

User Manual

HMI with Built-in cMT Viewer Startup Guide

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Chapter1. Overview

1.1. Specification

1.1.1. cMT3108XP (iV)



10.1" HMI with Built-in cMT Viewer

Feature

- 10.1" 1280 x 800 Wide Viewing Angle LCD
- Tempered Glass Capacitive Touch Panel
- Built-in 4GB Flash Memory and RTC
- Fan-less Cooling System
- PCB coating process ensures high reliability to resist from corrosion in harsh environment.
- Built-in Power Isolation
- NEMA4 / IP66 Compliant Front Panel
- Compatible with M02 WiFi Expansion Module that supports wireless communication.
- Supports cMT Viewer that enables connection and monitoring of up to 6 HMIs.

Display	Display	10.1" Wide Viewing Angle (WVA)
	Resolution	1280 x 800
	Brightness (cd/m ²)	425
	Contrast Ratio	800:1
	Backlight Type	LED
	Backlight Life Time	>50,000 hrs.
	Colors	16.7M
	LCD Viewing Angle (T/B/L/R)	89/89/89/89
	Pixel Pitch (mm)	0.1695 (H) x 0.1695 (V)
Touch Panel	Type	Tempered Glass, Capacitive Type
	Hardness Scale	7H
Memory	Flash	4 GB
	RAM	1 GB
Processor		Quad-core RISC
I/O Port	SD Card Slot	N/A
	USB Host	USB 2.0 x 1
	USB Client	N/A
	Ethernet	LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1
	WiFi	M02 WiFi Expansion Module (Optional)
	COM Port	N/A
	RS-485 Dual Isolation	N/A
	CAN Bus	N/A
	HDMI	N/A
	Audio Output	Built-in Mono Speaker
RTC		Built-in
Power	Input Power	24±20%VDC
	Power Isolation	Built-in
	Power Consumption	700mA@24VDC
	Voltage Resistance	500VAC (1 min.)
	Isolation Resistance	Exceed 50MΩ at 500VDC
Specification	PCB Coating	Yes
	Enclosure	Plastic
	Dimensions WxHxD	266 x 196 x 42.7 mm
	Panel Cutout	255 x 185 mm
	Weight	Approx. 1.1 kg
	Mount	Panel mount, VESA mount 75 x 75 mm
Environment	Protection Structure	UL Type 4X (indoor use only) / NEMA4 / IP66 Compliant Front Panel
	Storage Temperature	-20° ~ 60°C (-4° ~ 140°F)
	Operating Temperature	0° ~ 55°C (32° ~ 131°F)
	Relative Humidity	10% ~ 90% (non-condensing)
	Altitude (Air Pressure)	Below 3,000 meters (70.1kPa)
	Vibration Endurance	10 to 25Hz (X, Y, Z direction 2G 30 minutes)
Certificate	CE	CE marked
	ATEX	ATEX Zone 2/22 Category 3 G/D
	UL	cULus Listed

Language	Display	English, French, Italian, Spanish, Russian, Simplified Chinese, Traditional Chinese, Korean, German, Polish
	Input Methods	English, French, Italian, Spanish, German, Russian, Pinyin, Zhuyin, Korean, Japanese, Polish
Software	cMT Viewer	Yes
	Weincloud	EasyAccess 2.0 (Optional)

1.1.2. cMT3162X (iV)



15.6" HMI with Built-in cMT Viewer

Feature

- The oTP integrated touch solution offers an edge-to-edge design, high-resolution and high-transmittance.
- Supports Vibration Alerting
- 15.6" 1920 x 1080 Wide Viewing Angle LCD
- Built-in 4GB Flash Memory and RTC
- Fan-less Cooling System
- PCB coating process ensures high reliability to resist from corrosion in harsh environment.
- Built-in Power Isolation
- NEMA4/IP66 Compliant Front Panel
- Supports cMT Viewer that enables connection and monitoring of up to 6 HMIs.

Display	Display	15.6" Wide Viewing Angle (WVA)
	Resolution	1920 x 1080
	Brightness (cd/m ²)	300
	Contrast Ratio	800:1
	Backlight Type	LED
	Backlight Life Time	>30,000 hrs.
	Colors	16.2M
	LCD Viewing Angle (T/B/R/L)	89/89/89/89
	Pixel Pitch (mm)	0.17925(H) x 0.17925(V)
Touch Panel	Type	Tempered Glass, Capacitive Type
	Hardness Scale	7H
Memory	Flash	4 GB
	RAM	1 GB
Processor		Quad-core RISC
I/O Port	SD Card Slot	N/A
	USB Host	USB 2.0 x 1
	USB Client	N/A
	Ethernet	LAN 1: 10/100/1000 Base-T x 1 LAN 2: 10/100 Base-T x 1
	COM Port	N/A
	RS-485 Isolation	N/A
	CAN Bus	N/A
	HDMI	N/A
	Audio Output	Built-in Mono Speaker
RTC		Built-in
Power	Input Power	24±20%VDC
	Power Isolation	Built-in
	Power Consumption	1.3A@24VDC
	Voltage Resistance	500VAC (1 min.)
	Isolation Resistance	Exceed 50MΩ @ 500VDC
Specification	PCB Coating	Yes
	Enclosure	Front bezel: Plastic, Rear Enclosure: Aluminum
	Dimensions WxHxD	400 x 263 x 27.6 mm
	Panel Cutout	384 x 247 mm
	Weight	Approx. 1.6 kg
	Mount	Panel mount, VESA mount 100 x 100 mm
Environment	Protection Structure	NEMA4 / IP66 Compliant Front Panel
	Storage Temperature	-20° ~ 60°C (-4° ~ 140°F)
	Operating Temperature	0° ~ 50°C (32° ~ 122°F)
	Relative Humidity	10% ~ 90% (non-condensing)
	Altitude (Air Pressure)	Below 3,000 meters (70.1kPa)

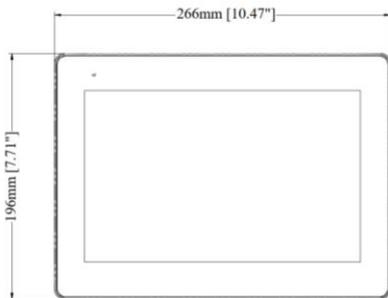
	Vibration Endurance	10 to 25Hz (X, Y, Z direction 2G 30 minutes)
Certificate	CE	CE marked
	UL	cULus Listed
Language	Display	English, French, Italian, Spanish, Russian, Simplified Chinese, Traditional Chinese, Korean, German, Polish
	Input Methods	English, French, Italian, Spanish, German, Russian, Pinyin, Zhuyin, Korean, Japanese, Polish
Software	cMT Viewer	Yes
	Weincloud	EasyAccess 2.0 (Optional)

1.2. Dimensions

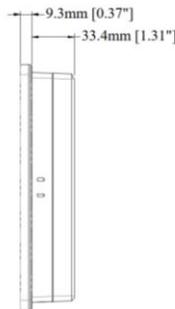
1.2.1. cMT3108XP (iV)



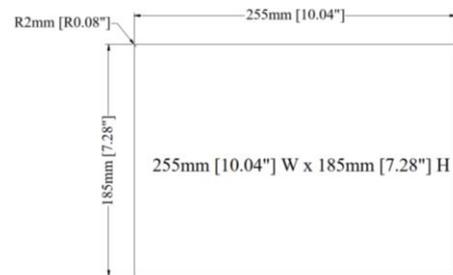
Top View



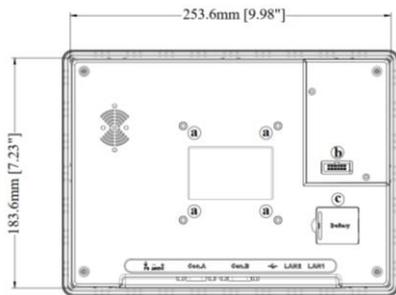
Front View



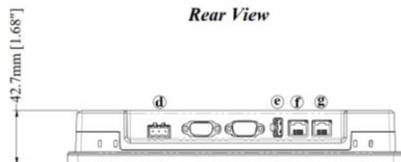
Side View



Cutout Dimensions



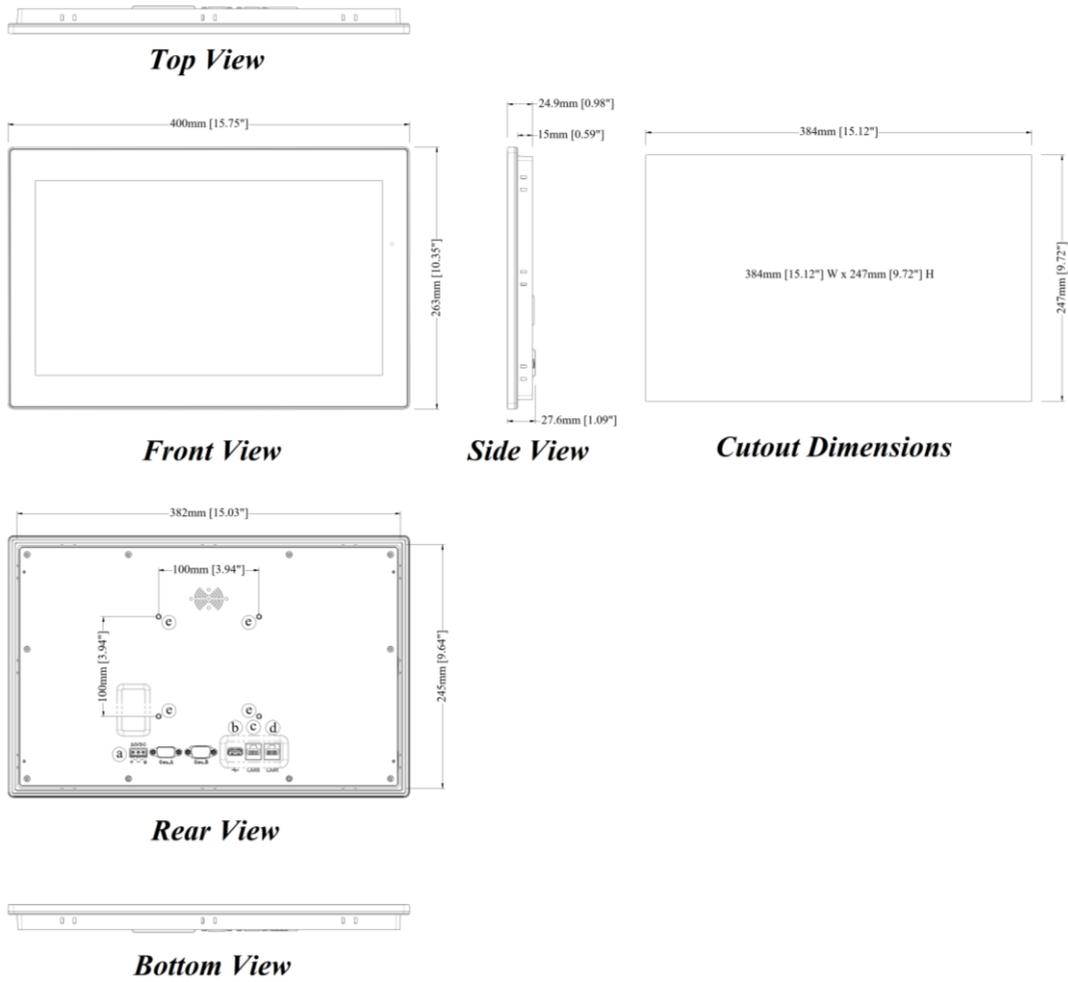
Rear View



Bottom View

a	VESA 75 mm Screw Holes
b	Expansion Module Connector
c	Battery
d	Power Connector
e	USB Host Port
f	LAN 2
g	LAN 1

1.2.2. cMT3162X (iV)



a	Power Connector
b	USB Host
c	LAN2
d	LAN1
e	VESA 100mm Screw Holes

1.3. Ethernet Port

The HMI provides two Ethernet ports. LAN1 supports 10/100/1000M, while LAN2 supports 10/100M. The indicators are as follows:

Orange LED: Indicates LAN connection status.

Green LED: Indicates active communication status.

For Ethernet connections, please use a CAT-6 network cable.

1.4. USB Host Port

Support for USB 2.0 interface allows connection to barcode scanners and USB drives. When connecting an external hard drive, use an external power source to provide sufficient voltage to the hard drive. Do not use this USB port to charge external devices.

1.5. CR2032 Battery

The HMI requires a CR2032 lithium battery to keep the RTC running.

Battery specification: CR2032 3V lithium battery

1.6. Power Connection

The HMI can only be powered by DC power. The specified DC voltage range is 24 ± 20 volts, ensuring compatibility with most controller DC power systems. The power conditioning circuitry inside the unit is managed by a switching power supply, and the peak starting current can reach up to 2A.

Note: Connect positive DC line to the ‘+’ terminal and the DC ground to the ‘-’ terminal.

1.7. Operating Environment

1. Built-in cMT Viewer: An app for connecting cMT / cMT X Series HMI models.
2. Supported HMI models: cMT / cMT X Series HMI models.
3. One HMI with Built-in cMT Viewer can log in and operate six cMT / cMT X Series HMIs simultaneously.

Chapter2. System Settings

Since the HMI has cMT Viewer built-in, opening it will launch the cMT Viewer.

Tap the Gear Button  in the upper-right corner of the screen to open the system settings page.

2.1. System Properties

The System Properties page allows viewing information about the HMI and managing preference settings.

Setting	Description
Model	Displays the currently used model, such as cMT3108XP (iV).
HMI Name	A customizable identifier name for easy recognition among multiple devices.
OS Version	Displays the current running operating system version.
Hardware Key	Displays the device's unique hardware key for authentication and registration.
LAN1 MAC Address	Displays the MAC address for LAN1.
LAN2 MAC Address	Displays the MAC address for LAN2.
Date and Time	Used to set and display the device's current date and time.
Brightness	Adjust screen brightness to suit different lighting environments and usage needs.
Sound	Adjust the volume level, including key tones and system alerts. The sound can be toggled on or off as needed.
Language	Select the display language for the device.
Input Method	Set the input method to facilitate input operations in different language environments.
Backlight Saver	Configure the backlight saving feature to automatically turn off the screen backlight when the device is idle for extended periods.
Show Mouse Cursor	Configure whether to display the mouse cursor, useful with a touchscreen or external mouse.
Direction	Set the screen display orientation, including landscape and portrait modes.
Reset HMI to Default	Restore all settings to factory defaults.
OS Upgrade	Begin updating the system by selecting the OS file from a USB drive. Do not power off during the update. Refer to the OS update section for detailed steps and precautions.
Third-Party Licenses	View third-party licenses.

2.2. Application

In the Application tab, preferences related to the cMT Viewer can be adjusted.

Setting	Description
Restore Previous Connections	Configure whether the cMT Viewer automatically restores the last connection upon startup. If this option is enabled, the cMT Viewer will remember and automatically reconnect to the previously used HMI devices, which is convenient for users frequently interacting with the same devices.
Display Datetime Bar	Configure whether to show the date and time bar on the main screen.
Show Start Button	Configure whether to display the "Start" button on the interface, allowing users to return to the home screen. When the Start button is hidden, its hidden position can be set. Users can trigger the Start button by long-pressing the hidden position, enabling a return to the home screen when needed.
Password Protection	Configure whether to enable the password protection feature. Once enabled, users must enter a password before accessing certain features.

[Open Project]: Once this function is protected, entering a password is required before adding cMT / cMT-X series HMIs.

[Close Project / Adjust Project]: Once this function is protected, entering a password is required to close the project file.

[Server Settings]: Once this function is protected, entering a password is required to access the cMT / cMT-X system settings via cMT Viewer.

[Clean History]: Once this function is protected, entering a password is required to clear the connection history under the History tab.

To operate protected functions, tap the icon  at the top left and enter the password.

After entering the password, the cMT Viewer will automatically lock the protected functions again after a 10-minute countdown. On the HMI, tapping anywhere on the screen resets the countdown timer. To reset the countdown immediately, select the icon .

2.3. Network

Setting	Description
Ethernet LAN1	Usually used for external network connections, requiring the setup of IP address, subnet mask, gateway, and domain name.
Ethernet LAN2	Usually used for internal network connections to isolate internal networks from external ones. To avoid network conflicts, LAN1 and LAN2 should be set in different domains.
Network Bridge	Bridge mode can be enabled to allow LAN1 and LAN2 to operate on the same network segment, providing switch functionality.

2.4. Safety

Manage the system settings password.

2.5. EasyAccess 2.0:

Information page for EasyAccess 2.0.

2.6. VNC

Setting	Description
Enable	Once the VNC feature is enabled, VNC Client devices can connect to the HMI, allowing remote users to view and operate the HMI interface.
Multiple Connections	Allows multiple VNC Client devices to connect simultaneously. Note that having more VNC Clients connected at the same time may impact the HMI's communication speed.
Require Password	To enhance system security, a password can be set so that only VNC Clients with the correct password can connect to the HMI.

VNC Interlock

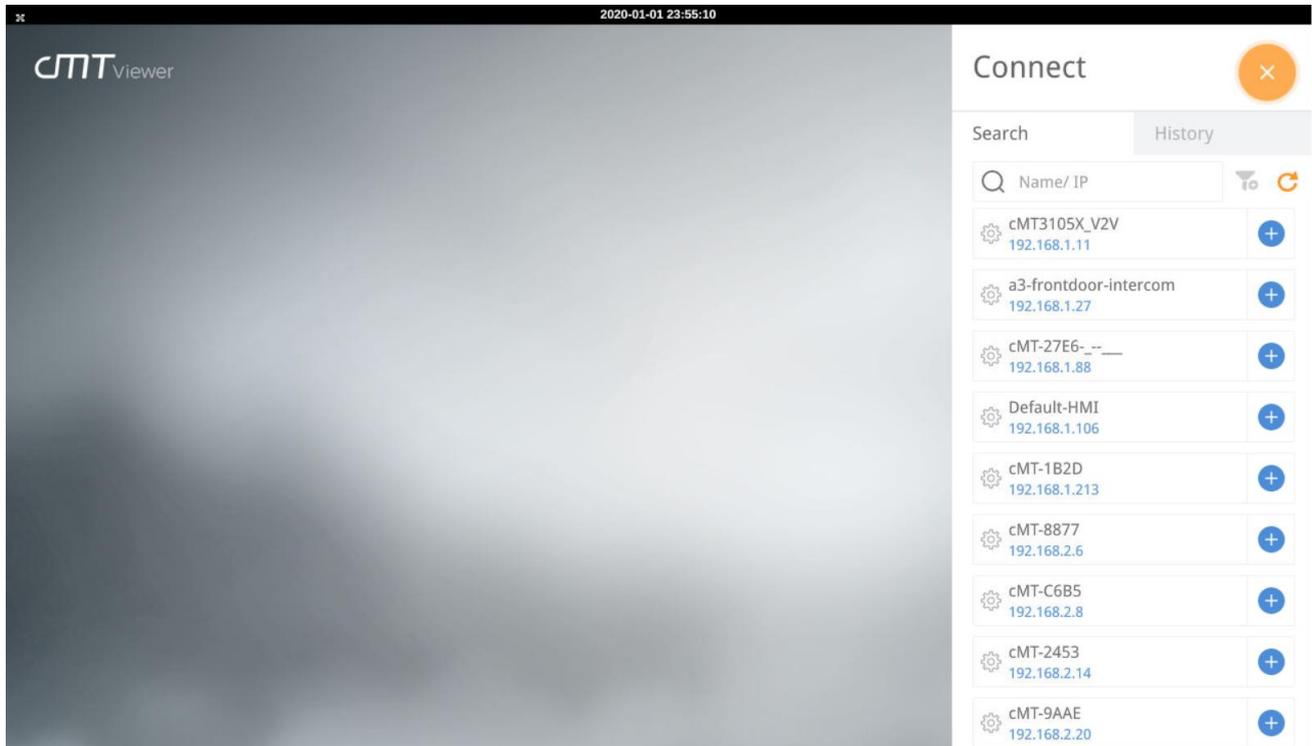
Setting	Description
Enable	Enable the VNC interlock feature to enhance system security and manageability.
Timeout	Set the timeout for VNC interlock. If there is no operation past the set time, the operation access will automatically be disconnected.
Status Bar Style	Choose the display mode for the status bar to adjust according to usage needs.

Chapter3. cMT Viewer App

3.1. How to Load Project File to HMI with Built-in cMT Viewer

Step 1. Run the HMI and tap the button .

Step 2. Search for all the cMT / cMT X HMIs on the same network.



Step 3. Select a cMT/ cMT X HMI, tap  and then enter the password. With [Save password for this HMI] selected, entering password will not be necessary when connecting to the same HMI again.

Step 4. The HMI with Built-in cMT Viewer displays the project after the project is loaded.

Tap Start Button to return to the home screen. To connect another cMT / cMT X HMI, repeat the preceding process to search for cMT / cMT X HMI and then load the project. The connected cMT / cMT X HMIs will have a grey plus sign  near its name.

3.2. How to Switch Between cMT / cMT X HMI Projects

When multiple cMT / cMT X HMIs are connected, to switch between HMI projects, tap .

To delete a project of a connected cMT / cMT X HMI, tap .

3.3. USB Drive Support

By using a USB drive, the HMI with Built-in cMT Viewer can support the following software features used in the project file of the connected cMT / cMT X HMI:

- File Browser
- Media Player
- Picture Viewer
- PDF Reader
- Selected features of Action Trigger: Screen hardcopy, Import e-mail settings and contacts, Import user accounts, Use [USB Security Key] to Login.
- Selected features of Function Key: Screen hardcopy, Import e-mail settings and contacts, Import user accounts, Use [USB Security Key] to Login.

Note that a USB drive must be inserted into the HMI with Built-in cMT Viewer, and in EasyBuilder Pro, the designated destination must be USB drive. When using these features, only the data in the USB drive on the HMI with Built-in cMT Viewer can be read instead of the data in the USB drive on cMT / cMT X HMI.

Chapter4. OS Update

The OS version on the HMI with Built-in cMT Viewer can be updated via Ethernet or USB drive.

4.1. Updating the OS

Please note that OS update failures can render the HMI unusable, so care must be taken during the update. Ensure a stable power supply throughout the process.

4.1.1. Updating via EasyWeb 2.0

- Step 1. Open a web browser (Windows Edge, Chrome, Firefox) and enter the IP address of the HMI with Built-in cMT Viewer (e.g., 192.168.2.121). Enter the Admin password on the login page to access the web settings.
- Step 2. Under the Administrator tab, find and open the OS Update tab.
- Step 3. Click [Update], select the OS file, and then click [Update] to start the process.

4.1.2. Updating via USB Drive

- Step 1. Place the OS file "MTFirmware_iV6.bin" onto a USB drive and insert it into the HMI.
- Step 2. In the System Properties tab, find and select [OS Upgrade], then enter the Admin password.
- Step 3. Within the interface, click [Select File...], choose the path to "MTFirmware.bin" on the USB drive, and click [OK].
- Step 4. Once the OS file path is confirmed, click the [Upgrade] button at the top right of the screen to begin the OS update process.