WEINTEK LABS., INC.

Notes on Upgrading EasyBuilder Pro Project

This manual explains differences in functions between non-cMT and cMT/cMT X projects, and how users can configure EasyBuilder Pro when upgrading to cMT/cMT X project.

Notes on Upgrading EasyBuilder Pro Project

This manual explains the differences in functions users may find after upgrading from an eMT/iE/XE project to a cMT/cMT X project, and how users can adjust the settings in response.

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1. Overview

In Easy Builder Pro, upgrading from an eMT/iE/XE 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.

_	
	a 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.
4.	Circular Trend Display is not supported.
Eve	nt 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	nbo Button
1.	Button / Switch: A Combo Button can be used to trigger a sequence of actions.
2.	Overlapped objects: Only the object on the top layer can be triggered. Please take this into consideration
	when overlapping multiple objects.
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.
Wir	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	note 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 eMT/iE/XE project to a cMT/cMT X project, and how users can adjust the settings to achieve the same effect as in an eMT/iE/XE project. This chapter also explains the features that are not supported after upgrade.

2.1. History File

In an eMT/iE/XE 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.

eMT/iE/XE 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 Each file consists of all records of a day Customized file handling	History file All records in one file Customized file handling File name : log001
Folder name : log000	Save to Image: Save to Image: HMI memory (10000 limited) Image: HMI memory (until space full) Image: USB disk 1 Image: USB disk 2 Image: HMI memory (until space full)

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].

History file Enable All records in one file Customized file handlin Folder name : File name example : Save to USB disk	
Enable Al records in one file Castomized file handlir Folder name : File name example : Save to	log000 20200907.db (Format : %Y%m%d.db)
Enable Al records in one file Castomized file handlir Folder name : File name example : Save to	log000 20200907.db (Format : %Y%m%d.db)
Customized file handlir Folder name : File name example : Save to	log000 20200907.db (Format : %Y%m%d.db)
File name example : Save to	20200907.db (Format : %Y%m%d.db)
Save to	HMI memory (until space full)
O USB disk	
O USB disk	SD card
✓ Preservation limit (1 ~	- 1000 files) 7 file(s)

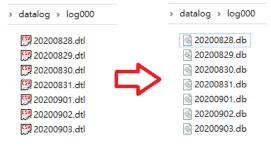
Step 2. For the setting of Customized File Handling, use %Y%m%d.db as file name format. This



saves data of each day into separate files.

Customized Filename Handling									
File creation									
Automatic mode (A new file will be created when the file name is changed.)									
Trigger mode (Use the second secon	ne trigger method to	create a new file.)							
File name									
riendite									
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 : %Y9	%m%d		.db						
Example : 2020)1224.db								
	122 1100								
%Y Year (2000-203									
	%y Year, last two digits (00-99) %m Month as a decimal number (01-12)								
%d Day of the mor									
%W Week number (00-53)									
%w Weekday, 0 is Sunday (0-6) %H Hour in 24h format (00-23)									
%H Hour in 24h format (00-23) %M Minute (00-59)									
%S Second (00-59)									
%% %									
* A filename cannot contain any of the following characters: \// *2<>1									
A hichanic cannot cor	* A filename cannot contain any of the following characters: \/:*?<>								
Sort									
Order : File name									
OK Cancel									

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



2.2. History File Format

In an eMT/iE/XE 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.

eMT/iE/XE Series	cMT/cMT X Series
[7] 20200829.dtl [7] 20200830.dtl [7] 20200831.dtl [7] 20200901.dtl [7] 20200902.dtl [7] 20200903.dtl	ন্ত্রি 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.

choose date rang	e - log000					
Please select exp	orting date ra	ange				
	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. However, please note that Circular Trend Display object is not supported on cMT/cMT X Series.

2.3.1. Trend Display

Settings relating to dynamic spacing and dynamic control of Y axis / main axis in eMT/iE/XE 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.

eMT/iE/XE Series	cMT/cMT X Series
Distance between data samples : Pixel Default distance : 100 pixel(s)	
☑ Dynamic distance between data samples Device : Local HMI Address : LW	** **

Dynamic Y-scale visibility	eMT/iE/XE Series	cMT/cMT X Series
Device: Local HMI Address: LW ON OFF Dynamic main axis Device: Local HMI Device: Local HMI Device: Local HMI Tenable Reset to default		
Address: WW 0 Display channel's Y-scale when the corresponding bit is : ON OFF Dynamic main axis Device: Local HMI Tenable Reset to default		Begin Date
ON OFF Dynamic main axis Device : Local HMI Channel Visibility		Ended Date
ON OFF Dynamic main axis Image: Device : Local HMI Image: Device : Image: Device : <td>Display channel's Y-scale when the corresponding bit is :</td> <td>TREND DISPLAY SETTING</td>	Display channel's Y-scale when the corresponding bit is :	TREND DISPLAY SETTING
Dynamic main axis	O ON OFF	
Enable Reset to default Device : Local HMI		
Device : Local HMI	Dynamic main axis	
	🗹 Enable	Reset to default
Address : LW V 0 10-bit Unsigned	Device : Local HMI Address : LW 0 16-bit Unsigned	



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2.3.2. History Data Display

In an eMT/iE/XE project, a History Control address can be used for selecting the file to be displayed in a History Data Display object. In a cMT/cMT X project, settings relating to designating the History Control address have been removed because on a cMT/cMT X model, all data will be displayed, and users can select a time range in the built-in option dialog.

eMT/iE/XE Series	cMT/cMT X Series			
History Data Display Object's Properties	Cancel Option Done			
General Display Display Format Title Edit Security Shape Profile Data Sampling Object index : 1.	Begin Date			
Refresh data automatically Grid	2021-01-19			
Color: Column interval : 5	Ended Date			
Profile color Transparent Frame : Background :	2021-01-26 TREND DISPLAY SETTING			
Text Font: Anal Size : 12 -	Channel Visibility			
Time ascending Time descending	Y Scale On Disable Y-axis scrolling			
History control Device : Local HMI Address : LW 0 Ho-bit Unsigned	Reset to default			
	e 0930 1000 1030 1100 1130			

2.3.3. Option List – Dates of Historical Data

When an Option List is used to select a date of historical data, the Option List will not be effective after upgrading to cMT/cMT X project. Instead, please select a time range by tapping in the built-in option dialog of a Trend Display or History Data Display object on a cMT/cMT X model.

eMT/iE/XE Series		cMT	/cMT X Serie	es	
eMT/iE/XE Series	• 01/25/2021 11:18		Option TING /	2S Done	
[Address] : set 1 to delete the selected history data	09,30	10,00	Reset to default	11,00	11,30



2.4. File Saving Mechanism

In an eMT/iE/XE 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 Customized file handling 	Sett	ings
Folder name : log000		
File name example : 20210126.c	(Format : %Y%m%d.db)	
ve to		
	HMI memory (until space)	full)
⊙ USB disk 1		
j USB disk 1 into USB disk 2		
USB disk 1 USB disk 2		
	7 file(s)	
○ USB disk 1 ○ USB disk 2 Preservation limit (1 ~ 1000 files) I Auto sync. periodically	7 file(s) 5 minute(s)	
✓ Preservation limit (1 ~ 1000 files)		
✓ Preservation limit (1 ~ 1000 files)		

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:

eMT/iE/XE 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)



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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. Data Sampling

The option below does not exist in cMT/cMT X project because its sampling mode is always in high priority.

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

2.6.2. 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.



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Comment :	Device : Local HMI 🗸 🗸
Sampling mode	Clear real-time data address
I 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
	Enable Mode: ON
	Device : Local HMI 🗸
Read address	Address : LB 🔹 10
Device : Local HMI Address : LW 0	History files Image: Save to HMI memory
In prior to display or store the data log, you can use the conversion tag to check and modify the data log.	Save to USB disk 1 Save to USB disk 2
 When the Data record is converted by the user-defined conversion tag, the GetCnvTagArrayIndex() function of [Read conversion] subroutine can get the relative array index. 	 Each file consists of all records of a day Customized file handling
Data Record	Folder name : log000
Max. data records (real-time mode) : 1000	
Data Format Data length : 0 word(s)	Preservation limit 7 day(s)

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).

Address	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 solid line pattern is available when width is set to 1.

Channel Pen property Color :) Widt	h: 1
Dynamic lim Min. :	Ma	ĸ.: 100

2.7.2. Circular Trend Display

Circular Trend Display is not supported on cMT/cMT X Series. To prevent compilation errors, after upgrading the project to a cMT/cMT X project, please manually delete all Circular Trend Display objects.



3. Event Log

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

3.1. History File

In an eMT/iE/XE 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.

	—
eMT/iE/XE Series	cMT/cMT X Series
> eventlog	> eventlog
	الله event.db

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).

History files	
Save to MII memory (10000 limited)	HMI memory (until space full)
O USB disk 1	O USB disk 2
Preservation limit	Days of preservation : 7 day(s)

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	💿 Constant 💿 Address
Action mode Bit ON Bit OFF Word write	Start 0 + 0 + (HH-MM-SS)
Action address Device : Local HMI Address : LB 0	Image: Solution of the solution

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				
Comment :				
File source : [Historical event log			•
Backup position				
OUSB disk 1	🔘 USB disk 2		🔘 e-	Mail
Storage format				
	ma Separated Value	s (*.csv)		+
Split by : Date	•	<u>, ,</u>		
strings correctly	Order Mark) to file	110		ng non-Asen
Include title		Include expo	t time	
🔲 Include occurrer	nce count	Include elaps	ed time	
Event category range				
All				
Partial				
Range Start : 🔘 To	dav 💿 Yeste	dare		
		iuay		
Within : 1 day	(\$)	-		
m ·				
Trigger Mode : Exter	nal trigger (bit)	-		
Mode : Exter	nal trigger (bit)	▼ Follow (set (FF when beckup f	inished)
Mode : Exter Condition : OFF-	>ON 👻 🛛	▼ Follow (set O	FF when backup f:	
Mode : Exter Condition : OFF- Device : Local I	>ON 👻 🛛		FF when backup f:	inished)
Mode : Exter Condition : OFF-	>ON 👻 🛛	▼ Follow (set O	FF when backup f:	
Mode : Exter Condition : OFF- Device : Local I	>ON - E IMI	0	(

3.2. History File Format

In an eMT/iE/XE 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.

eMT/iE/XE Series	cMT/cMT X Series
[] EL_20200828.evt [] EL_20200829.evt [] EL_20200830.evt [] EL_20200831.evt [] EL_20200901.evt [] EL_20200902.evt [] EL_20200903.evt	🗟 event.db

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

ease 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 eMT/iE/XE models and cMT/cMT X models. On the left, eMT/iE/XE 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.



	eMT/iE/XE	Series	cMT/cMT	X Series
Jew Event Display Obje General Event Display Format Order & Characters Display items Sequence no. Event trigger Acknowledge Return to nor Event messag Occurrence of Cocurrence of Cocurence of Cocurrence of Cocurence of Cocurence of Cocurence of Cocurrence of	Sort Security Shape ng Display chars 0 date 0 time 0 time 0 mel time 0 e 20	Font Empty Warnin Sort by : Time Display order Event trigger time Acknowledge time Return to normal time Event message	New Event Display Object General Event Display Sort Sort Order & Characters Order & Characters Display items Display Sequence no. 0 Event trigger date 0 Ø Event trigger time 0 Ø Event trigger time 0 Ø Event mesage 20 Ø Courrence count 0 Ø Event mesage 0	Sort by : Time Sort by : Time Ay chars Display order Event ingger time Event message Acknowledge time Return to normal time
Elapsed time * If "Display chars" is 0	0 , it means that the system wi qual to "Display chars" mul	ll display all of characters. tiplied by the width of a 'x'. Time : HH:MM:SS Value = 10 Value = 10	* If "Display chars" is 0, it means that the s * The column width is equal to "Display ch Date : MM/DD/YYYY - 12:05:09 Event 0 12:05:09 Event 0 12:05:09 Event 0	
Normal	16:55:40	Value = 10	Triggered	Acknowledged Normal

For eMT/iE/XE's Event Display – History Mode, one must designate a History Control address in order to select the desired file for display, or selects the option [Enable reading multiple histories] to display data from multiple files. After upgrading to a cMT/cMT X project, all events will be displayed and users simply select a time range in the built-in UI.

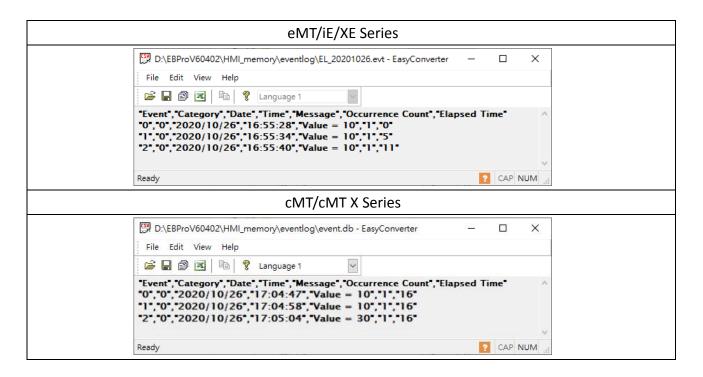
eMT/iE/XE Series	cMT/cMT X Series
New Event Display Object General Event Display Sort Security Shape Font Empty Warning Comment: Mode: History Flefresh data automatically History control Device: Local HMI Address: LW 50 16-bit Unsigned Enable reading multiple histories	Cancel Weintek Option Done Begin Date Image: Cancel Control of Control

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 eMT/iE/XE 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 eMT/iE/XE 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:

eMT/iE/XE 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)



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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	e label library		Label L	.ibrary
Use	e string table		String Table	ə
	Color :	Backę	ground Color : Tra	ansparent
		[Droid Sans] [Language & Font] settings		~
guage & Font				
	ASCII Fonts Font Manguage no. : 8	apping Font Management		
Language	e 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. 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)



15

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 eMT/iE/XE 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 eMT/iE/XE 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	
🔽 Use empty warning	
	*
4	
Use label library	
	-
Color: Size: 12	-
Italic	



4. Overlapping Objects

When editing an eMT/iE/XE 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 frontmost object will be triggered. This is inevitable considering the underlying system difference between the models. In this case, users can modify overlapping objects manually.

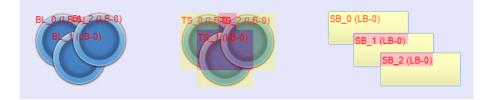
4.1. Enable Touch Area

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 Window	w 🗹 O	bject Labe	el Tag		Grid	✓ Windows Tree	e 🗌 🤅	Shape
🗸 Obje	ct ID	✓ C	omment			🗹 Snap	✓ Windows Prev	view 🗌	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.

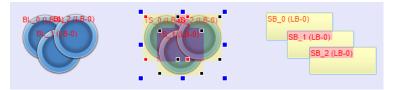
File 🖪 🖂 🗸	k ≁ ≑	Home	Project	Objec	t Data	a/History	lloT/Energy	View	Tool	
F	¥[csv		@=		? _	0	•	L
Find Overlapping Objects	Conve Combo		Data/Even Convert		Address Viewer	Easy Watch	Administrator Tools	[System Se Edito		Recipe Database Editor
Upgr	ade						E	xternal		

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



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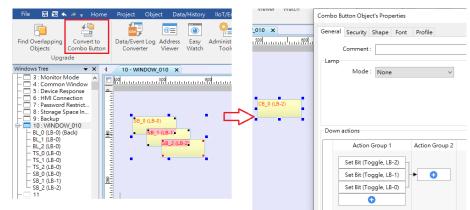
overlapping objects in the current window. To search for the next group, click this button again. When all the overlapping objects in the current window are found, the system will start searching for overlapping objects in the next window, and then open the window in which overlapping objects are found.



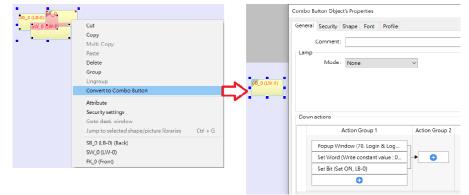
4.3. Convert to Combo Button

When the overlapping objects are Set Bit, Set Word, and Function Key, 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].





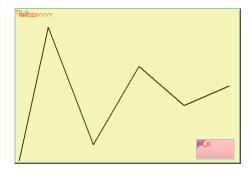
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3. Objects other than Set Bit, Set Word, and Function Key need to be manually combined into a Combo Button to achieve the same effect where multiple functions can be triggered by one touch. A Combo Button can trigger a sequence of actions, and the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

New Combo Butte General Security Comment Lamp Mode	Shape Font		
Down actions	Delay Set Bit Set Word Change Window	2	New Combo Button Object General Security Shape Comment : Lamp Mode : None
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		Down actions Action Group 0 Action Group 1 Set Bit (Toggle, LB-0) Set Bit (Toggle, LB-1) Get 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 eMT/iE/XE project to a cMT/cMT X project.

5.1. General Mode

When General Mode is used in an eMT/iE/XE 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 of 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).

Cel	Cellular Data Network 80		802.1X (Wi-F	802.1X (Wi-Fi) Printer/Backup Server			Ti	me Sync./I	DST	e-Mai	
Device Model			General Syste		n 1	Remote	Secu	Security		Extended Memory	
-) General 1 ect operabl	node e classes for e	Enhanced	security m	node		LDAP.		Edital	ole	
	-	ge : 0 ~ 4294			Class A	Class B	Class C	Class D	Class E	Clas	
1	V	111		veak 💿		V	V	\checkmark	V	v	
2	V	222		veak 💿		V					
	V	333		veak 💿			V				
3		0		veak 💿		V	V	V			
3 4	V										
		0		veak 💿							

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 N	femory	Cellul	ar Data Netwo	ork	Tir	ne Sync./DST —		e-M	ail	
Ι	Device Model General System Remote Secu						urity				
0) General m	ode	Enhance	l security mo	le		LDAP		Editable		
Sele	-	classes for eacl									
[Use exist	ing user accour	ts and admini	istrator setting	s on HMI f	irst (if exi	sted). Otherwise,	use se	ettings belo	w.	_
	Enable	Secret user	User	name		Pas	sword		Class A	CL	^
1	V		user1		222		weak	0	V		
2	V		user2		333		weak	0	1		E
3	V		user3		0		weak	0	V		
4			user4		0		weak	0	V		
5			user5		0		weak	0	V		
6			userб		0		weak	0	V		
ł.		1	I I		¬					۴	
	Class	Description									*
	Class A										
	Class B Class C										÷
Ar	dministrator	•								_	

Step 3. Set Control Address to PLW-8950.

Control address							
Device :	Local HMI						
Address :	PLW -	8950	16-bit Unsigned	<u>Usage</u>			

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 - 63 : ASCII Lower M	<u>E</u>	۹	
- C 64 : ASCII Upper S	-	Window Copy	X
- 65 : ASCII Lower S - 66 : ASCII Middle(translucent)		Source	
- C 67 : ASCII Upper M(translucent)		Project : C:\Users\Janecheng\Desktop\cMT-3.cmtp 🗾	j l
- C 68 : ASCII Lower M(translucent)	220		
- 69	-	Copy window Window no. : 70 ~ 74	
- 70 : Login & Logout	=		
- 71 : Add account	E	Destination	
72 : Delete account	E	Window no. : 70. [undefined window]]
- 73 : Set privilege	10		9
74 : Set password	2		
- 76 : EasyAccess 2.0 Setting	200 100 100	PLC Control Data Transfer	
- 77 : EasyAccess 2.0 Proxy Setting	=	Event (Alarm) Log Data Sampling	
- 79			
– 🗖 80 : Screen Saver	8		
- 81	2		
– 🗔 82 : Wechat Code		Copy macro	
- 🔤 83 : System Standard ASCII	8-		
- 🔄 84 : System Standard ASCII Lower	-	Copy Close	1
- 🔄 85 : System Standard ASCII Upper	1111 300 111111	Close Close	J
- 🗖 86 : System Standard NumPad			

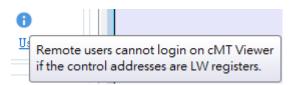
Step 5. Please remove the old login window and replace it with Window no. 70 which is suitable for Enhanced Security Mode. Adjustments mentioned above should be sufficient to allow the normal use of Enhance Security Mode. Changing the security



settings for individual objects will not be necessary.

5.2. Enhanced Security Mode

When Enhanced Security Mode is used in an eMT/iE/XE 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, but please note that this change is irreversible. After changing the control address to PLW, remote login on cMT Viewer becomes possible.

	eMT/iE/XE S	eries			
e: Local HMI s: LW	- 8950		16-bit Unsigned	<u>Usage</u>	
	cMT/cMT X S	Series			
: Local HMI : PL W	₹ 8950		To-bit Unsigned	<u>Usage</u>	

PLW addresses cannot be used in macros; therefore, any part of macro which references to the control address for security feature in eMT/iE/XE project should be removed. 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
Address : PLW
OK Cancel





6. Window Related

6.1. Function Key – Popup Window

On an eMT/iE/XE 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 : O Color : Vidth	
Background Color:	
	New Function Key Object
Underlay window	General Security Shape Label
Bottom : None	Comment :
Middle : None	Activate after button is released
Top : None	
* Use [View] > [Layer Opacity] to make Underlay window translucent during editing.	Display popup window
Popup / Direct / Indirect window	Window no.: 10. WINDOW_010
Popup / Direct / Indirect window	Animation : Settings [None, None]
	Close this popup window when parent window is closed
Popup window Start position	Keyboard input Popup Window Property
X: 0 Y: 0	C [Enter] Style : With title bar
Масто	© Execute macro
Open :	Hard copy screen to USB disk, SI
Cycle :	Screen hardcopy
Close :	O Customize X: 0 ★ Y: 0 ★ Y: 0 Y: 0 Y: 0 Y: 0
	OK Cancel
OK Cancel	Acknowledge all events (alarmey

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 still 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 : Bit Lamp S Toggle Switch	General Position Security
Read/Write use different addresses	Comment :
Read/Write address	Attribute
Device : Local HMI Address : LB 1000	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.



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

eMT/iE/XE 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 Mem	ory Cellu	ılar Data Network	Time Sync./DST	e-Mail	FTP
🔽 Enable FI	P function				
Server					
Host	: 192 . 168	. 1 . 91	🔲 Use domain name		
11031	. 192 . 100	. 1 . 51			
Port	: 21 🌲				
Username	: username		🔲 Use anonymous		
0.30 manie	. ascinante				
Password		•• ••			
Naming Conven	tion for HMI Folde	er			
🧿 Use IP ad	dress				
🔘 Use HMI	name (assign HMI	name by L W9032~L	W9039)		
Prefix	: IP_				
	(Ex:IP_192.16)	0.1.05			

FTP tab in System Parameter Settings



eneral		
Comment		
File source :	Historical data samplin	۲
Data Sa	npling object index : $\boxed{1}$.	
Backup position		
🔘 USB disk 1	🔘 USB disk 2	🔘 e-Mail
FTP		
FTP Path :		
-Duplicate filename		
Overwrite		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 \$\vee\$3 General Security Shape Font \$\vee\$3
Comment : Lamp Mode : None
File Transfer
General File Status
Download (FTP -> HMI) Upload (HMI -> FTP)
Host : 192 . 168 . 1 . 91 🔲 Use domain name
Port : 21 🛓
Password : 💿
OK Cancel

7.3. Demonstration

This demonstration shows how Combo Button's File Transfer function can be used in cMT/cMT X project to transfer historical data to FTP server on PC, in order to achieve the same effect as using EasyPrinter.

The download link of the demonstration project is:

https://dl.weintek.com/public/Document/DEM/DEM20009 Combo Button File Transfer De mo.zip



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
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 Func	tion Key Object
General	Security Shape Label
1	Comment :
Act	tivate after button is released
0	Change common window
-Keyboa	ud input
0	[Enter]
© E∞	ecute macro
💿 Wi	indow 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			
	Com	ment : 🗌					j
Attribute	-			_			
	Mode :)rop-down	List	-			
Back;	ground : [•	Item no. :	1	*
Se	lection :	-		•	Direction :	Up	-
	Source of	f item data	Predef	ine	b		•

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% 20% 30%	Angle : Full, 0° Hole : Hole : Hole : Hole : Hole : Hole : Full, 0°
Channel : 🚺 👻	
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.

eneral Out	ine Security			
	Toolbar position :	Bottom	🖵 🔲 Hide delete 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 :					
Address :	DM 🔻 10				

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.



Macro ID	D: 1 Macro name : macro_1
Periodi	ical execution
<u>n c</u>	* 🖻 🛍 🔺 🌾 🛠 🍯 🗎 😽 🔔
1	•
2	macro_command main()
з	
4	short method
5	short move[16]
6	
7	GetData (method, "OMRON FLC", DM, 10, 1)
8	10 M M M M M M M M M M M M M M M M M M M
9	select case method
10	case 1
11	GetData(move[0], "OMRON PLC", DM, 100, 16
12	SetData(move[0], "Local HMI", RW, 200, 16
13	break
13 14	break case 2
13 14 15	break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16
13 14 15 16	break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16
13 14 15 16 17	break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break
13 14 15 16 17 18	<pre>break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3</pre>
13 14 15 16 17	<pre>break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3 GetData(move[0], "Local HMI", RW, 200, 16</pre>
13 14 15 16 17 18 19 20	<pre>break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3</pre>
13 14 15 16 17 18 19 20 21	<pre>break case 2 GetData(move[0], "OMRON FLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3 GetData(move[0], "Local HMI", RW, 200, 16 SetData(move[0], "OMRON FLC", DM, 100, 16 break</pre>
13 14 15 16 17 18 19 20 21	<pre>break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3 GetData(move[0], "Local HMI", RW, 200, 16 SetData(move[0], "OMRON PLC", DM, 100, 16</pre>
13 14 15 16 17 18 19 20 21 21	<pre>break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3 GetData(move[0], "Local HMI", RW, 200, 16 SetData(move[0], "OMRON PLC", DM, 100, 16 break case 4</pre>
13 14 15 16 17 18 19 20 21 22 23 24	break case 2 GetData(move[0], "OMRON PLC", DM, 100, 16 SetData(move[0], "Local HMI", LW, 200, 16 break case 3 GetData(move[0], "Local HMI", RW, 200, 16 SetData(move[0], "OMRON FLC", DM, 100, 16 break case 4 GetData(move[0], "Local HMI", LW, 200, 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.

eMT/iE/XE Series	cMT/cMT X Series
New Contacts Editor Object Granni Outling Tab. Shape Control Device : [ood HMI Addres: :W I (Mad a contect to contect hist] 1 (Add a contect to group) 1 (Add a contect to group) 5 (Encode at the group) 6 (Encode at contect thin group) 7 (Duples mail address) 8 (Duples contect real group) 9 (Dupley contects with on group) 9 (Encode contect real group) 9 (Dupley contects with on group) 9 (Dupley contect with on group) 9 (Contect out Ground) 3 (Contect out Ground) 4 (Contect dateway real th) 5 (In on mary contects b) 6 [Invalid group (sceade boundury)] Granging : Hr-33 (G2 word(s)) *Mail: LW-35 (G2 word(s)) *Mail: LW-35 (G2 word(s)) *Mail: LW-35 (G2 word(s)) *Mail: LW-35 (G2 word(s))	Contact list: Contact Name Mail Address NewContact NewContact@domain.com Contact Name Mail Address Select group: Group A v



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				
General Security Shape Font	_			
Comment :				
Refresh data automatically				

8.2.2. Backup

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

lew Backup (Per-page) Object General Advance Security Shape	Label					
Comment :						
File source : Historical data sampling						
Data Sampling object index : 1.						
Backup position						
© USB disk ── SD card ── e-Mail						
🔘 Remote printer/backup server						
	ie backup folder name. erver] to store data to a remote PC, enable the server in System Parameter Settings] dialog first.					
Storage format						
Format : eMT/XE/iE/iP/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.

Serial n	Advance umber (ran	Security	•	Label	Profile				
	Enable	. 00000		,					
Source									
									21
L)evice : L	ocal HMI					•	یا لے	٤
Ac	ddress : [L]	W		▼ 0				16-bit Unsigne	1
* For e:	xample, wh	en serial n	umber is l	.23 :					
A dat	a sampling	file - 2014	0407.dtl v	will be bac	ked up to	2014040	070012	23.dtl.	
An ev	/ent log file	- 2014040	7.evt will	l be backe	l up to 20)1404070	00123.	evt.	



8.3. Project File

8.3.1. Convert labels to bitmap images

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

eneral Security	Shape	Label			
Use label	ry		Add to Label Library	Label Libra	ry
Convert labels	: to bitmat	o images ()	Use bitmap font)		

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

