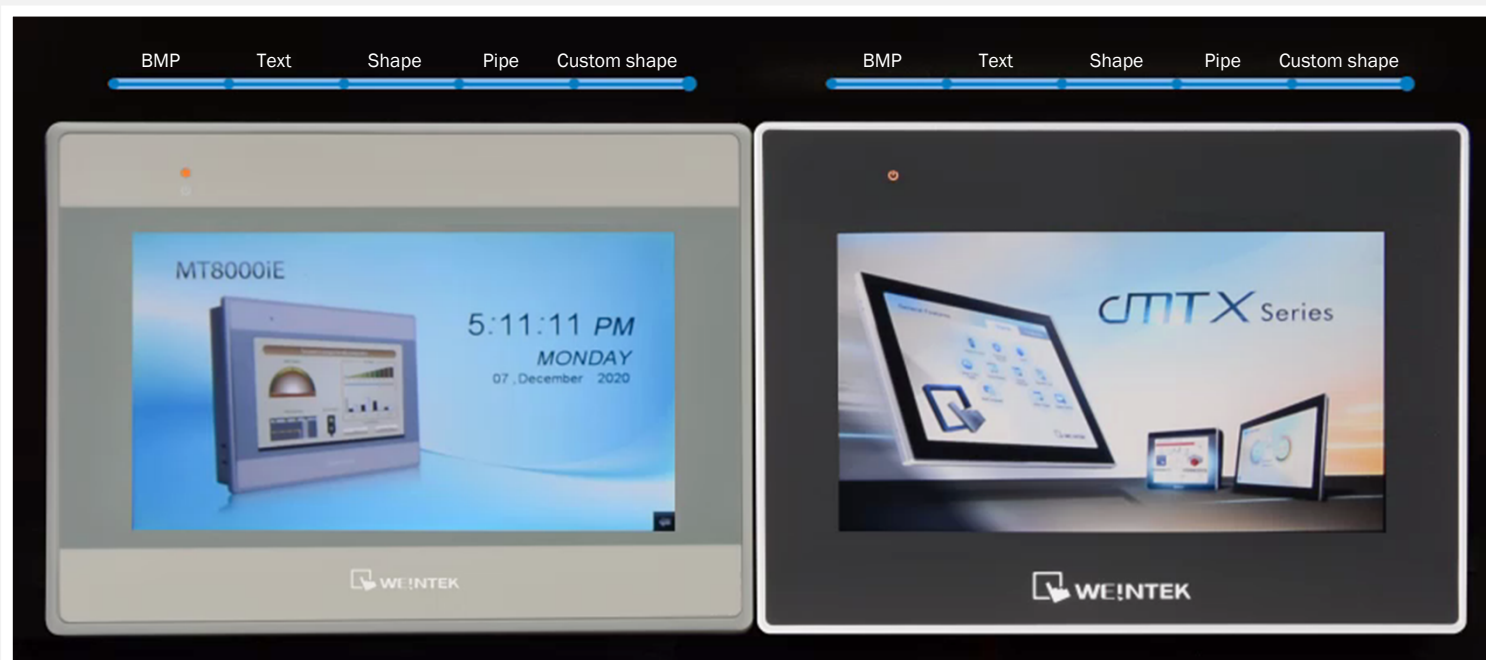
Speed

*Upgraded Quad-core CPU and an enhanced rendering algorithm of EasyBuilder Pro -
Equating to faster response times*

Device monitoring, data visualization, graphical display, touch operations, protocol conversion (MQTT, OPC UA), and X.509 certificate encryption...
All of these require enhanced CPU computing power and software technologies.

A demonstration of the speed performance of cMT X's enhanced CPU and software.

iE Series



cMT X Series

Speed

Lightning-fast Recipe Update - Recipes in SQL Database

When a factory produces dozens of products and each product has a specific recipe for materials, mixing time, baking temperature, packing machine parameters...

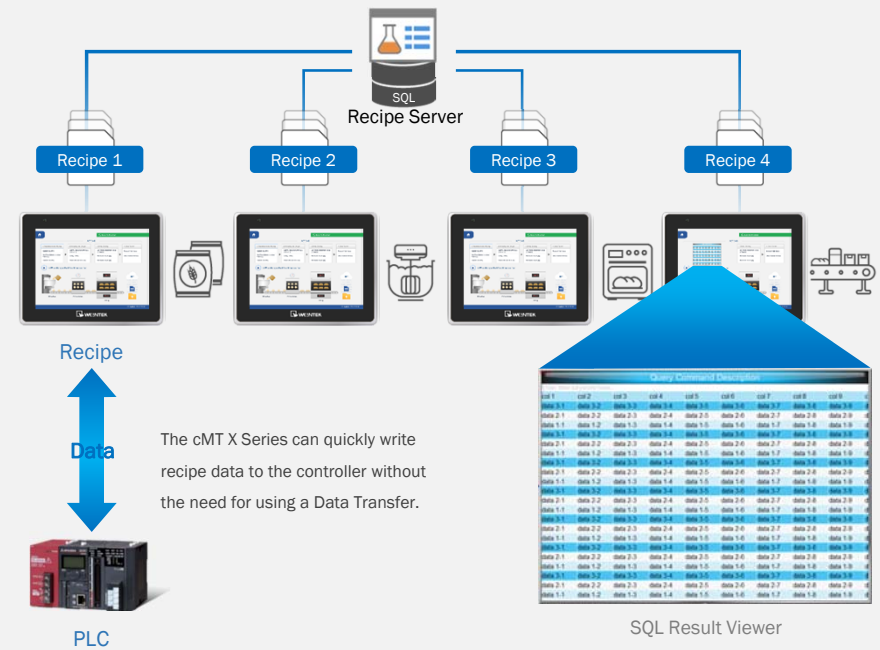
iE Series

Recipe updates on the iE Series are done with a USB device, one at a time.



cMT X Series

The cMT X Series serves as a recipe datacenter that can synchronize recipes on all HMIs at once. Additionally, external databases can be used as Recipe Servers to expedite recipe synchronization. The cMT X Series can obtain data from a Recipe Server via SQL Query for immediate data analysis such as calculating averages and sums and then display data charts via SQL Result Viewer. SQL commands enable users to update, manage, gather statistics, and view recipe data.



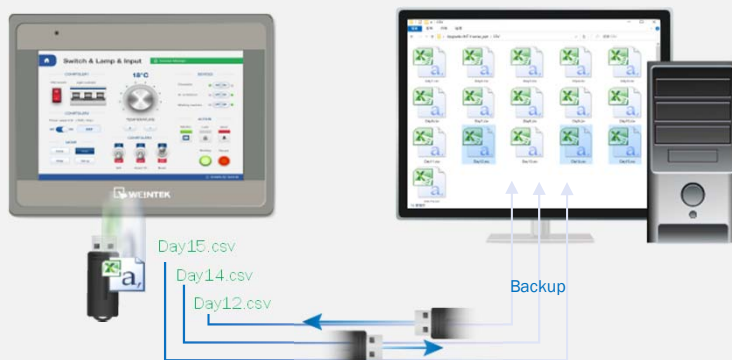
Speed

Efficient File Management - *File transfer + PDF reader*

iE Series

USB

When data backup is accomplished by saving the CSV files into a USB device, physical plugging/unplugging of USB devices is inevitable.



UTT X Series

File Transfer

Automatically archiving CSV files to a file server.



PDF Reader

Reading the latest operation manual on any HMI in the work station.

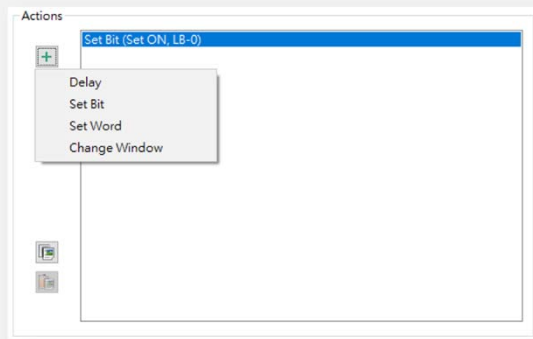


Speed

Quickly Trigger a Sequence of Commands - Combo Button

iE Series

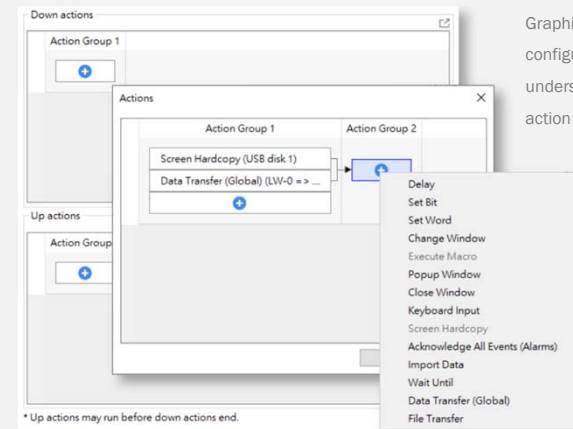
Combo Buttons on the iE Series can only do simple tasks such as Set Bit / Set Word or Change Window.



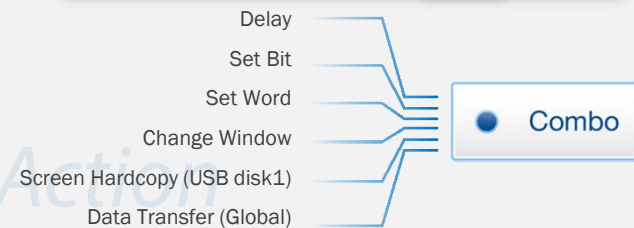
cMT X Series

Combo Buttons on the cMT X Series can add Screen Hardcopy and Data Transfer as available actions.

It is also possible to separately specify Down or Up actions that are triggered when the button is pressed or released.



Graphical UI-based configuration makes for easier understanding of expected action flow.



Visualization

Customizable Window Transition Effects, Spotlighting Current Step – Window Animation

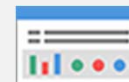
iE Series

The iE Series does not support window animation so users may need to closely examine the screen to find out the next step of operation after changing to a new window.

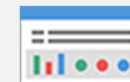


CMT X Series

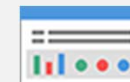
Window animation not only makes the cMT X Series screens very eye-catching, it directs users' attention to the messages or operation guidelines. Window animation, for both entry and exit, can be set for relevant objects like popup windows, Indirect / Direct Windows, Function Keys, and Combo Buttons.



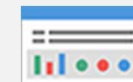
Fade



Fly



Float



Wipe

Visualization | *Enhanced Rendering Algorithm, Richer Picture Libraries*

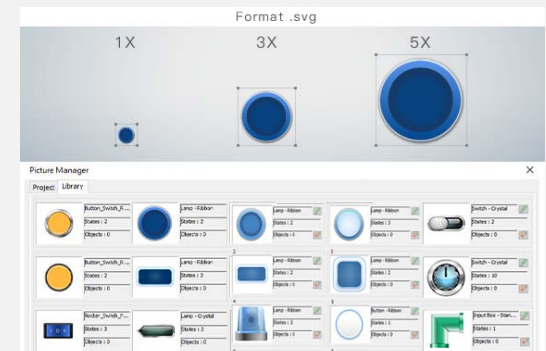
iE Series

SVG vector images can be resized without losing quality. However, on the iE Series, SVG images are converted to PNG images by FLTK (Fast Light Toolkit), and re-rendering may be necessary for maintaining image quality at runtime, which may reduce operation speed.



CMT X Series

The cMT X Series, with upgraded hardware and a rendering software engine, can support SVG natively so SVG images are displayed not only faster but also sharper. Thanks to that; pictures can be resized without losing quality. The cMT X Series continues to provide plenty of picture libraries as always.

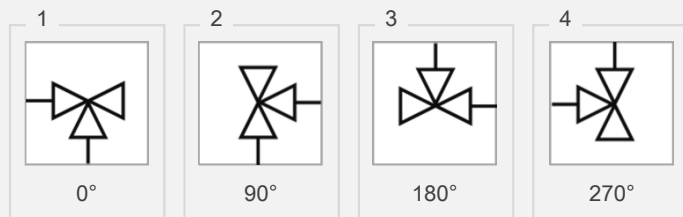
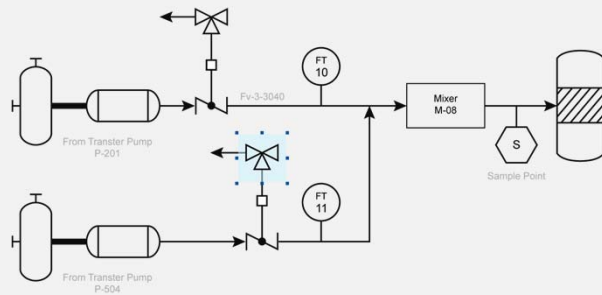


User Experience

Quick and Easy Flip or Rotate Features - *Picture Transform / Rotation*

iE Series

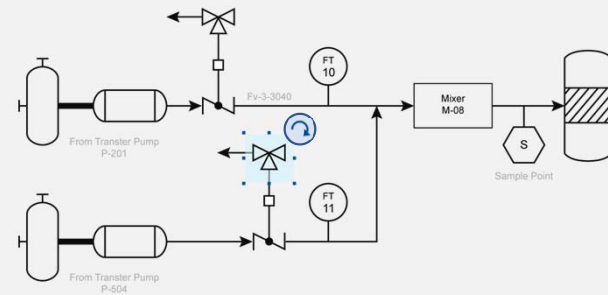
On the iE Series, making different pictures for different angles of a picture is time-consuming.



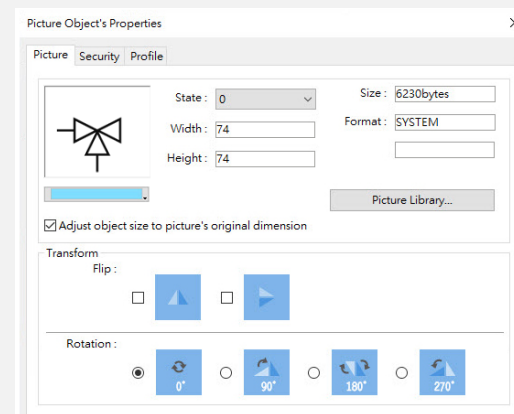
4 Piece Pictures

cMT X Series

The cMT X Series makes picture rotation possible. For example, one can rotate a P&ID process picture element directly in EasyBuilder Pro.



Picture Transform

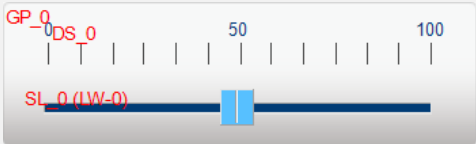


User Experience

Integrated Design Module - Object Design

iE Series

On the iE Series, some features may require that users create different objects and combine them into one. For example, to create a Slider, users have to combine a Background picture, a Slider object, and a Scale object.



Step One

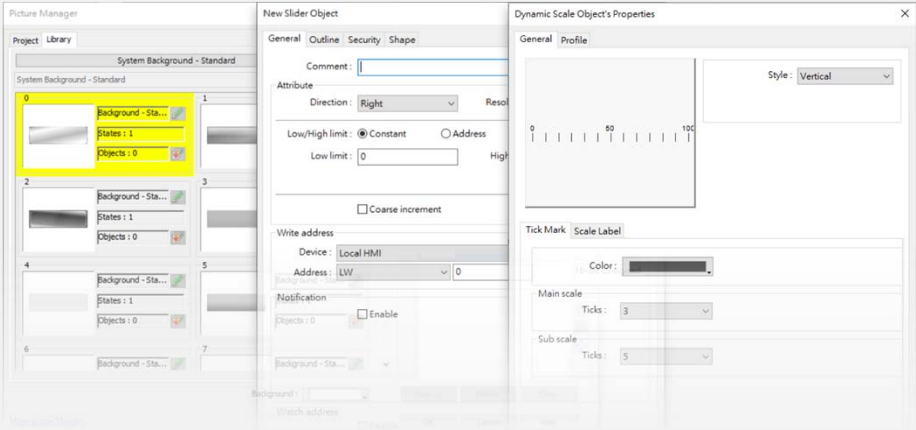
Picture Library / Background

Step Two

New Slider Object

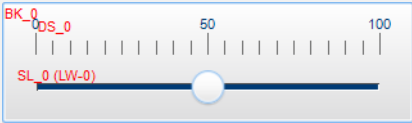
Step Three

Dynamic Scale Object



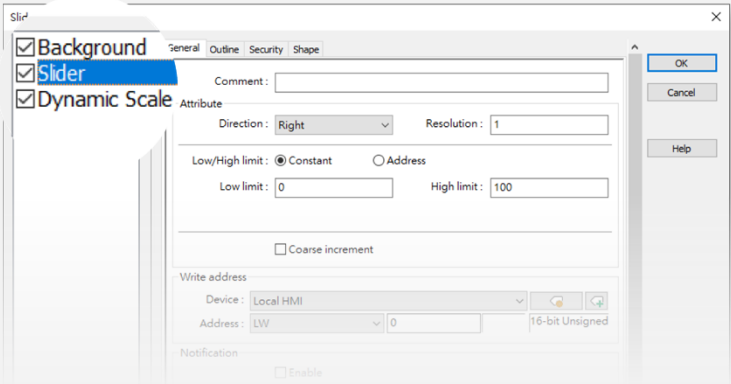
cMT X Series

Using the cMT X Series, it takes only one step to obtain the same result.



Supported:
Pie Chart
Bar Graph
Meter Display Slider
...

One Step

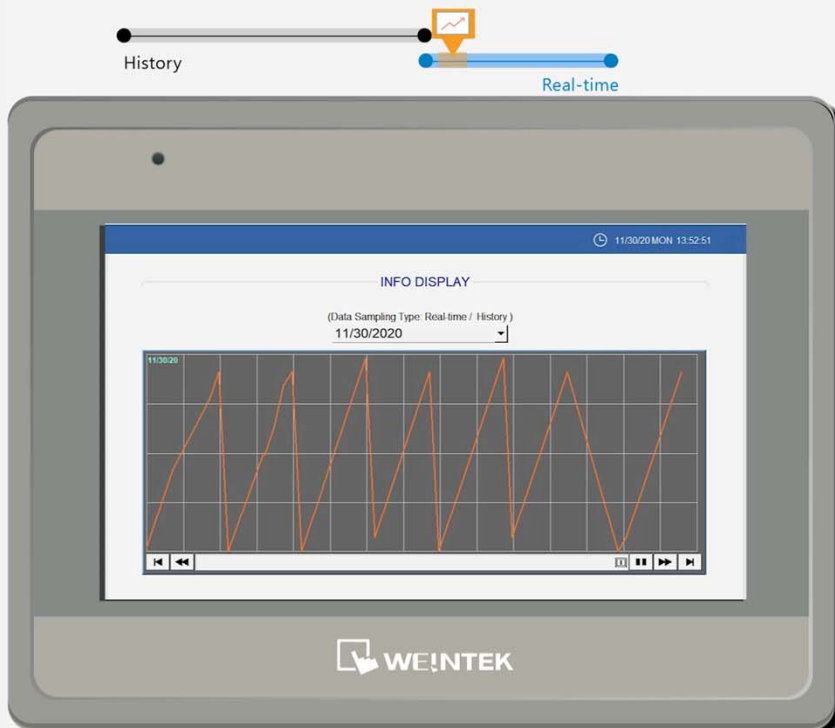


User Experience

Flexible Management and Clear View of Data – Trend / Data / Event Display & TimeCtrl

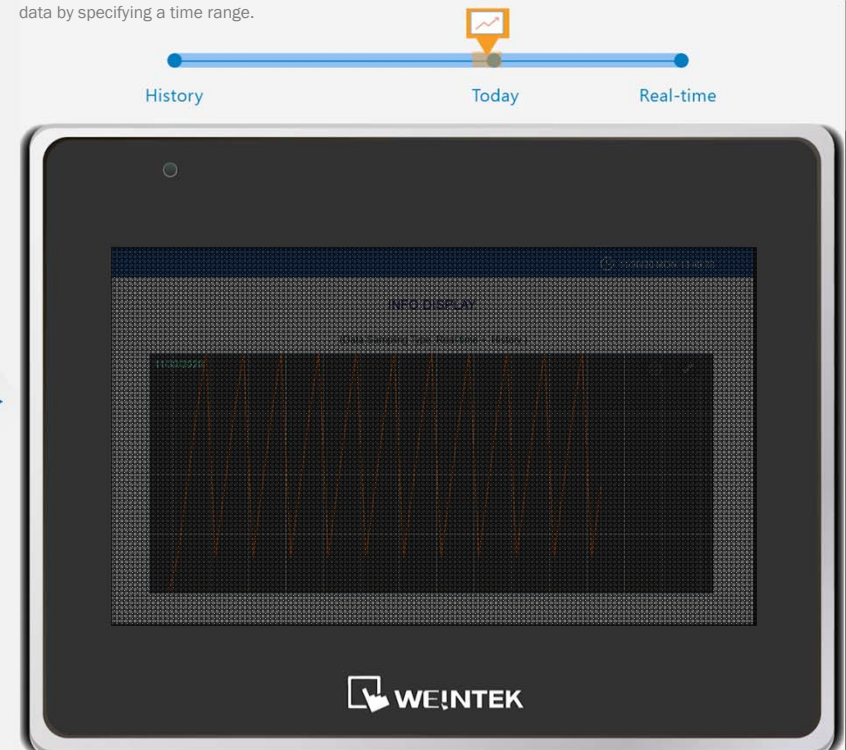
iE Series

For Trend Display, designating a control address to select a historical file is necessary.



cMT X Series

The cMT X Series combines real-time data and history data, and with the new TimeCtrl feature, users can easily access data by specifying a time range.



iE Series

The iE Series only supports ASCII input; therefore, for non-ASCII recipe names, alphanumeric label tags are needed for identification, which can not only be very difficult to remember when too many label tags are used in the project but also make operation less intuitive.

Label Tag Library

Search : CT_1

Label tag name	Language	Product name
CT_1	繁體中文	鳳梨汁
CS_1	简体中文	凤梨汁
EN_1	English	Pineapple juice
SP_1	España	Jugo de piña
JP_1	日本語	パイナップルジュース

cMT X Series

The cMT X Series is supplied with multi-language keyboards for entering desired content without having to use the alias labels.

Label Tag Library

Search : 鳳梨汁

Label tag name	Language	Product name
CT_1	繁體中文	鳳梨汁
CS_1	简体中文	凤梨汁
EN_1	English	Pineapple juice
SP_1	España	Jugo de piña
JP_1	日本語	パイナップルジュース

Space & Capacity

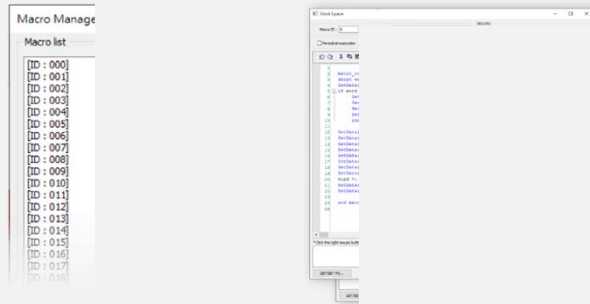
Expanded Memory Space for More Pictures and Macros – *Project Size*

iE Series

Project Size + Runtime Size on the iE Series is limited to 22.5MB.



On the iE Series, the maximum allowable number of macros is 255, helping users to manage different types of functions effectively. The well-classified macros can be exported for use in other projects, which greatly shortens system development time.

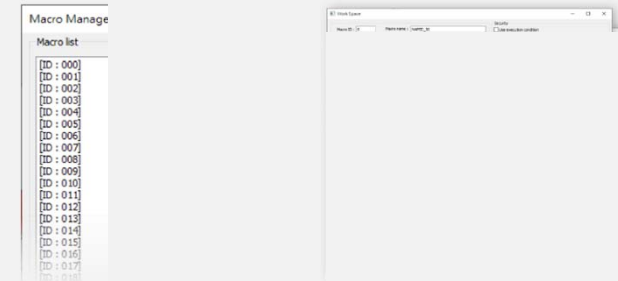


cMT X Series

The cMT X's project size is increased to 64MB, enabling more complex designs of project elements.



The cMT X's allowable number of macros is increased to 500, allowing more devices to be connected to the HMI and more complex programs to be utilized.



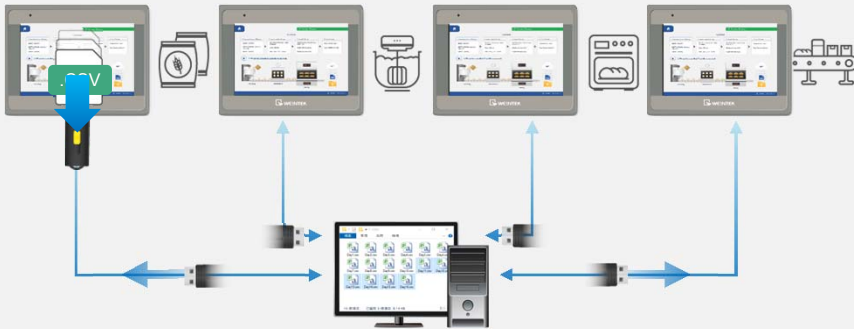
Data Management

Data / Event / Operation Log Synchronization to Database

MySQL / SQL Server supported

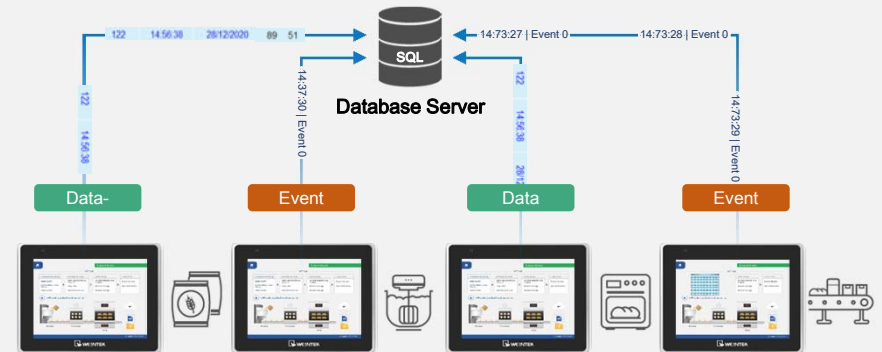
iE Series

Before, historical data could only be saved in HMI's Flash memory or in a USB device, which hinders data integration and sharing.



cMT X Series

SQL is the most commonly used way to manage data nowadays. By supporting SQL, the cMT X Series can save Data Log and Event Log to an SQL Database Server, with virtually no limit to memory space. The data can be used in diverse applications, for example, production analysis in a MES. Additionally, the cMT X Series can use SqlQuery commands to directly manage Recipes on the database.

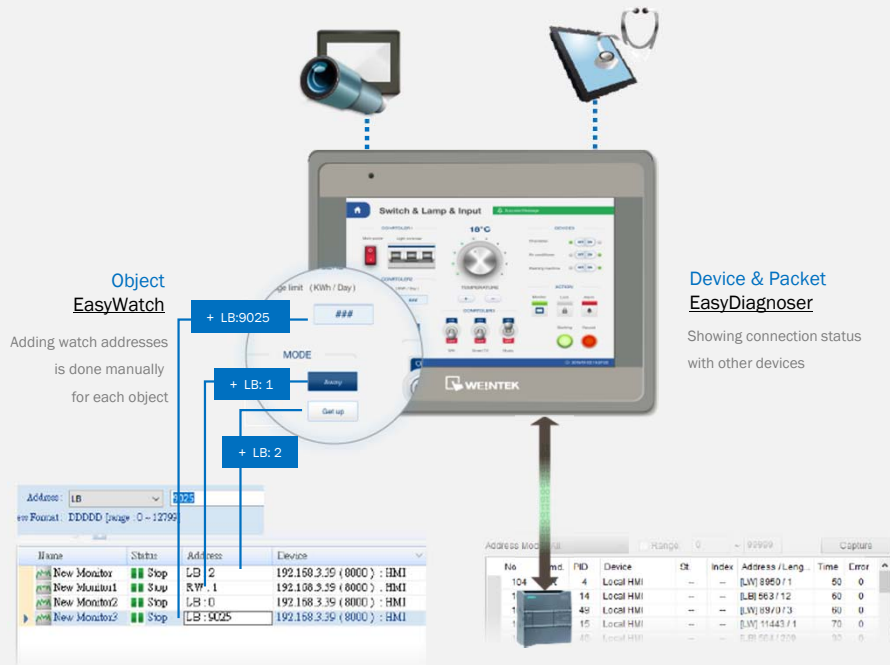


Debugging

An All-round Time-saving Debugging Tool - *cMT Diagnoser*

iE Series

EasyWatch and EasyDiagnoser can be used on the iE Series to monitor the data and status of objects, connection status with other devices, and the status of individual communication packets.



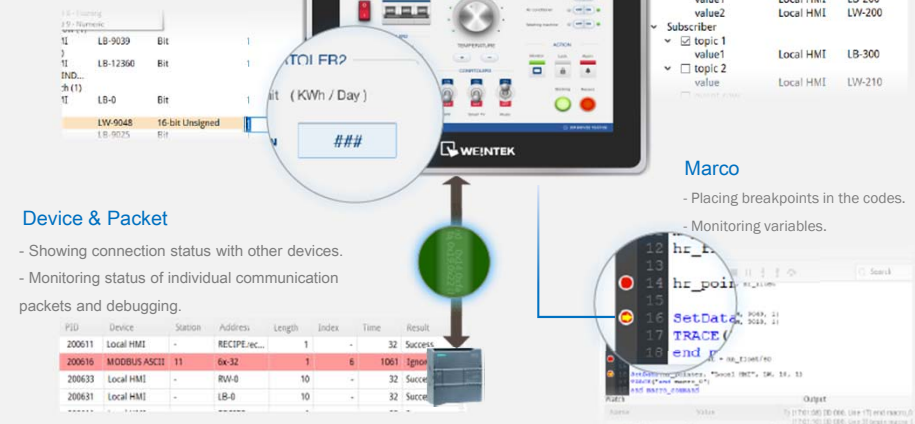
cMT X Series

cMT Diagnoser not only has the functions of EasyWatch and EasyDiagnoser, but also provides advanced debugging tools.

1. When cMT Diagnoser connects to an HMI, it immediately begins to monitor objects in the current window; furthermore, it can make the HMI screen change to another page.
2. cMT Diagnoser can show not only connection status with other devices, but also the status of individual communication packets.
3. When using MQTT, cMT Diagnoser can show details of messages published or subscribed.
4. When debugging a macro, cMT Diagnoser provides line-by-line debugging and displays the values of the trace function output as well as all the declared variables.

Object

- Automatically monitoring all objects.
- Directly changing the values.



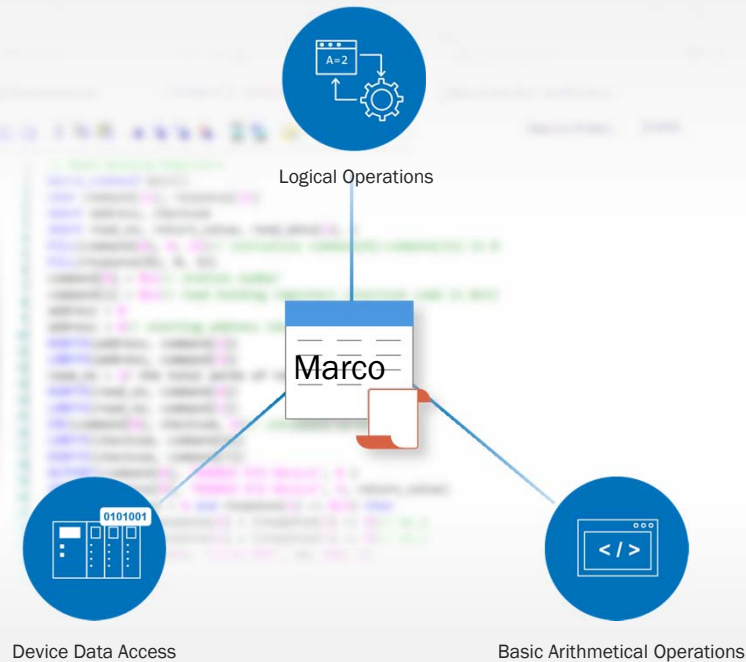
Development

Custom Design of Powerful Interactive Features - *JavaScript Object*

The Most Popular Programming Language around the Globe.

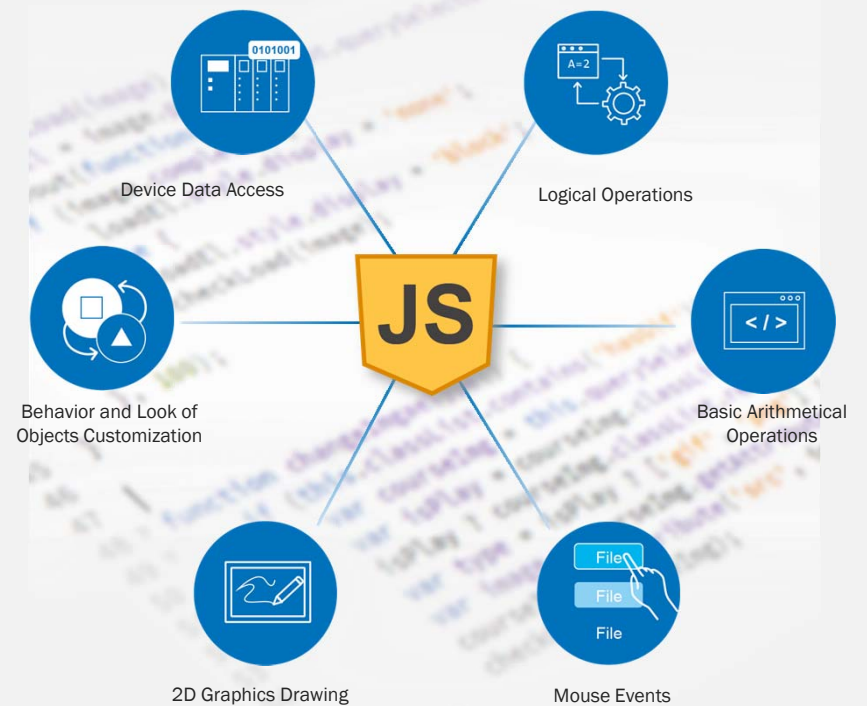
iE Series

Macros on the iE Series can only do simple tasks such as reading / writing device data, arithmetical and logical operations, or data transfer.



cMT X Series

The cMT X Series supports JavaScript objects that enable users to customize the way the objects look, draw 2D graphics, manage mouse events, etc.



Development

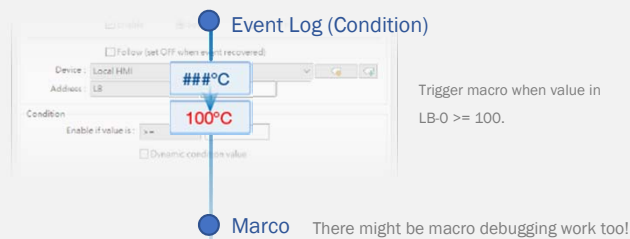
Graphical UI-based Configuration - Action Trigger

The cMT X Series can help you quickly create an operation process automatically triggered when a specific event occurs, realizing automation and unattended operation. For example: When the temperature gets too high, close the valve immediately, turn the emergency switch on in 5 seconds and then switch on the cooling system, and in the end, send out the value recorded.



iE Series

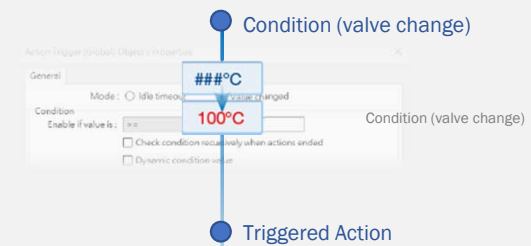
On the iE Series, to make all these happen, you would need to use macro commands, which can be difficult to maintain.



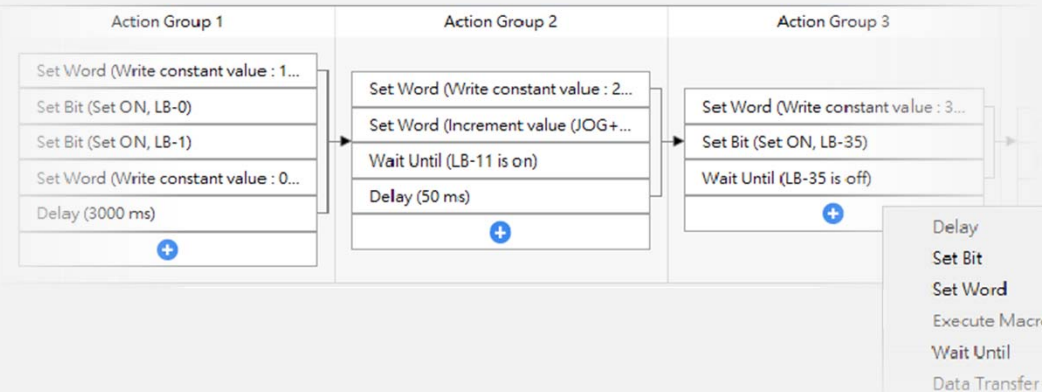
```
1 // Read Holding Registers
2 macro_command main()
3 char command[32], response[32]
4 short address, checksum
5 short read_no, return_value, read_data[2], i
6 FILL(command[0], 0, 32) // initialize command[0]-command[31] to 0
7 FILL(response[0], 0, 32)
8 command[0] = 0x1 // station number
9 command[1] = 0x3 // read holding registers (function code is 0x3)
10 address = 0
11 address = 0 // starting address (4x1) is 0
```

cMT X Series

The cMT X Series features graphical UI-based configuration that saves users' trouble in writing complex macro commands. Actions such as Set Bit, Set Word, Execute Macro, Change Page, Window Hardcopy and Data Transfer can be automatically executed when the pre-defined condition (time or value) is met.



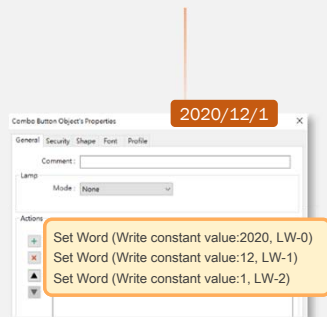
Configuring an action sequence through graphical UI: close valve, turn on emergency switch, start cooling, return data...



iE Series

On the iE Series, showing a calendar on HMI requires that users combine multiple objects.

Using a **Combo Button** for each date in the calendar



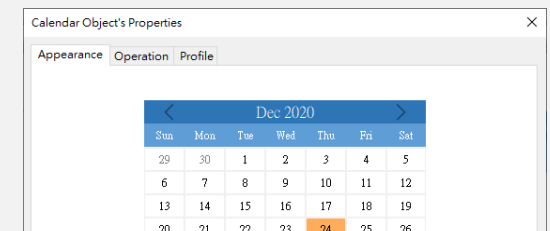
Dec 2020						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		CB_0 1	CB_1 2	CB_2 3	CB_3 4	CB_4 5
CB_5 6	CB_6 7	CB_7 8	CB_8 9	CB_9 10	CB_10 11	CB_11 13
CB_12 13	CB_13 14	CB_14 15	CB_15 16	CB_16 17	CB_17 18	CB_18 19
CB_19 20	CB_20 21	CB_21 22	CB_22 23	CB_23 24	CB_24 25	CB_25 26
CB_26 27	CB_27 28	CB_28 29	CB_29 30	CB_30 31		

(Handmade Calendar)

cMT X Series

The cMT X Series supports Calendar objects that can instantly generate a calendar on the HMI. There is even an on-screen calculator, something that was only possible by writing macros on the iE Series.

Calendar Object



Development

Clearly Shows the Time Frame of an Event– *Event Bar Chart*

iE Series

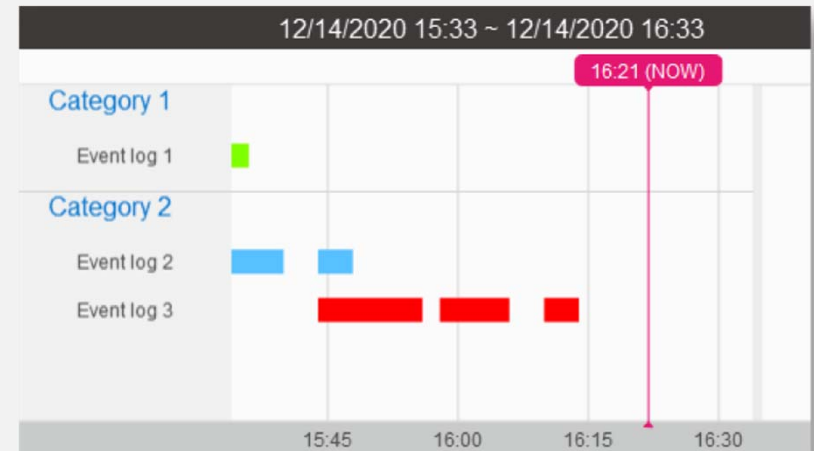
The iE Series shows event information in lines of text. A high temperature event naturally leads to questions like: When did the temperature exceed the limit? How long did it take to return normal? Is the occurrence frequency acceptable? To find out the answers, users have to read between the lines.

No.	Trigger Time	Message	Occurrence	Elapsed Time
10	15:50:00	LB-0 ON	56	355
9	15:49:50	LB-0 ON	55	355
8	15:49:45	LB-0 ON	54	352
7	15:49:40	LB-0 ON	53	350
6	15:49:35	LB-0 ON	52	347
5	15:49:30	LB-0 ON	51	342
4	15:49:25	LB-0 ON	50	339
3	15:49:20	LB-0 ON	49	335
2	15:49:15	LB-0 ON	48	331
1	15:49:10	LB-0 ON	47	324

Event Display

cMT X Series

The cMT Series supports Event Bar Charts that clearly show the time frame and frequency of each event.



Event Bar Chart

iE Series

Creating a BACnet user interface on the iE Series can be quite a tedious. After importing PLC Schedule Tags, users have to create numerous Numeric objects and assign tags to each object. The result is often not ideal, not to mention how difficult revisions can be afterwards.

Import Device Tags

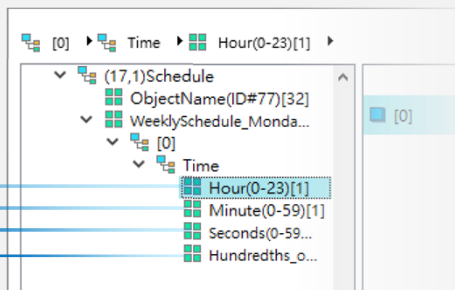
- ✓ ☒ Device
 - ✓ ☒ Calendar
 - ✓ (6,0)Calendar-(CALENDAR_0)
 - ✓ (6,0)Calendar-(CALENDAR_100)

Manually assigning a tag to each Numeric object

Importing PLC Schedule Tag first and then assigning a tag to each Numeric object

Start Time

AA : AA : AA : AA



cMT X Series

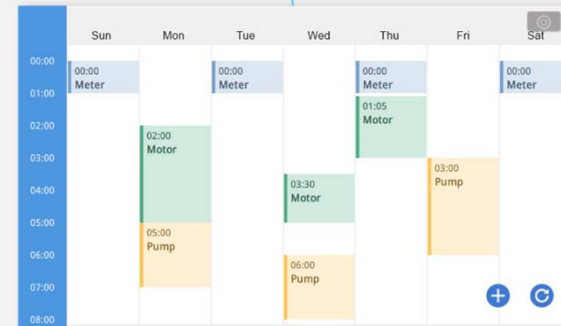
With a graphical UI-based tool on the cMT X Series, users unfamiliar with BACnet can still complete the design of a user interface that implements BACnet schedule in no time.

Import Device Tags

- ✓ ☒ Device
 - ✓ ☒ Calendar
 - ✓ (6,0)Calendar-(CALENDAR_0)
 - ✓ (6,0)Calendar-(CALENDAR_100)



BACnet Schedule Object



iE Series

Energy demand monitoring is fundamental to energy management that has been becoming more important in recent years. However, it is very difficult to do so on the iE Series because one needs to master not only the theory and calculation of energy demand monitoring but also all the HMI features involved such as macro and XY Plot.



Macro

Using macros to calculate energy demand according to the formula



Using **XY Plot** to draw the trend curve of energy demand calculated in macros

cMT X Series

The cMT X Series supports Energy Demand features that can help users record and monitor energy consumption in order to fully manage energy demands.

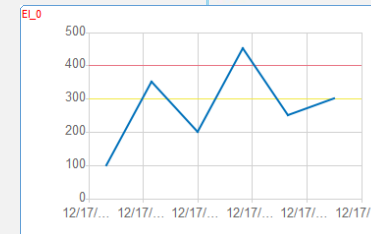


Energy Demand Object

Energy demand is calculated based on Demand Duration (T) and Demand Update Frequency (t).



Demand Display



Energy Demand can be shown in a graph.

Connectivity

At the Leading-edge of Communication Technology, We Can Do More besides Speed and Accuracy - **S7 Controller**

iE Series

1. The iE Series only supports Absolute Addressing, a conventional addressing scheme that may not fully satisfy expectations for speedy communication and accurate data reading.
2. The limit of reading 20 words at a time from the PLC leads to lower refresh rate when there are more objects.



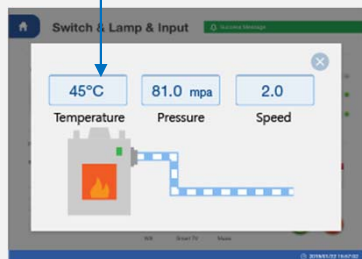
Absolute Addressing
Using Address Identifier

Data_block_1	
Name	Offset
Static	
tag1	0.0
tag2	1.0
tag3	2.0
tag4	3.0
tag5	4.0
tag6	5.0
tag7	6.0
tag8	7.0

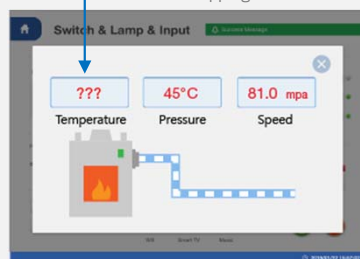
Data_block_1	
Name	Offset
Static	
tag1	0.0
tag2	1.0
tag_ex	2.0
tag3	3.0
tag4	4.0
tag5	5.0
tag6	6.0
tag7	7.0
tag8	8.0

New offset used after inserting new data

Incorrect mapping



Insert tag (Before)



Insert tag (After)

cMT X Series

1. The cMT X Series supports Symbolic Addressing. With this new addressing scheme, communication efficiency improvement may be observed as maximum data read size is now up to 1024 words, much greater than the iE Series.
2. The ap file of TIA Portal project can be directly imported for correct mapping, making integration of devices extremely easy and quick.
3. For users who are switching from an Absolute Addressing project, automatic mapping helps update address settings in the old project during the switch.



Addressing TAG
Using Symbolic Name

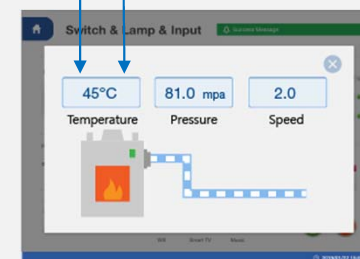
Data_block_1	
Name	Offset
Static	
tag1	0.0
tag2	1.0
tag3	2.0
tag4	3.0
tag5	4.0
tag6	5.0
tag7	6.0
tag8	7.0

Data_block_1	
Name	Offset
Static	
tag1	0.0
tag2	1.0
tag_ex	2.0
tag3	3.0
tag4	4.0
tag5	5.0
tag6	6.0
tag7	7.0
tag8	8.0

Insert a new tag.

Objects not affected

Mapping Tag Names to EB objects



Insert tag (Before) / (After)

Connectivity

Direct Control of IO Modules with HMI - CODESYS

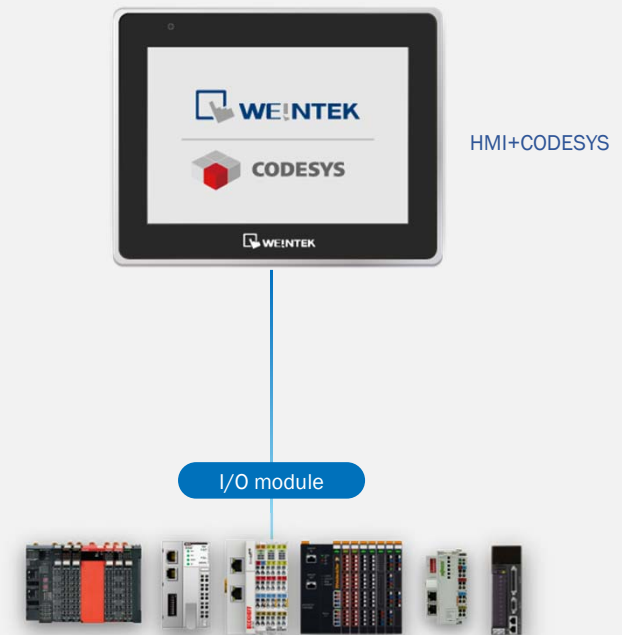
iE Series

In the conventional architecture, an HMI can only control I/O modules via a controller.



cMT X Series

The cMT X Series supports CODESYS which enables direct control of IO modules, without having to use an additional controller. This may reduce the cost and shorten execution time of control commands.



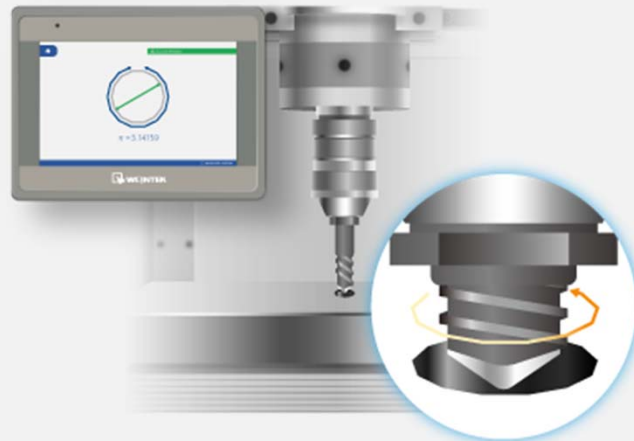
(Supported programming languages: FBD/LD/IL/ST/SFC/CFC)

Connectivity

High Precision Computation - 64-bit

iE Series

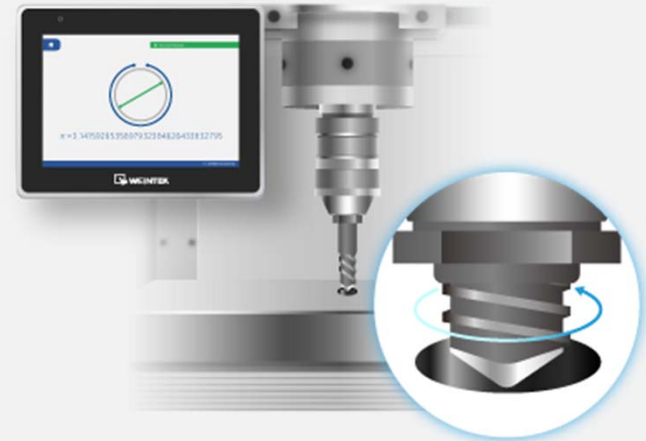
The iE Series is only capable of processing single precision data, for example, calculating pi to 3.14159.



$$\pi = 3.14159$$

cMT X Series

The cMT X Series is capable of processing double-precision variables for more accurate results needed in greater precision control. For example, pi can be calculated with much greater precision.



$$\pi = 3.1415926535897932384626433832795$$

Safety

A Safe Way to Operate Devices - Control Token

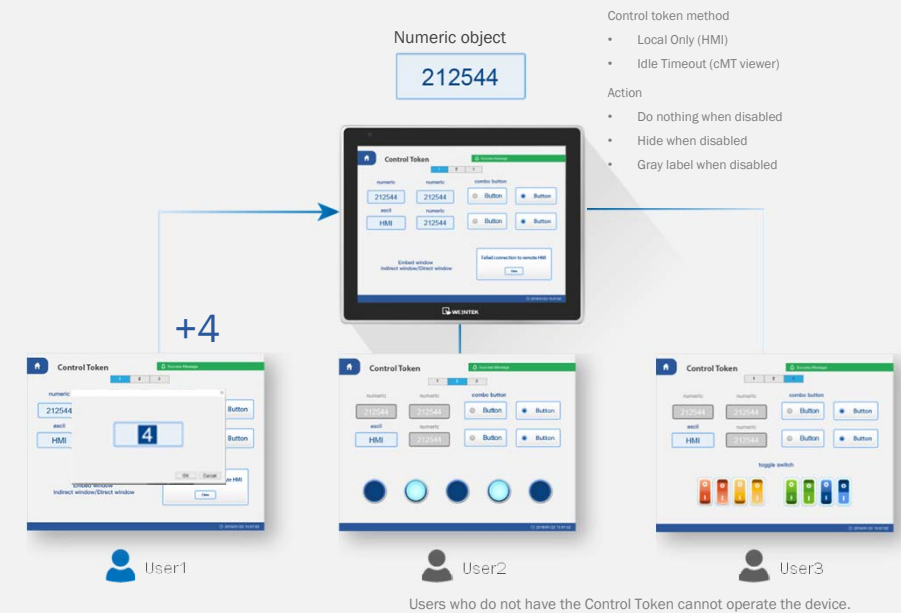
iE Series

In the case where multiple users are controlling an iE model with tools like HMI Viewer, safety issue may arise when conflicting commands are given simultaneously.



CMT X Series

The cMT X Series supports the use of Control Tokens, which can block remote operation for certain functions. In cMT Viewer, when multiple users are operating a device at the same time, Control Tokens ensure that only the user who obtains the necessary control token can operate the device, preventing conflicting operations.



Supported control token objects: Combo Button / Numeric / ASCII / Direct Window / Indirect Window

Safety | Safe and Efficient Account Management - *LDAP*

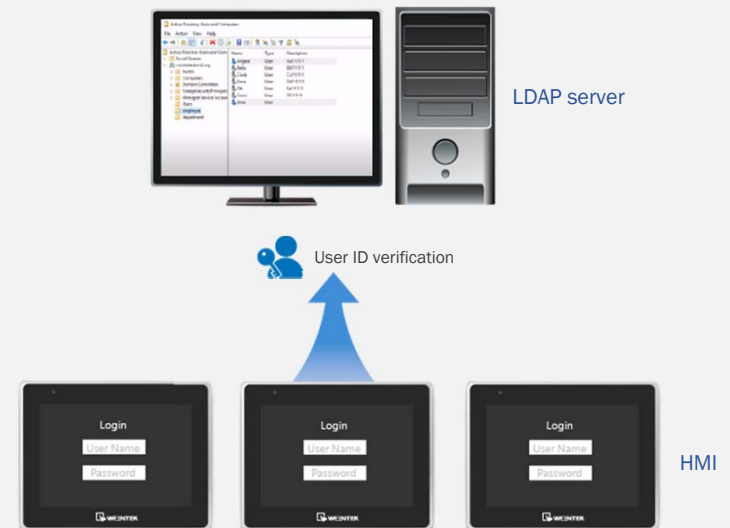
iE Series

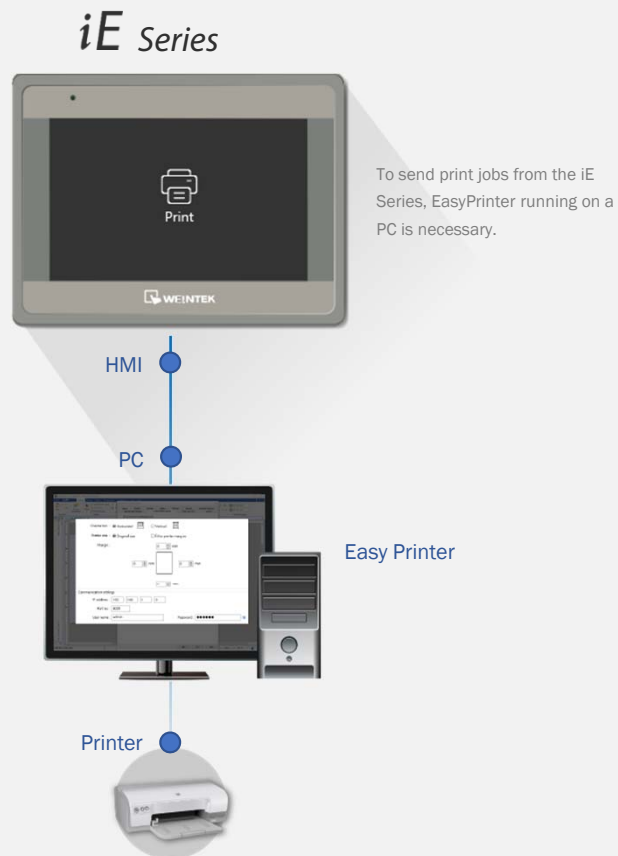
On an HMI, every user has a unique account name and password. When the same user account is used on multiple HMIs, modifying a password or deleting an unwanted account may be troublesome.



MTT X Series

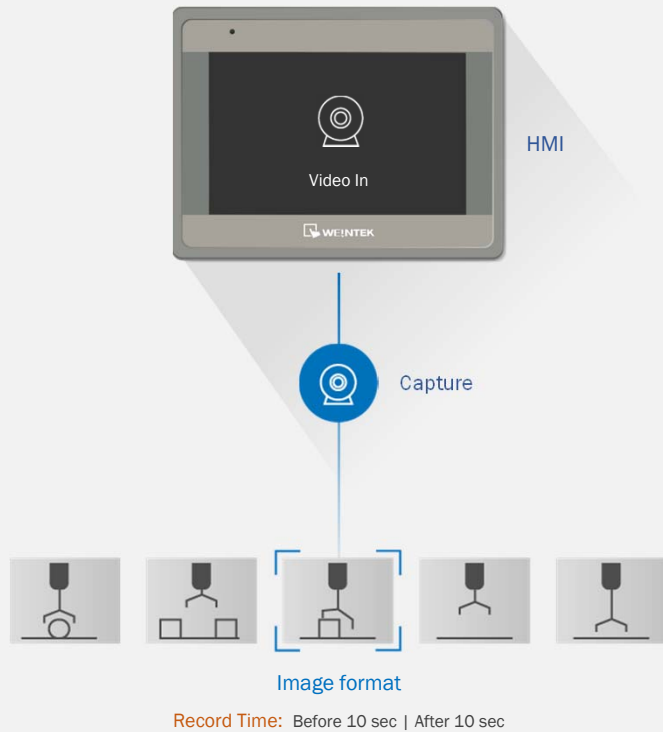
LDAP is an industry standard protocol that enables centralized user account management through a LDAP Server, which not only makes management effortless but also ensures high level of safety. LDAP management mechanisms can help users with their organizational structures as well.





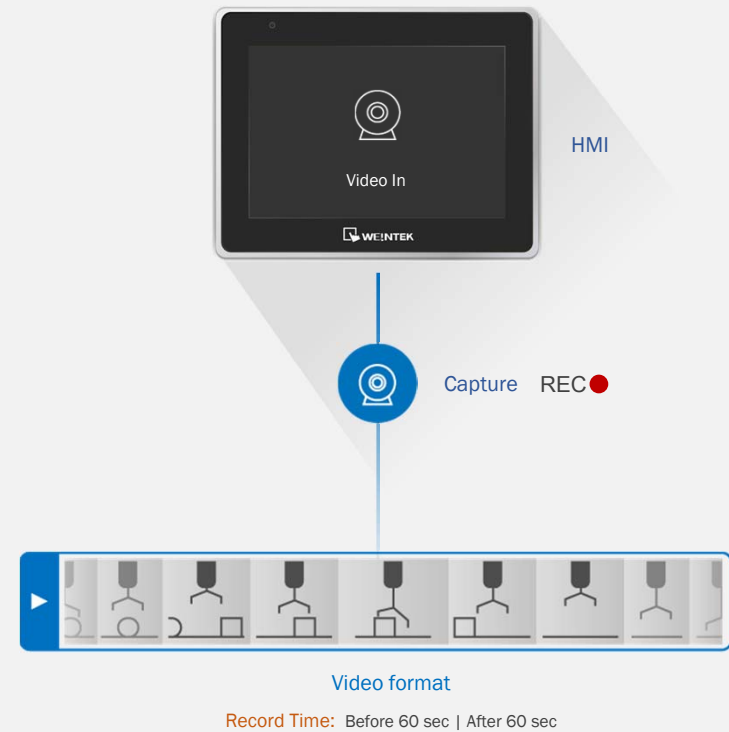
iE Series

On the iE Series, only still images can be captured every one second.



cMT X Series

The cMT X Series supports video recording to help find the cause of errors more easily.



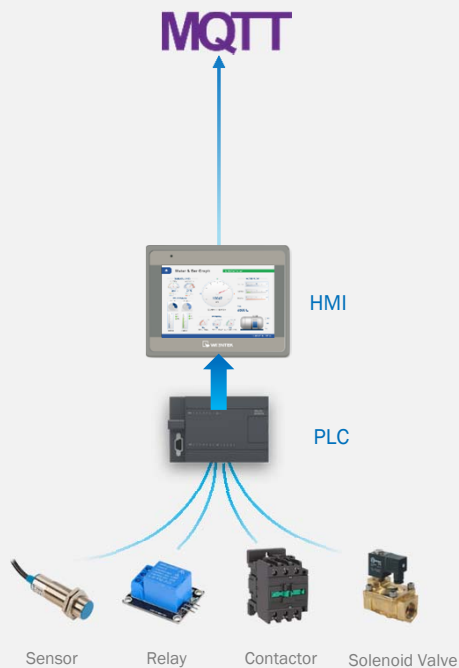
IIoT Support

Realizing Device Connectivity - MQTT / OPC UA

Smart manufacturing relies heavily on data analysis, so data acquisition is the key.

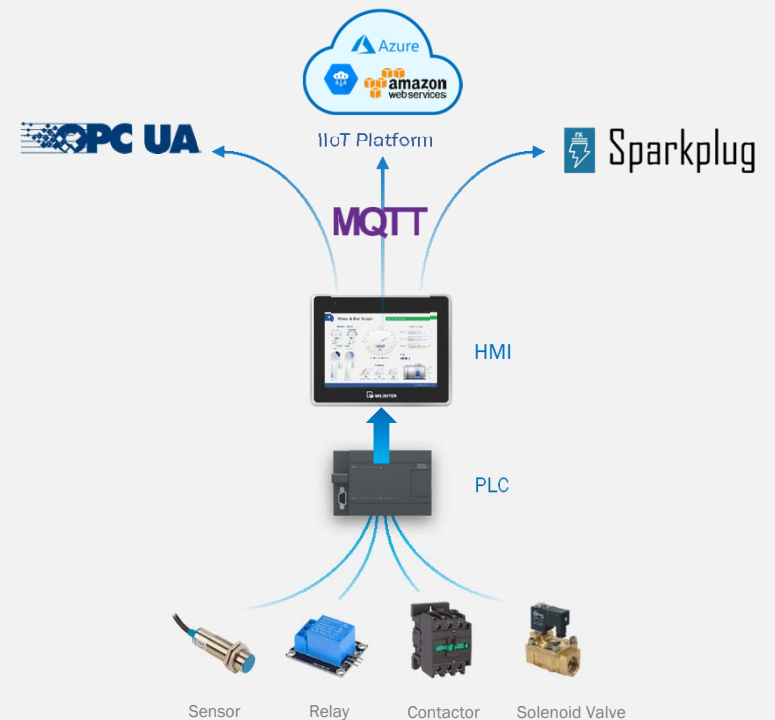
iE Series

The iE Series supports the MQTT communication protocol, enabling connectivity to cloud services.



cMT X Series

- The cMT X Series is designed to deliver not only visualization but also network IIoT connectivity. Communication support includes: OPC UA Server, MQTT, Sparkplug, and SQL Server.
- The MQTT protocol allows integration with cloud services such as AWS, Cloud IoT core, Azure, and others while simplifying the task of connecting devices to an IIoT infrastructure.

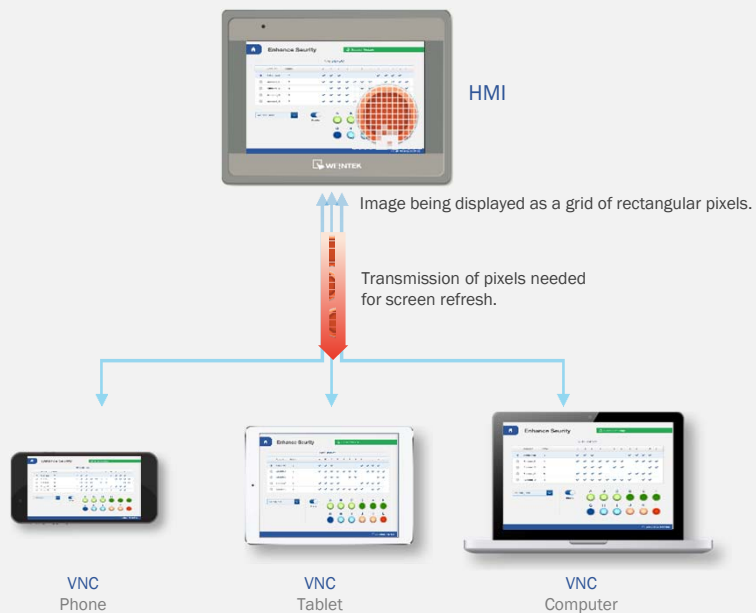


Mobile Monitoring

Stable Communication and Responsive Operation - *cMT Viewer*

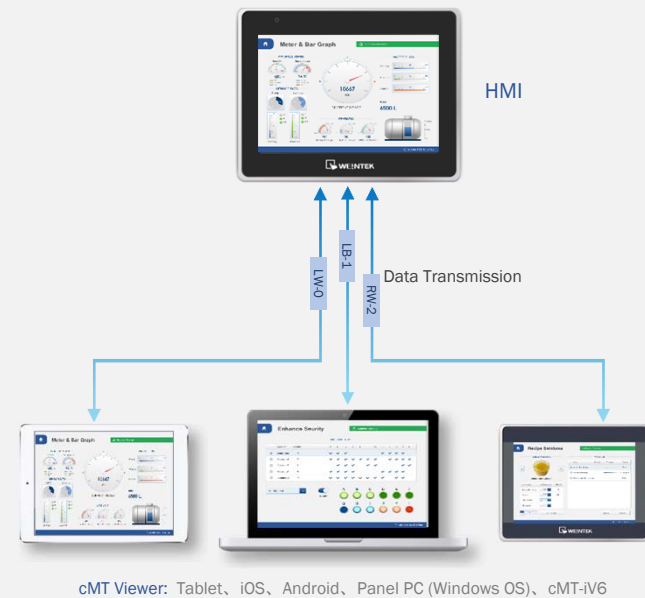
iE Series

VNC is convenient enough when you only want to monitor the current HMI screen and occasionally need to operate the device; however, VNC's operation speed becomes slower when screen resolution gets higher.



cMT X Series

cMT Viewer is a software that can connect and control a cMT X HMI remotely. During monitoring, cMT Viewer transfers only data, which results in lower data usage and more responsive operation, and enables users to quickly switch between HMI screens. cMT Viewer also allows multiple parties to operate on the same HMI asynchronously without interfering with each other.

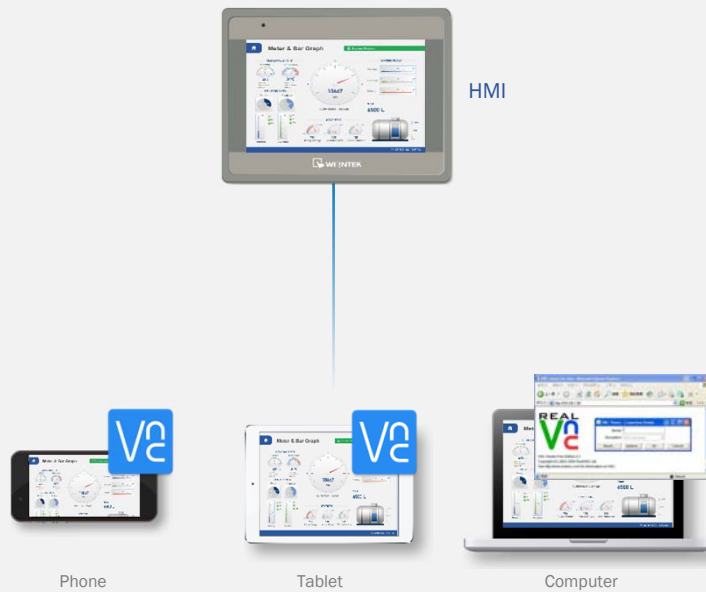


Mobile Monitoring

Monitoring HMI via a Browser - [Webview](#)

iE Series

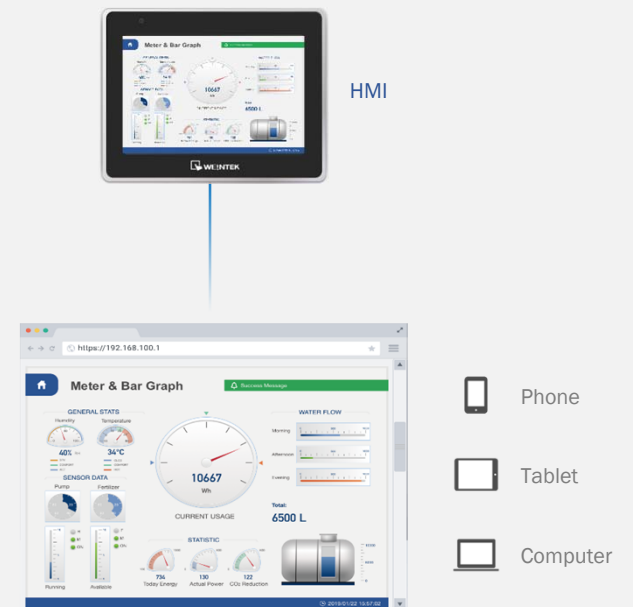
To use VNC feature, a VNC Client must be installed on the devices.



VNC Client must be installed on the device.

MIT X Series

Supports monitoring of HMI screen via a web browser without the need for installing VNC Client program.



[Webview](#) can be opened via a browser on any of your devices.

Mobile Monitoring

Viewing Event / Data Logs via a Browser - *EasyWeb*

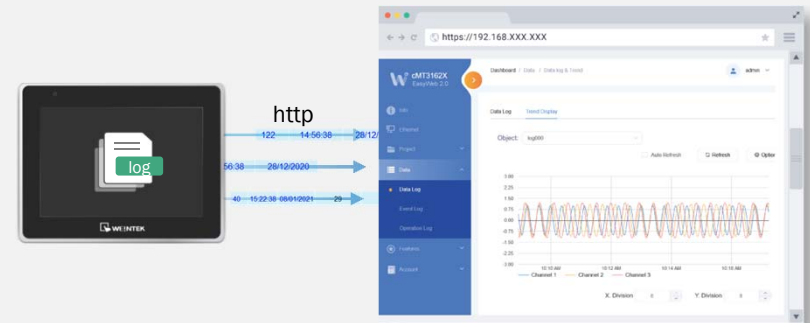
iE Series

Using a VNC client to monitor by VNC



cMT X Series

The cMT X Series has built-in EasyWeb service for viewing historical data stored on HMI via a browser.



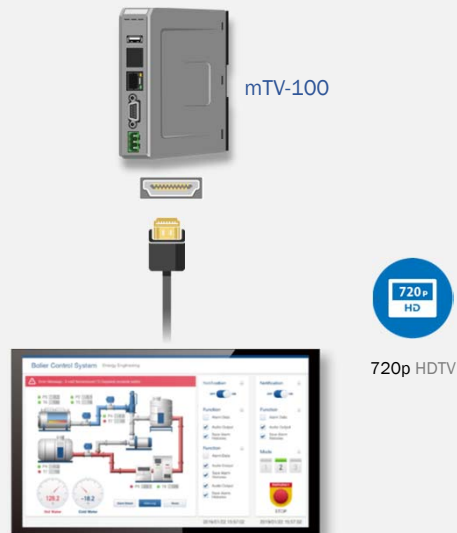
Display

Small HMI Supporting Extra Large Screens - *cMT-FHDX-220*

The world's first HMI that supports video output to a large screen.

mTV Series

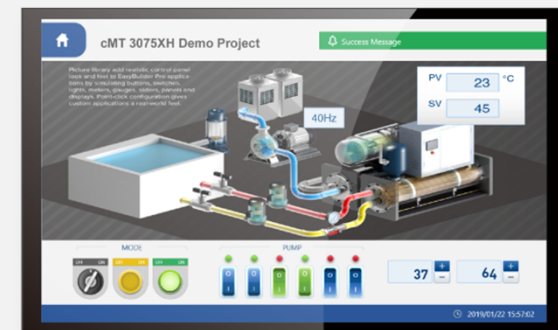
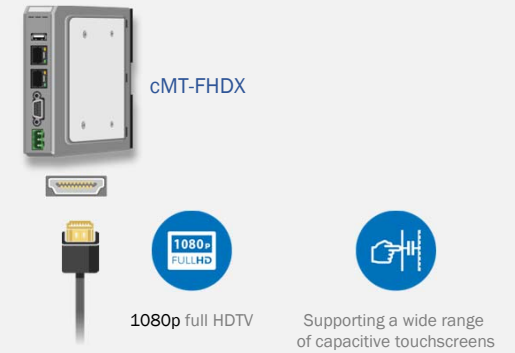
The highest resolution supported by the mTV is 720P.



cMT X Series

With a powerful CPU and support for OPENGL ES and a Video Decoder through hardware acceleration, both project execution and 1080p video playback are incredibly smooth on the cMT-FHDX-200.

1. 64MB memory space for the project allows for a greater number of objects that a large screen typically utilizes in a project.
2. Dual Ethernet port design provides two separate networks.
3. Media Player supports video playback.



There are many more features!

Weintek shall continue developing the cMT X Series features to ensure the competitiveness of our clients.

Brand new

cMT3161X / cMT3162X



IPS full-HD



On-Cell PCAP-Touch



Light weight 1.6kg



thin design D27.6MM








Vibrational feedback



Customizable gestures

	Model	cMT3161X	cMT3162X
Display	Display	15.6" IPS	15.6" IPS
	Resolution	1920 x 1080	1920 x 1080
	Brightness (cd/ m²)	300	300
	Contrast Ratio	800: 1	800: 1
	Backlight Type	LED	LED
	Backlight Life Time	>30,000 hrs.	>30,000 hrs.
	Colors	16.2M	16.2M
	LCD Viewing Angle	89/89/89/89	89/89/89/89
	Pixel Pitch (mm)	0.17925(H) x 0.17925(V)	0.17925(H) x 0.17925(V)
Touch Panel	Type	Tempered Glass, Capacitive Type* Hardness Scale 7H	Tempered Glass, Capacitive Type* Hardness Scale 7H
Memory	Flash	4 GB	4 GB
	RAM	1 GB	1 GB
Processor		Quad-core 32-bit RISC 1.6GHz	Quad-core 32-bit RISC 1.6GHz
	USB Host	USB 2.0 x 1	USB 2.0 x 1
	Ethernet	10/100 Base-T x 1	LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1
	COM Port	Con.A: COM1 RS-485 2W/4W, COM3 RS-485 2W Con.B: COM1 RS-232 4W, COM3 RS-232 2W*	Con.A: COM1 RS-485 2W/4W, COM3 RS-485 2W, CAN Bus Con.B: COM1 RS-232 4W, COM3 RS-232 2W*
	CAN Bus	N/A	Yes
	Audio Output	Built-in Mono Speaker	Built-in Mono Speaker
Software		EasyBuilder Pro EasyAccess 2.0 (Optional)	EasyBuilder Pro EasyAccess 2.0 (Optional) CODESYS (Optional)
Specs Comparison		(Standard Model)	(Advanced Model)

A Reference Table for Seamless Transition

Models Before Transition		mTV	MT8071iE MT8073iE			MT8150XE	
Model		 cMT-FHDX-220	 cMT2078X	 cMT3072X / cMT3072XH		 cMT2158X	 cMT3152X
Display	Display	N/A	7" TFT	7" TFT	7" IPS	15" IPS	15" IPS
	Resolution	N/A	800 x 480	800 x 480	1024 x 600	1024 x 768	1024 x 768
	Brightness (cd/m²)	N/A	400	400	450	400	400
	Contrast Ratio	N/A	800: 1	800: 1		1000:1	1000: 1
	Backlight Type	N/A	LED	LED		LED	LED
	Backlight Life Time	N/A	>30,000 hrs.	>30,000 hrs.	>25,000 hrs.	>50,000 hrs.	>50,000 hrs.
	Colors	N/A	16.7M	16.7M		16.2M	16.2M
	LCD Viewing Angle	N/A	60/80/80/80	60/80/80/80	85/85/85/85	89/89/89/89	89/89/89/89
	Pixel Pitch (mm)	N/A	0.1926(H) x 0.179(V)	0.1926(H) x 0.179(V)	0.1506(H) x 0.1432(V)	0.297(H) x 0.297(V)	0.297(H) x 0.297(V)
Touch Panel	Type	N/A	4-wire Resistive Type	4-wire Resistive Type		4-wire Resistive Type	Tempered Glass, Capacitive Type
	Accuracy	N/A	Active Area Length(X)±2%, Width(Y)±2%	Active Area Length(X)±2%, Width(Y)±2%		Active Area Length(X)±2%, Width(Y)±2%	N/A
Memory	Flash	4 GB	4 GB	4 GB		4 GB	4 GB
	RAM	1 GB	1 GB	1 GB		1 GB	1 GB
Processor		Quad-core 32-bit RISC 1.6GHz	Quad-core 64-bit RISC 1.5GHz	Quad-core 64-bit RISC 1.5GHz		Quad-core 32-bit RISC 1.6GHz	Quad-core 32-bit RISC 1.6GHz
I/O Port	SD Card Slot	N/A	N/A	N/A		SD/SDHC	SD/SDHC
	USB Host	USB 2.0 x 1	USB 2.0 x 1	USB 2.0 x 1		USB 2.0 x 1	USB 2.0 x 1
	USB Client	N/A	N/A	N/A		N/A	N/A
	Ethernet	LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1	LAN 1: 10/100 Base-T x 1 LAN 2: 10/100 Base-T x 1	LAN 1: 10/100 Base-T x 1 LAN 2: 10/100 Base-T x 1		LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1	LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1
	Wi-Fi	N/A	N/A	N/A		N/A	N/A
	COM Port	COM1: RS-232 COM2: RS-485 2W/4W COM3: RS-485 2W	Con.A: COM2 RS-485 2W/4W, COM3 RS-485 2W Con.B: COM1 RS-232 4W, COM3 RS-232 2W* MPI is not supported.	Con.A: COM2 RS-485 2W/4W, COM3 RS-485 2W, CAN Bus Con.B: COM1 RS-232 4W, COM3 RS-232 2W* MPI is not supported		Con.A: COM1 RS-485 2W/4W, COM3 RS-485 2W, CAN Bus Con.B: COM1 RS-232 4W, COM3 RS-232 2W* MPI is not supported	Con.A: COM1 RS-485 2W/4W, COM3 RS-485 2W, CAN Bus Con.B: COM1 RS-232 4W, COM3 RS-232 2W* MPI is not supported
	RS-485 Dual Isolation	N/A	N/A	N/A		Yes	Yes
	CAN Bus	N/A	N/A	Yes		N/A	Yes
	HDMI	Customizable (max. resolution 1920 x 1080)	N/A	N/A		N/A	N/A
	Audio Output	HDMI Audio Output	N/A	N/A		Built-in Mono Speaker Audio Line Out - 3.5 mm jack x 1	Built-in Mono Speaker Audio Line Out - 3.5 mm jack x 1
Software		EasyBuilder Pro EasyAccess 2.0 (Optional) CODESYS (Optional)	EasyBuilder Pro EasyAccess 2.0 (Optional) CODESYS (Optional)	EasyBuilder Pro EasyAccess 2.0 (Optional) CODESYS (Optional)		EasyBuilder Pro EasyAccess 2.0 (Optional) CODESYS (Optional)	EasyBuilder Pro Built-in EasyAccess 2.0 CODESYS (Optional)
Specs Comparison			(Standard Model)	(Advanced Model)		(Standard Model)	(Advanced Model)

A Comparison of Standard and Advanced Models

Standard vs. Advanced

These features are only available on the advanced models.

- *IIOT*
 - *OPC UA Server*
 - *MS SQL & MySQL Client, SQL Query command*
- *Object*
 - *Event Bar Chart*
 - *Demand Setting / Display*
- *Function*
 - *Barcode Scanner function*
 - *PLC Web Browser function*
 - *Vibration Alerting (supported only on cMT3162X)*
- *Driver*
 - *SIEMENS MPI Driver (SIEMENS S-300, or related models, e.g. VIPA 200/300 MPI)*
 - *CAN Bus Driver*
- *Specification & Certificate*
 - *Silver Fram*
 - *UL Listed*



If you have any further question,
please feel free to

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