

USER MANUAL

Upgrading an EasyBuilder Pro Project

This manual explains differences in functions between Maple Systems HMI and cMT Series projects, and how users can configure EasyBuilder Pro when upgrading to a cMT Series.

Applicable Software Version: EasyBuilder Pro V6.08.02 or later.

Contents

Contents

1.	Overview	1
2.	Data Sampling	2
2.1.	History File	2
2.2.	History File Format	3
2.3.	Display Objects	4
2.3.	1. Trend Display	4
2.3.	2. Option List – Dates of Historical Data	5
2.4.	File Saving Mechanism	5
2.5.	System Registers Related to Data Sampling	6
2.6.	Features Removed without Bringing Impact	6
2.6.	1. Max. data records (real-time mode) and clear real-time data address	6
2.6.	2. History Data Display	7
2.6.	3. System Registers	7
2.7.	Features Not Supported on cMT/cMT X Series Models	8
2.7.	1. Trend Display	8
3.	Event Log	9
3.1.	History File	9
3.2.	History File Format	10
3.3.	Display Objects	11
3.3.	1. Event Display – History Mode	11
3.4.	Event Log Messages	13
3.5.	System Registers Related to Event Display	13
3.6.	Features Removed without Bringing Impact	14
3.6.	1. Font in Event Display	14
3.6.	2. History Data Display	14
3.6.	3. System Registers	15
3.7.	Features Not Supported on cMT/cMT X Series Models	16
3.7.	1. Serial Printer Settings	16
3.7.	2. Alarm Display and Event Display – Empty Warning	16
4.	Overlapping Objects	17
4.1.	Enable Touch Area	17
4.2.	Find Overlapping Objects	17
4.3.	Convert to Combo Button	18

4.4.	Tips	on Object Placement	19
5.	User	^r Password and Security	20
5.1.	Gen	eral Mode	20
5.2.	Enha	anced Security Mode	22
6. Win	ldow l	Related	24
6.1.	Fund	ction Key – Popup Window	24
6.2.	Fast	Selection Window	24
6.3.	Und	erlay Window	25
7. Rem	note P	Printing / Backup Server	26
7.1.	Print	ter Server	26
7.2.	Back	sup Server	26
8.	Feat	ures Not Supported on cMT/cMT X Series Models	28
8.1.	Obje	ects	28
8.1.	1.	Numeric	28
8.1.2	2.	Function Key	28
8.1.3	3.	Option List	29
8.1.4	4.	Pie Chart	29
8.1.	5.	Picture View	30
8.1.0	6.	PLC Control	30
8.1.	7.	Contacts Editor	31
8.2.	Data	a / History	32
8.2.2	1.	Recipe View	32
8.2.2	2.	Backup	32
8.3.	Proj	ect File	1
8.3.3	1.	Convert labels to bitmap images	1

1. Overview

In Easy Builder Pro, upgrading from an HMI5000 project (.emtp) to a cMT/cMT X project (.cmtp) is as simple as selecting a new model in System Parameter Settings. In a cMT/cMT X project, most of the features are retained, but certain features may be removed or behave differently.

This user manual explains these differences and how users can configure the project when upgrading to cMT/cMT X Series models.

The following table shows the cMT/cMT X features that behave differently from non-cMT models.

_	
Dat	ta Sampling
1.	Number of historical files: a file a day $ ightarrow$ all data in one file
2.	Format of historical files: .dtl \rightarrow .db
3.	Display objects: Supports spacing adjustment, dynamic control of Y axis and main axis, and changing time
	range by tapping the Option Button (gear icon) of the object on HMI.
Eve	ent Log
1.	Number of historical files: a file a day $ ightarrow$ all data in one file (Customized File Handling is not available).
2.	Format of historical files: .evt \rightarrow .db
3.	Display objects: Displays the triggered / acknowledged / returned to normal states of an event in a different
	manner. Time range can be changed by tapping the Option Button (gear icon) of the object on HMI.
4.	Serial printer related features are not supported.
Cor	mbo Button
Pas	sword and Security
1.	General Mode: This mode is retained after upgrading to a cMT/cMT X project. Remote users cannot log in
	under this mode.
2.	Enhanced Security Mode: The designated LW address is retained after upgrading to a cMT/cMT X project.
	Remote users cannot log in when the control addresses are LW addresses.
Wi	ndows
1.	Function Key – Popup Window: Popup position setting has changed.
2.	Fast Selection Window: Not supported on cMT/cMT X Series but using a Direct Window can achieve the same
	effect.
Rer	mote Printing / Backup Server
1.	Printer Server: cMT/cMT X can directly connect to Ethernet printers to send print jobs.
2.	Uploading screen hardcopy: After saving a file to an external device using a PLC Control object, the file can be
	backed up to PC using File Transfer feature.
3.	Backup Server: Files can be backed up to PC using File Transfer feature. When data is synchronized to
	database, it can be backed up to PC using EasyConverter.

2. Data Sampling

This chapter explains the differences in Data Sampling related settings that exist after upgrading from an HMI5000 project to a cMT/cMT X project, and how users can adjust the settings to achieve the same effect as in an HMI5000 project. This chapter also explains the features that are not supported after upgrade.

2.1. History File

In an HMI5000 project, historical files are saved in a way that each file contains all records of a day. In a cMT/cMT X project, all records are saved into one file.

HMI5000 Series	cMT/cMT X Series
History files Image: Save to HMI memory Save to USB disk 1 Save to USB disk 1 Save to USB disk 2 Image: Save to USB disk 1 Image: Save to USB disk 2 Image: Save to USB disk 2	History file
Folder name : log000	Save to

To make cMT/cMT X Series save historical files in a way that each file contains all records of a day, please follow the steps below.

Step 1. Set History File setting to [Customized file handling].

Comme	ent :				
ampling mod	le		History file		
	Time-based	Trigger-based	💟 Enable		
		Sampling time interval : 1 second(s)	All records in one file Output file handling		
			Customized nie nandi	ing	Settings
			roider name :	log000	
lead address	S		File name example :	20200907.db (Format	: %Y%m%d.db)
Device :	Local HMI		Save to		
Address :	LW	• 0		HMI	memory (until space full)
ata Record			USB disk	🔘 SD c	ard
	Data Fo	Data length: 0 word(s)			
Device : Address :	Enable Local HMI LB	Mode : ON	•		
ontrol addre	ess Essble		Preservation limit (1 ~	~ 1000 files) 7	file(s)
					OK Cancel

Step 2. For the setting of Customized File Handling, use %Y%m%d.db as file name format. This

saves data of each day into separate files.

Customized Filenam	e Handling		
File creation			
Automatic mode	(A new file will be create	d when the file name i	s changed)
 Automatic mode 	(A new nie wii be create	a when the nie hamen	s criangeu.)
Trigger mode (Us	e the trigger method to	create a new file.)	
Ele nome			
Flie name			
Year (2000-2038)	Year (00-99)	Month (01-12)	Day (01-31)
Week (00-53)	Weekday (0-6)		
Hour (00-23)	Minute (00-59)	Second (00-59)	%
Format :	%Y%m%d		.db
Example :	0201224 db		
%Y Year (2000	-2038)		
%y Year, last t	wo digits (00-99) decimal number (01-12)		
%d Dav of the	month (01-31)		
%W Week numb	er (00-53)		
%w Weekday,	0 is Sunday (0-6)		
%H Hour in 24n %M Minute (00	format (00-23)		
%S Second (00	-59)		
%% %	,		
* A filename cannot	contain any of the follo	wing characters: \/:	*?<>
Sort			
Order : File n	ame 🔻		
			OK Cancel

Step 3. After conversion, one historical file is generated a day.



2.2. History File Format

In a HMI5000 project, historical files are saved as .dtl, while in a cMT/cMT X project, historical files are saved as .db. Both formats can be opened using EasyConverter and exported in .csv format.

HMI5000 Series	cMT/cMT X Series
[5] 20200829.dtl [5] 20200830.dtl [5] 20200831.dtl [5] 20200901.dtl [5] 20200901.dtl [5] 20200902.dtl [5] 20200903.dtl	ାର୍ଡ୍ର log000.db

When opening cMT/cMT X's .db file using EasyConverter, different from opening a .dtl file, a window for selecting date range appears.

Please select exp	orting date	range				
	Year		Month		Day	
Start Date	2020	~	12	~	31	~
End Date	2020	~	12	~	31	~

2.3. Display Objects

Data logs may be displayed using Trend Display, Circular Trend Display, and History Data Display objects.

2.3.1. Trend Display

Settings relating to dynamic spacing and dynamic control of Y axis / main axis in HMI5000 project have been removed for cMT/cMT X projects because on a cMT/cMT X model, users can do the same thing with the built-in UI buttons.

HMI5000 Series	cMT/cMT X Series
Distance between data samples : Pixel Default distance : 100 pixel(s)	
 ✓ Dynamic distance between data samples Device : Local HMI ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	

HMI5000 Series	cMT/cMT X Series
Dynamic Y-scale visibility	etrascozi 1959 Cancel Option Done
Device : Local HMI	Begin Date
Address : LW V 0 16-bit Unsigned	Ended Date
Display channel's Y-scale when the corresponding bit is :	TREND DISPLAY SETTING
O ON OFF	Channel Visibility
	of Y Scale On
Dynamic main axis	Disable Y-axis scrolling
☑ Enable	Reset to default
Device : Local HMI Address : LW 0 16-bit Unsigned	

2.3.2. Option List – Dates of Historical Data

In HMI5000 project, when an Option List is used to select a date of historical data and [delete history files] function is enabled, after upgrading to cMT/cMT X project, the [delete history files] setting will not be effective.

New Option List Object
Option list Source data Mapping Security Shape Label
Source of item data : 🔹 🗖 Dates of history data 💌
Item data from dates of historical data
Type : Data Sampling Date : DD/MM/YY
Data Sampling object : 1.
Enable [delete history files] function
Control address
Device : Local HMI 🗸 🧔
Address : LW 🗸 0 16-bit Unsigned
[Address] : set 1 to delete the selected history data

2.4. File Saving Mechanism

In an HMI5000 project, the data log is saved with the specified filename soon after data is sampled. In a cMT/cMT X project, the data log is temporarily saved in HMI memory and is only made available after synchronization or filename changes.

Enable [Auto sync. periodically] so that data can be synchronized to the designated location. The recommended setting is 5 minutes.

All records in one file		
Oustomized file handling		Settings
Folder name : log000		
File name example : 20210126	db (Format + %/V%)	m%d db)
20210120		in /id.db)
ve to		
	HMI memor	y (until space full)
🗇 USB disk 1 🛛 🔘 USB disk 2		
✓ Preservation limit (1 ~ 1000 files)) 7 f	le(s)

2.5. System Registers Related to Data Sampling

When using the following system registers to save or delete Data Sampling files, their behaviors vary between models:

HMI5000 Series: The system registers do not return from ON to OFF.

cMT/cMT X Series: The system registers automatically return from ON to OFF.

These above-mentioned behaviors of these system registers require no actions after upgrading the project.

Address	Description
LB-9026	delete all data sampling files on HMI memory (set ON)
LB-9034	save event/data sampling to HMI, USB disk, SD card (set ON)
LB-11950	delete all data sampling files on SD card (set ON)
LB-11953	delete all data sampling files on USB disk 1 (set ON)
LB-11956	delete all data sampling files on USB disk 2 (set ON)

2.6. Features Removed without Bringing Impact

2.6.1. Max. data records (real-time mode) and clear real-time data address

There is no clear distinction of real-time and historical data on cMT/cMT X Series models;

therefore, the real-time related settings are removed after upgrading to a cMT/cMT X project.

Comment :	Device : Local HMI
ampling mode	Clear real-time data address
High priority (this may reduce refresh rate of screen components.)	Enable Mode : OFF->ON
Time-based Trigger-based Sampling time interval : 1 second(s)	Device : Local HMI Address : LB 0
	Hold address
	Device : Local HMI
tead address	Address : LB v 10
Device : Local HMI Address : LW In prior to display or store the data log, you can use the conversion tag to check and modify the data log.	History files Save to HMI memory Save to USB disk 1 Save to USB disk 2
When the Data record is converted by the user-defined conversion tag, the GetCnvTagArraryIndex() function of [Read conversion] subroutine can get the relative array index.	Each file consists of all records of a day Customized file handling
Max. data records (real-time mode) : 1000	Folder name : log000
Data Format Data length : 0 word(s)	Preservation limit 7 day(s)

2.6.2. History Data Display

On cMT / cMT X Series models, the History Data Display object has built-in auto-refresh function; therefore, the [Refresh data automatically] option is removed after upgrading to a cMT/cMT X project.

Jeneral	Display	Display Format	Title	Edit	Security	Shape	
	Data Sa	mpling Object ind	ex : 1.				•

2.6.3. System Registers

cMT/cMT X Series does not support the use of system registers to delete the earliest file or statistical information about data sampling. If deleting a file to free up memory space is inevitable, set [Preservation limit] to make HMI automatically delete outdated records. The recommended preservation limit is 7~14 days (or files).

Addres	Description
LB-9025	delete the earliest data sampling file on HMI memory (set ON)
LB-9027	refresh data sampling information on HMI memory (set ON)
LB-11949	delete the earliest data sampling file on SD card (set ON)
LB-11951	refresh data sampling information on SD card (set ON)

LB-11952	delete the earliest data sampling file on USB disk 1 (set ON)
LB-11954	refresh data sampling information on USB disk 1 (set ON)
LB-11955	delete the earliest data sampling file on USB disk 2 (set ON)
LB-11957	refresh data sampling information on USB disk 2 (set ON)
LW-9063	(16bit) : no. of data sampling files on HMI memory
LW-9064	(32bit) : size of data sampling files on HMI memory (bytes)
LW-10489	(16bit) : no. of data sampling files on SD card
LW-10490	(32bit) : size of data sampling files on SD card (bytes)
LW-10492	(16bit) : no. of data sampling files on USB disk 1
LW-10493	(32bit) : size of data sampling files on USB disk 1 (bytes)
LW-10495	(16bit) : no. of data sampling files on USB disk 2
LW-10496	(32bit) : size of data sampling files on USB disk 2 (bytes)

2.7. Features Not Supported on cMT/cMT X Series Models

2.7.1. Trend Display

Only a solid line pattern is available when width is set to 1.

Pen property Color :] Width :	[1 •
Dynamic lim Min. :	its 0	Max. :	100

3. Event Log

This chapter explains the differences in Event Log related settings that exist after upgrading from an HMI5000 project to a cMT/cMT X project, and how users can adjust the settings to achieve the same effect as in an HMI5000 project. This chapter also explains the features that are not supported after upgrade.

3.1. History File

In an HMI5000 project, event logs are saved into .evt format, and in a way that each file contains all records of a day. In a cMT/cMT X project, all records are saved into one .db file. Customized File Handling option is not available for Event Log.



To make cMT/cMT X Series save event log in a way that each file contains all records of a day, please consider an alternative method that involves the use of a Scheduler object and a Backup object.

Step 1. Save historical data to HMI memory (until space full) and set preservation limit (7~14 days).

ave to		
HMI memory (10000 limited)	 HMI memory (until space full) 	
🗇 USB disk 1	O USB disk 2	

Step 2. Create a Scheduler object that triggers a bit address at 00:00 every day.

Scheduler	Scheduler 💽
General Time Set Prohibit	General Time Set Prohibit
Comment : Scheduler 1	
Power-ON start/end action Action mode	Separate Start/End day
Bit ON Bit OFF Word write	0 - : 0 - : 0 - (HH:MM:SS)
Action address	🖉 Sun 🖉 Mon 🗭 Tue 🖉 Wed 🖤 Thu 🖤 Fri 🖉 Sat
Address : LB V 0	End
	Image: Construction of the second

Step 3. Create a Backup (Global) object, set the range to 1day yesterday, and set Scheduler's action address as Backup's trigger address. In this way, an event log file is generated every day, but please note that files obtained by Backup object are in .csv format.

eneral					
Comme	ent :				
File sour	rce : [Historical ever	at log			•
Backup position					
 USB disk 1 	1 💿 USB dis!	k 2		🔵 e-Mai	il
Storage format					
Format : [Comma Separated '	Values (*.csv)			-
Split by : [Date	•			
Event category ray	nge	Include (авраен шие		
Kange Start : (🔍 veboT 🔍	Vesterday			
13T (ab. i.e.)	1 doy(e)		-		
YY10001.	1 00,09				
Tricoer	External trigger (bi	t)	•		
Trigger Mode : [1 1 6 11	(bed)
Trigger Mode : [Condition :]	OFF.SON -	Eollow (set OFF when	DACKIID DIDISE	
Trigger Mode : (Condition : (OFF->ON ▼	Follow ((set OFF wher	n backup finisi	
Trigger Mode : [Condition : [Device : L	OFF->ON +	Follow ((set OFF wher	• Dackup finisi	<u></u>
Trigger Mode : [Condition : [Device : L Address : L	OFF->ON + ocal HMI B	Follow ((set OFF when	- Dackup Imis	<u></u>
Trigger Mode : [Condition : [Device : L Address : L *LB-9039 indicat	OFF->ON + ocal HMI B tes the status of file	Follow (O backup activity ((set OFF wher	ocess if bit is C)N).

3.2. History File Format

In an HMI5000 project, historical files are saved as .evt, while in a cMT/cMT X project, historical files are saved as .db. Both formats can be opened using EasyConverter and exported

in .csv format.

HMI5000 Series	cMT/cMT X Series
 EL_20200828.evt EL_20200829.evt EL_20200830.evt EL_20200831.evt EL_20200901.evt EL_20200902.evt EL_20200902.evt EL_20200903.evt 	ievent.db

When opening cMT/cMT X's .db file using EasyConverter, different from opening an .evt file, a window for selecting date range appears.

lease select expo	orting date	e range				
	Year		Month		Day	
Start Date :	2020	~	12	~	31	~
End Date :	2020	~	12	~	31	~

3.3. Display Objects

Event logs can be displayed using Alarm Bar, Alarm Display, and Event Display objects.

3.3.1. Event Display – History Mode

For event display, the display of trigger time, acknowledge time, and return to normal time differs between history mode of HMI5000 models and cMT/cMT X models. On the left, HMI5000 models display the time information of each state of an event in separate rows and in different colors.

On the right, cMT/cMT X models display the time information of the states of an event in a single row.

	HMI5000 S	eries	cMT/cMT X	Series	
New Event Display Object General Event Display S Format Sort Order : Ascendi	ct Sort Security Shape	Font Empty Warnin Sort by : Time	8	New Event Display Object General Event Display Sort Security SI Format	ape Font Sort by : Time
Order & Characters Display items Sequence no. Event trigger Ø Acknowledge Ø Return to nom Ø Event messag Occurrence co Elapsed time	Display chars 0 date 0 time 0 time 0 e 20 punt 0 0 0	Display order Event trigger time Acknowledge time Return to normal time Event message		Order & Characters Display items Display ch Sequence no. 0 Event trigger data 0 Vert trigger time 0 Acknowledge time 0 Return to normal time 0 Vert treassage 20 Occurrence count 0 Elapsed time 0 * If "Display chars" is 0, it means that the syste	ars Display order Event message Acknowledge time Return to normal time
* If "Display chars" is 0, * The column width is e Date : MM/DD	it means that the system wi qual to "Display chars" mul VYY -	ll display all of characters. tiplied by the width of a 'x'. Time : HH:MM:SS	•	* The column width is equal to "Display chars" Date : MM/DD/YYYY -	multiplied by the width of a 'x'. Time : [HH:MM:SS -
Triggered Acknowledged Normal	16:55:28 16:55:34 16:55:40	Value = 10 Value = 10 Value = 10		12:05:09 Event 0 12:05:09 Event 0 12:05:09 Event 0	12:05:09 12:05:09 12:05:09

For HMI5000's Event Display – History Mode, one must designate an event management address in order to control the display of events. After upgrading to a cMT/cMT X project, the display of events can be controlled in the built-in UI.

HMI5000 Series	cMT/cMT X Serie	S
New Event Display Object Image: Constant of Consta	Cancel Option	Done
Comment : Mode : History	Include Categories	0 - 255
Refresh data automatically	Begin Date	
Event management	Ended Date	
Device : Local HMI Address : LW 0 16-bit Unsigned	Triggered, but not confirmed	✓
Event Management ADDR_1: LW-0	Triggered and confirmed Recovered, but not confirmed	~
 a. When the value in ADDR_1 is 0 => All events will be displayed. b. When the value in ADDR_1 is 1 => The confirmed events will be hidden. c. When the value in ADDR_1 is 2 => The recovered events will be hidden. d. When the value in ADDR_1 is 3 => The confirmed or recovered events will be hidden. 	Recovered and confirmed	~

3.4. Event Log Messages

When a watch address is set for event log message, and the watch address has different values at trigger, acknowledgement, and recovery, the logged message derived from the watch address will be slightly different between HMI5000 Series and cMT/cMT X Series. For example, given that the value in the watch address is 10 when the event is triggered, 20 when the event is acknowledged, and 30 when the event returns to normal, the end result is shown in the following figure.



On HMI5000 models, when the event is triggered, the logged message is 10. The logged message also prints 10 for event acknowledgment and recovery.

On cMT/cMT X Series, this is slightly improved. When the event is triggered, the logged message is 10 as expected and still prints 10 for event acknowledgement. However, for event recovery, it is 30 as HMI reads the watch address again when the event returns to normal.

3.5. System Registers Related to Event Display

When using the following system registers to save or delete Event log files, their behaviors vary between models:

HMI5000 Series: The system registers do not return from ON to OFF.

cMT/cMT X Series: The system registers automatically return from ON to OFF.

These above-mentioned behaviors of these system registers require no actions after upgrading

the project.

Address	Description
LB-9023	delete all event log files on HMI memory (set ON)
LB-9034	save event/data sampling to HMI, USB disk, SD card (set ON)
LB-11941	delete all event log files on SD card (set ON)
LB-11944	delete all event log files on USB disk 1 (set ON)
LB-11947	delete all event log files on USB disk 2 (set ON)

3.6. Features Removed without Bringing Impact

3.6.1. Font in Event Display

After upgrading to a cMT/cMT X project, the font in Event Display will follow current settings in Language & Font.

	Text					
		Content :			< >	
	Use l	abel library		Label I	.ibrary	
	Use s	tring table		String Tabl	e	
	Cc	olor :	[Droid Sans]	ground Color : Tra	ansparent	
	L	Tonchoin	Language of rong settings			
Langu	lage & Font					×
Lang	uage Non-As	SCII Fonts Font Ma uage no. : 8	apping Font Management ~			
1	Language	Display Name	Font		Language Code	
	1	Language 1	Arial [Arial] [Droid Sans]		[Neutral]	
	2	Language 2	Arial [Arial] [Droid Sans]		[Neutral]	
	3	Language 3	Arial [Arial] [Droid Sans]		[Neutral]	
	4	Language 4	Arial [Arial] [Droid Sans]		[Neutral]	
	5	Language 5	Arial [Arial] [Droid Sans]		[Neutral]	
	6	Language 6	Arial [Arial] [Droid Sans]		[Neutral]	
	7	Language 7	Arial [Arial] [Droid Sans]		[Neutral]	
	8	Language 8	Arial [Arial] [Droid Sans]		[Neutral]	

3.6.2. History Data Display

On cMT / cMT X Series models, the History Data Display object has built-in auto-refresh function; therefore, the [Refresh data automatically] option is removed after upgrading to a

cMT/cMT X project.

General	Display	Display Format	Title	Edit	Security	Shape	
	Data Sa	mpling Object ind	ex : 1				

3.6.3. System Registers

cMT/cMT X Series does not support the use of system registers to delete the earliest file or statistical information about event logs. If deleting a file to free up memory space is inevitable, set [Preservation limit] to make HMI automatically delete outdated records. The recommended preservation limit is 7~14 days (or files).

Address	Description
LB-9021	reset current event log (OFF->ON)
LB-9022	delete the earliest event log file on HMI memory (set ON)
LB-9024	refresh event log information on HMI memory (set ON)
LB-11940	delete the earliest event log file on SD card (set ON)
LB-11942	refresh event log information on SD card (set ON)
LB-11943	delete the earliest event log file on USB disk 1 (set ON)
LB-11945	refresh event log information on USB disk 1 (set ON)
LB-11946	delete the earliest event log file on USB disk 2 (set ON)
LB-11948	refresh event log information on USB disk 2 (set ON)
LW-9060	(16bit) : no. of event log files on HMI memory
LW-9061	(32bit) : size of event log files on HMI memory (bytes)
LW-10480	(16bit) : no. of event log files on SD card
LW-10481	(32bit) : size of event log files on SD card (bytes)
LW-10483	(16bit) : no. of event log files on USB disk 1
LW-10484	(32bit) : size of event log files on USB disk 1 (bytes)
LW-10486	(16bit) : no. of event log files on USB disk 2
LW-10487	(32bit) : size of event log files on USB disk 2 (bytes)

3.7. Features Not Supported on cMT/cMT X Series Models

3.7.1. Serial Printer Settings

In an HMI5000 project, there are printer related settings of Event Log object when a serial printer is selected in System Parameters » Model. These settings will be removed after upgrading to a cMT/cMT X project.

3.7.2. Alarm Display and Event Display – Empty Warning

For the Alarm Display and Event Display objects on HMI5000 models, empty warning is necessary because otherwise the states of "event being loaded" and "no event records" could not be distinguished when the display is empty. Now on cMT/cMT X Series, a loading icon shows when loading data, so an empty display would suggest that there is no event records. As a result, settings related to empty warning will be removed in cMT/cMT X project.

New Event Display Object	×
General Event Display Sort Security Shape Font Empty Warning	
Vise empty warning	
	~
4	
Use label library	
Font: Arial	
Color : Size : 12	

4. Overlapping Objects

When editing an HMI5000 project, multiple objects can be overlapped, so that they can be triggered at once by a single touch. After upgrading to a cMT/cMT X project, only the front most object will be triggered. This is inevitable considering the underlying system difference between the models. In this case, users can modify overlapping objects manually.

4.1. Enable Touch Area

To find the overlapping objects in the project, select [View] » [Touch Area]. All the touchable objects in the project will be highlighted in yellow and the overlapping area will be highlighted in pink.

1. Open View tab and select [Touch Area].

File	8 🖂 🔦		Home	Project	Object	Data/History	IIoT/Energy	View	Tool
Com	mon Windo	w 🗹 O	bject Add	ress 🔽 T	ouch Area	✓ Ruler	Address Grid		Web Wind
🗹 Unde	erlay Windo	w 🗹 O	bject Labe	el Tag		🗹 Grid	✓ Windows Tree		Shape
🗹 Obje	ect ID	✓ Co	omment			🗹 Snap	✓ Windows Prev	iew 🗌 I	Picture

2. All the touchable objects in the proejct will be highlighted in yellow, the overlapping areas will be highlighted in pink, and the objects that are not touchable will remain the same.



4.2. Find Overlapping Objects

EasyBuilder Pro provides easy-to-use tools for users to quickly find overlapping objects and modify them after upgrading the project, which saves plenty of time.

1. Open Tool tab and click [Find Overlapping Objects] to find all the touchable overlapping objects in the project.

File 🚼 🖂 🖣	× 🥕 👳	Home	Project	Objec	t Data	a/History	lloT/Energy	View	Tool	
	4		csv		@≡	•••	0	0		I
Find Overlapping Objects	Conve Combo	ert to Button	Data/Event Converte	Log /	Address Viewer	Easy Watch	Administrator Tools	[System Se Editor	tting] r	Recipe Database Editor
Upgr	ade						E	xternal		

2. At the first time clicking [Find Overlapping Objects], the system will find the first group of

overlapping objects in the current window. To search for the next group, click this button again. When all the overlapping objects in the current window are found, the system will start searching for overlapping objects in the next window and then open the window in which overlapping objects are found.



4.3. Convert to Combo Button

When the overlapping objects are Set Bit, Set Word, Function Key, Data Transfer (Per-page) in touch trigger mode, and Backup (Per-page) in touch trigger mode, select these overlapped objects together, click the right mouse button, and then select [Convert to Combo Button]. All these objects can be converted to a single Combo Button. After converting to a Combo Button, the look, security setting, sound setting, and comment of the Combo Button will follow the settings of the frontmost object. Settings in the object one layer down will be used when they can't be found in the frontmost object.

1. Open Tool tab and click [Convert to Combo Button].



2. Alternatively, select the overlapping objects together, click the right mouse button, and then select [Conver to Combo Button].

38 0 (LB-0)	н		Combo Button Object's Properties
5W_0 R.W-0	Cut Copy Multi:Copy Paste Delete Group Ungroup Convert to Combo Sutton Attribute	→ ^{66_0} (LV-)	General Security Shape Font Profile Comment: Lamp Mode: None
	Security settings Goto desti. window Jump to selected shape/picture libraries Ctrl + G		Down actions Action Group 1 Action Group 2
	SB_0 (LB-0) (Back) SW_0 (LW-0) FK_0 (Front)		Popup Window (70. Login & Log Set Word (Write constant value : 0
			Set Bit (Set ON, LB-O)

3. Objects other than Set Bit, Set Word, and Function Key need to be manually combined into a Combo Button to achieve the same effect where multiple functions can be triggered by one touch. A Combo Button can trigger a sequence of actions, and the actions are shown below.

New Combo Butto General Security Comment Lamp Mode	on Object Shape Font : None •		
Action Gro	up 1 Delay Set Bit Set Word Change Window	12	New Combo Button Object General Security Shape Comment : Lamp Mode :
Up actions Action (Execute Macro Popup Window Close Window Keyboard Input Screen Hardcopy Acknowledge All Events (Alarms) Import Data Wait Until Data Transfer (Global) File Transfer	C	Down actions Action Group 0 Action Group 1 Set Bit (Toggle, LB-0) • Set Bit (Toggle, LB-1) • Set Bit (Toggle, LB-2) •

4.4. Tips on Object Placement

After upgrading to a cMT/cMT X project, please check if there are overlapping objects. Please avoid placing objects in the way shown below, for example, where a Function Key for page change is covered by a Trend Display object. Please avoid overlapping objects unless it is necessary, in which case place the touchable object on top.



5. User Password and Security

To take advantage of the cMT/cMT X architecture where one cMT/cMT X Series HMI can be simultaneously monitored and controlled by multiple client devices remotely, security and access restriction must run independently on each client device. This section explains how to adjust related settings when upgrading an HMI5000 project to a cMT/cMT X project.

5.1. General Mode

When General Mode is used in an HMI5000 project, this mode is retained after upgrading to a cMT/cMT X project. However, general mode works properly only by operating the designated control address on HMI itself. I.e, Remote login is not possible when using cMT Viewer for monitoring.

Users can manually switch to Enhanced Security Mode after upgrading to a cMT/cMT X project. With Enhanced Security Mode, remote login on cMT Viewer becomes possible. Please note that this change is irreversible.

The following example explains the difference between these modes in EasyBuilder Pro and how users can configure the project in response. Step 1. In general mode, there are user (12 at most), password and operable class settings (A to F).

Cet	lular Data i	Network	802.1X (Wi	i-Fi)	Printer/Bac	kup Servei	Ti Ti	me Sync./	DST	e-Mai	1
De	/ice	Model	General	Syster	n I	Remote	Secu	rity	Extended	Memo	Ŋ
0	General r	node) Enhance	ed security m	iode		LDAP.		Editab	le	
Selø Pa	ect operabl ssword ran Enable	e classes for e ge : 0 ~ 4294:	ach user 967295 Password		Class A	Class B	Class C	Class D	Class E	Clas	*
1	V	111		weak		7	7				
2	V	222		weak 💿	V	V					=
3	V	333		weak	V	V	V				J
	V	0		weak	✓	V	V	V			
4				weak 💿	V						
4 5		0									

Step 2. After upgrading to a cMT/cMT X project and then switching from General Mode to Enhanced Security Mode, the settings above will be retained as follows: the first user will be promoted to Administrator, and the 2nd to 12th users will be designed as user 1 to user 11 in Enhanced Security Mode.

	Extended M	lemory	Cellu	lar Data Netwo	ork	T	ime Sync./DS	T	e-M	ail
Ε)evice	Model		General	S	vstem	Rer	note	Sec	urity
0) General m	ıode	Enhance	ed security mo	de		LDAP		Editable	
Sele	ect operable	classes for eacl	h user							
	Use excist	ing user accoun	its and admir	nistrator setting	s on HMI	first (if ez	cisted). Other	wise, use s	ettings belo	w.
	Enable	Secret user	Use	er name	_	Ра	ssword	_	Class A	CI 1
1	V		user1		222		`	veak 💿		
2	v		user2		333			veak 💿) 🗸	=
3	V		user3		0			veak 💿) 🔽	
4			user4		0			veak 💿) 🔽	
5			user5		0			veak 💿) 🗸	
6			user6		0			veak 💿) 🔽	
•		I	1						1	•
	Class	Description								-
	Class A Class B									
	Class C									-
-Ad	lministrator								_	

Step 3. Set Control Address to PLW-8950 or LW-8950. Please see Chapter 5.2 for more details.



Step 4. Create a new cMT/cMT X project file that uses a template, save the file, and then use window copy feature to copy window no. 70 to 74 to the original project file. Use these pre-configured windows to work the Enhanced Security Mode conveniently.

62 : ASCII Upper M	1	9	1111
64 : ASCII Upper S		Window Copy	x
- C 65 : ASCII Lower S - C 66 : ASCII Middle(translucent)		Source	
67 : ASCII Upper M(translucent) 68 : ASCII Lower M(translucent)		Project : C:\Users\Janecheng\Desktop\cMT-3.cmtp	
- 69 - 70 : Login & Logout	-	Copy window Window no. : 70 ~ 74	Ĵ
- 71 : Add account	Ē	Destination	
- 72 : Delete account - 73 : Set privilege	100	Window no. : [70. [undefined window]	•
- 75		PIC Control Data Transfer	
76 : EasyAccess 2.0 Setting 77 : EasyAccess 2.0 Proxy Setting	Ξ		
- 78	8		
- 79	~	Chedule Recipe Database	
- 1 80: Screen Saver			
- 2 82 : Wechat Code - 33 : System Standard ASCII	5	- Copy macro	
84 : System Standard ASCII Lower 85 : System Standard ASCII Upper 86 : System Standard NumPad	1 1 1 30	Copy Close	

Step 5. Please remove the old login window and replace it with Window no. 70 which is suitable for Enhanced Security Mode. Adjustments mentioned above should be sufficient to allow the normal use of Enhance Security Mode. Changing the security settings for individual objects will not be necessary.

5.2. Enhanced Security Mode

When Enhanced Security Mode is used in an HMI5000 project, the LW control address setting will be retained after upgrading to a cMT/cMT X project. However, please note that security features will work only on HMI when the control address is LW. Remote login on cMT Viewer will not be possible.



After upgrading to a cMT/cMT X project, users may manually change the LW address to a PLW address. After changing the control address to PLW, remote login on cMT Viewer becomes possible.

HMI5000 Series	
Control address Device : Local HMI Address : LW 9950 16-bit Unsigned Usage	
cMT/cMT X Series	
Control address Device : Local HMI Address : PLW = 8950 [16-bit Unsigned Usage	

PLW addresses cannot be used in macros; therefore, the LW control address setting should be retained in any part of macro which references the control address for security feature in HMI5000 project. Use Action Trigger object instead in this case.

New Action Trigger (Per-page) Object
General Security
Comment :
Trigger : Window close 🔻
Triggered actions
Action Group 1
Set Word
Style : Write constant value Set value : 2
Write address Device : Local HMI
OK

6. Window Related

 \mathbf{C}

6.1. Function Key – Popup Window

On an HMI5000 model, the popup window position is designated in the base window, while on a cMT/cMT X model, the position is designated in the settings window of Function Key object. After upgrading the project, EasyBuilder Pro will automatically fill in the start position settings without the need for further configuration.

Window Settings	
Name: WINDOW_010 Window no.: 10	
Size Width: 1024 Height: 400	
Frame Width: 0 Color:	
Background Color : Filled	New Function Key Object
Underlay window Bottom : None	General Security Shape Label Comment:
Middle : None	Activate after button is released
* Use [View] > [Layer Opacity] to make Underlay window translucent during editing.	Display popup window
Popup / Direct / Indirect window	Window no. : 10. WINDOW_010 Animation : Settings [None, None] Close this popup window when parent window is closed
Popup window Start position X: 0 Y: 0	Keyboard input Popup Window Property
Macro Open :	Execute macro Hard copy screen to USB disk, SI Screen hardcopy Screen hardcopy Customize X: 0 Y: 0 OK Cancel
OK Cancel	O Acknowledge all events (alar ¹¹¹⁰)

6.2. Fast Selection Window

The Fast Selection Window related settings shown below are not supported on cMT/cMT X Series models.

Fast selection button	
Attribute :	Enable
Position :	Left

After upgrading to a cMT/cMT X project, the contents of Window no. 3 - Fast Selection Window should remain. To have a similar function after upgrading to a cMT/cMT X project, simply add a Toggle Switch object and a Direct Window object in Window no. 4 - Common Window and let the Direct Window's destination be Window no. 3. See the following figures for a setting example.

New Toggle Switch/Bit Lamp Object	
General Security Shape Label	New Direct Window Object
Comment :	General Position Security
Contraction Contracti	Comment :
Read/Write address	Attribute
Device : Local HMI	Trigger: ON 🗸
Invert signal	Window No. : 3. Fast Selection 👻
	Style : Embedded in parent window -
Write when button is released	
Attribute	Read address
Switch style : Toggle 🔶	Device : Local HMI
	Address : LB 🔹 1000

Note that for cMT/cMT X Series models, Window no. 3 is used for Monitor Mode. Hence, if Monitor Mode must also be used, please use another window for Fast Selection.

6.3. Underlay Window

On HMI5000 models, when switching between base windows that share the same underlay window, the underlay window is closed and then reopened. In contrast, on cMT/cMT X models, the underlay window remains open.

For example, if both Window no. 10 and Window no. 11 use Window no. 13 as their underlay window, and a Function Key within this underlay window is set to open Window no. 15 with the condition "Close this popup window when parent window is closed", the behavior differs between the HMI5000 and cMT/cMT X series.



On HMI5000 models, the underlay window is closed and reopened, leading to the popup window closing because it is treated as if its parent window has closed. In contrast, when upgrading to the cMT/cMT X models, the underlay window remains open, allowing the popup window to persist since its parent window is not closed. To avoid encountering this issue when upgrading the device model, it is recommended to place popup window objects on base windows rather than underlay windows.

7. Remote Printing / Backup Server

EasyPrinter is not supported on cMT/cMT X Series models. This chapter explains how to achieve similar functions as Printer Server or Backup Server on cMT/cMT X models.

7.1. Printer Server

HMI5000 models support relatively fewer printers; therefore, these models require the use of a printer server on a computer to print. On the other hand, cMT/cMT X models can directly connect to Ethernet-based printers following installation of their PPD file. Generally speaking, HP printers are known to have better compatibility with cMT/cMT X models.

7.2. Backup Server

The FTP feature in cMT/cMT X project allows users to transfer historical data to FTP server on PC by using a Backup object, in order to achieve the same effect as using EasyPrinter.

Device Model		General	System	Remote	Security	
Extended Memo	ory Cellu	lar Data Network	Time Sync./DST	e-Mail	FTP	
♥ Enable FT Server Host Port Usemame Password	P function : 192 . 168 : 21 ÷ : username : ●●●●●●●	. 1 . 91	Use domsin name			
Naming Conven	tion for HMI Folde dress name (assign HMI : :: IP_	r name by LW9032~L	W9039)			

FTP tab in System Parameter Settings

reneral			
	Comment :		
	File source :	Historical data sampl	ing 👻
	Data San	npling object index :	1. 👻
Backup	position		
01	JSB disk 1	🔘 USB disk 2	🕐 e-Mail
0	FTP		
FI	P Path :		
Dupli	cate filename		
0	Overwrite		Append .BAK to the existing file
0	Dverwrite		Append BAK to the existing file

FTP as Backup Position in Backup object settings

EasyConverter's Command Line can also back up the historical data in the database to PC. For more information, please see Ch 25.7 Batch File in EasyBuilder Pro User Manual.

To backup screen hardcopy to PC, use PLC Control object to get the screen hardcopy and then save the file to a USB disk or SD card. The file can then be transferred to PC by using Combo Button's File Transfer.

New Combo Button Object \$3 General Security Shape Font
Comment : Lamp Mode : None
File Transfer
General File Status
Download (FTP -> HMI) O Upload (HMI -> FTP)
Host : 192 . 168 . 1 . 91 🔲 Use domain name
Port: 21
Username : 📃 Use anonymous
Password :
OK Cancel

8. Features Not Supported on cMT/cMT X Series Models

8.1. Objects

8.1.1. Numeric

[Notification on invalid input] settings are not supported on cMT/cMT X Series models.



[Restart the keypad if input value is out of range] option is not supported on cMT/cMT X Series models. On cMT/cMT X Series models, the keyboard won't disappear until the user enters a valid value or presses the ESC key.

Keyboard	
🔽 Use a popup keypad	
III Hide title bar	
Restart the keypad if input value is out of range	
Window no. : 50. Keypad 1 - Integer 🗸]
Popup position : {relative to HMI screen}	
Hint : If the keyboard is an USB keyboard, on indirect/direct window, or on the same window, please don't check "Use a popup keypad".	

8.1.2. Function Key

[Window title bar] option is not supported on cMT/cMT X Series models. After upgrading the project to a cMT/cMT X project, these Function Keys will become Combo Buttons without any action, while preserving the original look.

New Function Key Object
General Security Shape Label
Comment :
Activate after button is released
Change common window
Keyboard input
C [Enter]
💿 Execute macro
• Window title bar

8.1.3. Option List

The [Up] direction option of Drop-down List is not supported on cMT/cMT X Series models. On cMT/cMT X Series models, the expansion direction of the list is controlled by the system.

Option list	Mapping	Security	Shape	Label			
û theiburte	Com	ment : 🗌					
Aunoue	Mode : I)rop-down	List	•			
Back	ground :			•	Item no. :	1	•
Se	lection :	-		•	Direction :	Up	•
	Source of	item data	Predef	ine			-

8.1.4. Pie Chart

[Background color] and [Pattern style] settings of Pie Chart are not supported on cMT/cMT X Series models. Each Pie Chart slice is filled with a single color.

New Pie Chart Object	×
General Security	
Comment :	
40% 10% 20% 30%	Angle : Full , 0" Hole : No. of channels : Border color : Transparent
Channel : 0	•
Text color :	Background color :
Pattern color :	Pattern style :

8.1.5. Picture View

[Toolbar position setting] of Picture View is not supported on cMT/cMT X Series models.

Jeneral Out	line Security				
	Toolbar position :	Bottom	🖵 🔲 Hide del	ete button	
	Background :				
	Font :	Arial		▼]	

8.1.6. PLC Control

[General PLC control] type is not supported on cMT/cMT X Series models. Please use Data Transfer or macros instead.

PLC Control		
Comment : Device : OMRON PLC Attribute Type : General PLC control Active only when designated window opened		
Trigger address		
Device : ON	IRON PLC 👻 😱	
Address : DM IDM ID		

In an example where a PLC Control object is used and its trigger address is set to OMRON PLC's DM-10, to transfer data of 16 words between addresses DM-100 and LW/RW-200, the macro can be edited as shown below.

): 1 Macro name : macro	_1			
Periodi	cal execution				
<u>n</u> c	* * * * * * *	I 🖻 🔗			
1	•				
2	macro_command main()				
з	1000				
4	short method				
5	short move[16]				
6					
7	GetData (method, "OMRON P	LC", DM,	10,	1)	
8					
9	select case method				
10	case 1				
11	GetData(move[0], "OM	RON PLC",	DM,	100,	16)
12	SetData(move[0], "Lo	cal HMI",	RW,	200,	16)
13	break				
14	case 2				
15	GetData (move[0], "OM	RON PLC",	DM,	100,	16)
16	SetData(move[0], "Lo	cal HMI",	LW,	200,	16)
17	break				
18	case 3				
19	GetData(move[0], "Lo	cal HMI",	RW,	200,	16)
20	SetData(move[0], "OM	RON FLC",	DM,	100,	16)
100	break				
21	0200 4			2014-001	FAXIDA
21 22	Case 1	STATUS MANAGEMENT		and the second se	10000
21 22 23	GetData(move[0], "Lo	cal HMI",	LW,	200,	T0)
21 22 23 24	GetData(move[0], "Lo SetData(move[0], "OM	cal HMI", RON PLC",	DM,	200, 100,	16)

8.1.7. Contacts Editor

Control address settings are not supported on cMT/cMT X Series models. After upgrading the project to a cMT/cMT X project, users can set up the contacts with its built-in UI. Please remove objects that reference to the control addresses after upgrade.

HMI5000 Series	cMT/cMT X Series
New Contact: Editor Object Image Uniting: Title Table Image Control Image Drive: Local HMI Drive: Image Image Image Ormanad: UW-0 Image Image Image	Contact list: + - Current group: Contact Name Mail Address NewContact NewContact@domain.com Select group: Group A •

8.2. Data / History

8.2.1. Recipe View

[Refresh data automatically] option in Recipe View settings is not supported on cMT/cMT X Series models. cMT/cMT X's Recipe View object has built-in auto-refresh feature.

New Recipe View Object	x
General Security Shape Font	
Comment :]
V Refresh data automatically	

8.2.2. Backup

cMT/cMT X Series models only support .csv format; therefore, the option below is not supported.

New Backup (Per-page) Object			
General Advance Security Shape Label			
The source : Historical data sampling Data Sampling object index : 1.			
Backup position			
◙ USB disk			
🔵 Remote printer/backup server			
* Use L W-9032-9039 to change the backup folder name. * To use [Remote printer/backup server] to store data to a remote PC, enable the server in [Printer/Backup Server] page of [System Parameter Settings] dialog first.			
Storage format Format : eMT/XE/Æ/P/mTV SERIES Data Sampling File (*.dtl)			

Serial number settings are only supported for .dtl and .evt file formats; therefore, they are not supported on cMT/cMT X Series models. For Data Sampling, though, the same can be realized with customized file handling.

Backup (Per-page) Object's Properties		
General Advance Security Shape Label Profile		
Serial number (range : 00000 ~ 65535)		
The second secon		
Source		
Device : Local HMI 🗸 🗸 🖓		
Address : LW 🗸 0 16-bit Unsigned		
* For example, when serial number is 123 : A data sampling file - 20140407.dtl will be backed up to 2014040700123.dtl. An event log file - 20140407.evt will be backed up to 2014040700123.evt.		
 Options Remove old files after backup 		

8.3. Project File

8.3.1. Convert labels to bitmap images

This option is not supported on cMT/cMT X Series models.

8.3.2. Macro

The macro functions in the table below are not supported on cMT/cMT X Series models. Using them in a cMT/cMT X project should lead to compilation errors.

Data Sampling / Event Log Functions		
FindDataSamplingDate	Find Data Sampling Date.	
FindDataSamplingIndex	Find Data Sampling Index.	
FindEventLogDate	Find Event Log Date.	
FindEventLogIndex	Find Event Log Index.	

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