7. Event Log

This chapter explains how to set and use Event Log.

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EasyBuilder Pro V6.10.01

7.1. Overview

The following are the basic steps to use Event Log:

- **1**. Define event content and trigger condition.
- 2. Trigger event according to the condition.
- 3. Save the event log to the specified device.
- 4. View the process of event by using the relevant objects.

This chapter will explain how to set and use Event Log.

Click the icon to watch the demonstration film. Please confirm your internet connection before playing the film.

7.2. Event Log Management

Firstly, define the event content then use Alarm Bar $\stackrel{\text{def}}{=}$, Alarm Display $\stackrel{\text{def}}{=}$, Event Display $\stackrel{\text{def}}{=}$

return to normal. The upper limit for the number of event logs is 10000.



7.2.1. eMT, iE, XE, mTV, iP Series

Cat	egory : All	[1]	•						2
No.	Category	Text	Mode	Condition	Read address	Notification address	Buzzer	e-Mail	Sa
1	0	Event 0	WORD	< 0.00	Local HMI : LW-0	Disable	Disable	Disable	En
•					m				,
	7] Enable bac	ck light wh	ien alarm (occurs					•
Hist	☐ Enable bac ory files ☐ Save to HI			occurs					,
Hist	ory files	MI memory	Y		JSB disk	lay(s)			•
Hist	ory files 7 Save to HI 7 Preservati	MI memory	y Day	Save to U	JSB disk ation : 7 c	lay(s) Trigger date : DD/M	Μ/ΥΥ	-	•

Description Classifies events by dividing them into 0 ~ 255 categories. Select one category to add or view event log. In the bracket "[]", it shows the number of events are in this category.
Select one category to add or view event log. In the bracket
"[]", it shows the number of events are in this category.
Saves event log files to the specified location. Once an event
occurs, the HMI immediately saves the history file. When
executing On-line or Off-line Simulation on PC, the files will
be saved in the HMI_memory / SD_card / USB folder under
the installation directory.
Preservation limit
This setting determines the maximum number of Event Log
files to be preserved in HMI memory. This does not include
the file generated today. That is, if [Days of preservation] is
set to 2; the two latest files excluding the file generated today
will be kept. The files that are not within the range will be
deleted automatically for saving the storage space.



Print	In [System Parameter Settings] » [Model], select a printer and		
	set the printing format.		
Сору	Copy the selected item.		
Paste	Overwrites the selected item with the new items. A message		
	window will pop up to confirm this operation.		
Paste			
(Add Mode)	Appends as a new entry.		

7.2.2. cMT, cMT X Series

	History	Control							
0	Category :	All [1]				Edit category name m	apping		2
No.	Category	Text	Mode	Condition	Read address	Notification address	Buzzer	e-Mail	New
1	0	Event 0	WORD	< 0.00	Local HMI : LW-0	Disable	Disable	Disable	Insert
									Delete
									Settings
									Сору
									Paste
									Paste+
									Export
									Import
									<u></u>

Setting	Description
Category	Classifies events by dividing them into 0 ~ 255 categories.
	Select one category to add or view event log. The number of
	events in this category is shown in the bracket "[]".
	Edit category name mapping Opens a category name table
	which allows editing corresponding category names.
	Subcategories can also be added in this table in addition to
	the exiting categories. The maximum allowable number of
	entries in each subcategory is 256 (0~255) entries.





Category Name 0 Subcategory 0

Сору	Copies the selected item.
Paste	Overwrites the selected items with the clipboard contents.
	A message window will pop up to confirm this operation.
Paste +	Appends the clipboard contents to the end of the list.

it (Alarm) Log
ant History/Control
Tistory
E nable
Save to
HMI memory (10000 limited)
◙ USB disk 1
Status : LW-0 + 1 Error : LW-0 + 2
- Sync to database
✓ Enable Database : 1. 192.168.1.0
Status : LW-0 + 3 Error : LW-0 + 4
History source for display
⊙USB disk 1 © Database
Preservation limit Days of preservation : 7 day(s)
☑ Limit write frequency to HMI flash drive
When starting up, mark events triggered prior to shutdown as recovered
Auto sync. periodically 30 min(s)
Control
Enable Enable status output
Device : Local HMI
Address : LW 🔹 0 16-bit Unsigned
Control command : 1 [clear], 2 [sync.], 3 [sync. and clear] 4 [clear and restore log index] 11 [update messages according to imported string tables]
Exit



7-5



Setting	Description				
History	Saves the Event Log data to HMI memory (10000 limited or				
	until space full), SD card, USB disk, or database (by				
	synchronizing Event Log file to database server).				
	The rules of saving the data are:				
	When [HMI memory (10000 limited)] is selected, and				
	the number of events reaches 10000, the system will				
	delete the earliest 1000 events on HMI and keep on				
	saving the data to HMI memory				
	When [HMI memory (until space full)] is selected, the				
	system will keep on saving data to HMI memory, in this				
	case, the data may not be synchronized to database				
	server. When the cMT / cMT X HMI memory storage is				
	full, the system will delete the earliest 1000 records and				
	keep on saving data to HMI memory.				
	When USB disk or SD card is selected, and the number of				
	events reaches 10000, the system will automatically save				
	the data to the external device and delete the earliest				
	1000 events on HMI.				
	To synchronize the data to database server, select a				
	database that has been configured before.				
	If the external device already contains some events, the				
	new data is appended without overwriting the original				
	data each time in synchronization.				
	When the external device is removed from HMI, or HMI				
	is disconnected from database server, if the connection				
	is recovered before the number of events exceeds 9000,				
	the events occur during disconnection will be saved to				
	HMI. If the number of events exceeds 9000 during				
	disconnection, the earlier data will be deleted, and				
	cannot be synchronized by recovering connection.				
History	Event Log displays the history data read from the designated				
source for					
display	source.				
Preservation	This setting determines the maximum number of Event Log				
limit	files to be preserved in HMI memory. This does not include				
	the file generated today. That is, if [Days of preservation] is				
	set to 2; the two latest files excluding the file generated today				



	will b	e kept. The files that are not within the range will be
	delet	ed automatically. The system checks the time of the files
	and c	deletes earlier files only during synchronization.
Limit write	Whe	n enabled, the system will store operation logs on the
frequency		at intervals of 10 seconds. To prevent the loss of
to HMI flash		ation log data between two storage actions caused by
drive	-	er-off, EasyBuilder Pro provides the system register LB-
	•	. By sending an ON signal to this register, the system will
		te a data storage process.
When		
starting up,		
mark events		
	Whe	n enabled, the system will automatically recover events
triggered	trigge	ered before shutdown.
prior to	Rang	e: The last 10,000 events stored in the HMI memory.
shutdown		
as		
recovered		
Auto sync.		will be automatically synchronized to the designated
periodically		nal device in the specified time interval, regardless of
		ules explained above.
		Minute(s)
	Rang	e: 1~1440
Control	If sele	ect [Enable] check boxes under both [Control address]
address	and [History files], entering a specific value in the control
	addre	ess sends the corresponding command.
	Value	Command
	1	Clear the event log on HMI
	3	Synchronize event log to the external device Synchronize event log to the external device and then
		clear the event log on HMI
		Lice the history data stared in LICE dick / CD card /
	4	Use the history data stored in USB disk / SD card /
		database after changing HMI
	4 6	database after changing HMI Free unused storage space reserved for event logs
		database after changing HMI Free unused storage space reserved for event logs (*.db). This command can be used when historical data
		database after changing HMI Free unused storage space reserved for event logs
	6	database after changing HMIFree unused storage space reserved for event logs(*.db). This command can be used when historical datais saved to HMI memory (until space full).Update event log message contents by reading a newString Table
	6	database after changing HMIFree unused storage space reserved for event logs(*.db). This command can be used when historical datais saved to HMI memory (until space full).Update event log message contents by reading a newString TableReset the event occurrence count displayed in the Event
	6	database after changing HMI Free unused storage space reserved for event logs (*.db). This command can be used when historical data is saved to HMI memory (until space full). Update event log message contents by reading a new



	If nor	ne of these values is entered, the system will synchronize			
	data	in the same rules as [History] setting.			
Status	Whei	n LW-n is used as the control address, the four			
rror	conse	ecutive addresses following LW-n (LW-n+1~LW-n+4) will			
	show	status and error, please see the prompt in the settings			
		g box.			
	Control				
	En En				
		PLC : Local HMI Settings			
	. *	Address : LW O 16-bit Unsigned Control command : 1 [clear], 2 [sync.], 3 [sync. and clear]			
	History f	iles			
	En En				
	E Sy	nc. to SD card Sync. to USB disk Status : LW-0 + 1 Error : LW-0 + 2			
	🗹 Au	to sync. periodically 10 min(s)			
	V Pre	eservation limit Days of preservation : 3 day(s)			
	Sync t	o database able Display history from database			
		Status : LW-0 + 3 Error : LW-0 + 4			
	D	atabase : 1. 192.168.1.0 🔹			
	Value	Status address: LW-n+1 and LW-n+3			
	0	Disconnected from external device or database			
	1	Connecting with external device or database			
	2	Connected with external device or database			
	3	Storing records into the archive. When this is done, the			
		value returns to 2.			
	Value	Error address: LW-n+2 and LW-n+4			
	0	None			
	1	Unknown error			
	2	Failed to connect with external device or database			
	3	Access denied			
	4 Wrong database name				
	5	Inconsistent data format			
	6	Failed to open table			
	7	Failed to create table			
	8	Failed to write table			
	9	Failed to open database			
	10	Database is corrupted			

Note

- Before removing SD card / USB disk, or disconnecting from database server, please synchronize event log data by using control address.
- When monitoring multiple HMIs by using cMT Viewer, the Start Button on the current HMI screen may flash to indicate that an error has occurred on another HMI that is also being monitored, reminding the user to switch HMI and check the event.



The [When starting up, mark events triggered prior to shutdown as recovered] option does not apply to events stored in the HMI memory exceeding 10,000 entries.

7.2.3. Excel Editing

Click on the Excel icon in Event Log setting dialog box to open the Excel template for a reference of editing. This template is under the installation directory, the file name is EventLogExample.xls. This template includes the ready-made dropdown lists and validation mechanism.

	A	В	С	D	E	F	G	Н	Ι	J	K
1	Category	Priority level	Address type	PLC name	Device type	System tag	User-defined tag	Address	Index	Data Format	Enable
2	0	Middle	Word	Local HMI	LW	False	False	100	null	32-bit Signed	True
3	1	Low	Bit	Local HMI	LB-9009	True	False	9009	idx 5	16-bit BCD	▼ lse
4										16-bit BCD 32-bit BCD	
5										16-bit Unsigned	
6										16-bit Singed 32-bit Unsigned 20 bit Simud	
7										32-bit Signed 32-bit Float	

Note

- [System tag] and [User-defined tag] cannot be set to true simultaneously, otherwise, the system will view the User-defined tag to be a System tag, and [User-defined tag] to be false. If setting [Device type] to [User-defined tag], please set [System tag] to false.
- When setting [User-defined tag] to true, if the system compares the [Device type] with the user-defined tag in the system, and no suitable tag is found, the system will set the [User-defined tag] in event log to false
- [Color] format is R:G:B, each should be an integer form 0 to 255.
- Before importing Label Library / Sound Library, please make sure the library names exist in the system.

7.2.4. Quick View of Errors

When compiling the project, the errors in Event Log will be displayed in the Compile window. To open Event Log and view the errors, double click on the item in the Compile window.



Compile	×
Project name : C:\EMTP1.emtp	
EXOB file name : C:\EMTP1.exob	
EXOB password : Settings (used in decompiler) Decompilation is prohibited Disable HMI upload function	
Select the languages used on the HMI Startup language after redownloading the project : Language 1	
☑ Language 1	
error(s): 1. Event (Alarm) Log 1 (Category 1) : PLC name undefined (Rockwell DF1) 2. Event (Alarm) Log 1 (Category 1) : incorrect device type 3. Event (Alarm) Log 2 (Category 1) : PLC name undefined (Rockwell DF1) 4. Event (Alarm) Log 2 (Category 1) : incorrect device type 5. Event (Alarm) Log 3 (Category 1) : PLC name undefined (Rockwell DF1) 6. Event (Alarm) Log 3 (Category 1) : incorrect device type 7. Event (Alarm) Log 4 (Category 1) : PLC name undefined (Rockwell DF1) 8. Event (Alarm) Log 4 (Category 1) : incorrect device type . Event (Alarm) Log 4 (Category 1) : incorrect device type . Event (Alarm) Log 4 (Category 1) : incorrect device type	- m
Double click error messages to modify the attributes of relative objects !	
Compile Font Management V Build font files	Close

7.3. Creating a New Event Log

General Tab

Click [New] in the [Event (Alarm) Log] dialog box.



eneral Messag	e Statistics			
Catego	ry : 0: Category	•		Subcategory
Priority lev	el: Low	•]		
	Delay time	for event monitorin	ıg when HMI res	ets : 1 second(s) 👻
	🔽 Save to hi	story		
	🔽 Push notif	ication (EasyAccess	2.0)	
Туре				
	🔘 Bit	💿 Word		
Read				
	Local HMI		212	16-bit Unsigned
Address :	LW	• 0		10-bit Unsigned
Notification	🔽 Enable	- CLON	a du otr	• 10
	M Enable	C Set ON	Set OFF	
		t ON when event red	covered)	
	Local HMI			<u> </u>
Address :	LB	• 0		
Condition				
Enabl	e if value is : 🧹	•		
	V I)ynamic condition v	alue	
		Read/Condition use d	lifferent addresse	21
Condition valu				
	Local HMI			
Address :	LW	• 0		16-bit Unsigned

Setting	Description			
Category	Select event category, the range is from 0 to 255.			
Subcategory	Add this Event Log into the subcategories in the category name mapping table.			
Priority level	Events in Alarm Bar / Alarm Display are ordered by priority level first and then by time.			
Save to history	In Event Log main settings, if [Save to HMI memory] check box under [History files] group box is selected, selecting [Save			
Duch	to history] here determines whether each separate event should be saved as historical file.			
Push	When an event occurs, EasyAccess 2.0 push notifications can be sent to iOS [®] /Android [®] devices.			



notification (EasyAccess 2.0)	
Delay time for event monitoring when HMI resets	This feature is used to set the delay time of Event Log after HMI reboot, in order to avoid false alarm that occurs upon HMI reboot due to uninitialized values. This feature is often used with [Dynamic condition value]. The delay time only occurs once upon HMI reboot.
Read address	The system reads data from this address to check if the event matches the trigger condition.
Notification	 When enabled, the system will set the specified address ON or OFF when the event is triggered. Follow The notification bit will reset to its original state once the alarm condition returns to normal. For example, when the alarm is triggered, the state of the notification bit turns ON. When the alarm condition returns to normal, and [Follow] check box is selected, the state of the notification bit turns OFF.
Condition	 When [Bit] is selected, Event Log will detect the state of a Bit address. When [Word] is selected, Event Log will detect the value of a Word address to check if it is greater than, less than, or equals to a specified value. See Example 1 and Example 2. Dynamic condition value Allows online change of the comparison value for trigger condition when the condition is a Word address type. If [Read/Condition use different addresses] is not selected, the source of condition value will be the next consecutive address from [Read address]. Read/Condition use different addresses Allows selecting the Word address type to be the source of condition value.



Example 1

-Condition	
Enable	if value is : 🔤 👻 30
	Dynamic condition value
In toleranc	e : 1 Out tolerance : 2

The setting above indicates:

When [Read address] value is greater than or equals to 29 (= 30 - 1)

Or less than or equals to 31 (= 30 + 1), the event will be triggered. The trigger condition:

 $29 \leq$ [Read address] value \leq 31

After the event is triggered, when [Read address] value is greater than 32 (= 30 + 2) or less than 28 (= 30 - 2) the system will return to normal condition:

[Read address] value < 28 or [Read address] value > 32

Example 2

Enable if val	· ·	30
	📃 Dynamic cond	lition value

The setting above indicates:

When [Read address] value is less than 29 (= 30 - 1)

or greater than 31 (= 30 + 1), the event will be triggered. The trigger condition:

[Read address] value < 29 or [Read address] value > 31

After the event is triggered, when [Read address] value is greater than or equals to 28 (= 30 - 2)

or less than or equals to 32 (= 30 + 2) the system will return to normal condition:

 $28 \leq$ [Read address] value \leq 32



Message Tab

eneral Messa	ge Statistics				
Text					
Cont	ent :				~
					*
🔲 Use label I	library			La	bel Library
V Use string	table			String	Table
			Section :	[ID:000]	
String ID				[[11:000]	•
🔽 Dynamic			🔽 Record	string ID	
Device :	Local HMI			•	
Address :	LW		0		16-bit Unsigned
Font : * Font from] [Droid Sans] & Font] settings	2	Lan;	guage & Font
* Font from Acknowledge	[Language & value for Eve	& Font] settings ent/Alarm Displ		Lan;	guage & Font
* Font from Acknowledge Acknow	[Language S	& Font] settings ent/Alarm Displ		Lan	guage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	& Font] settings ent/Alarm Displ 11	lay object	Lan	guage & Font
* Font from Acknowledge Acknow	[Language & value for Eve	& Font] settings ent/Alarm Displ	lay object	Lan	guage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	& Font] settings ent/Alarm Displ 11	lay object	Lan	guage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	& Font] settings ent/Alarm Displ 11	ay object	Lanı	guage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	è Font] settings ent/Alarm Displ 11 Sound Lil	ay object	Lanı	zuage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	è Font] settings ent/Alarm Displ 11 Sound Lil	ay object	Lanı	guage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eve	è Font] settings ent/Alarm Displ 11 Sound Lil	ay object	Lan	zvage & Font
* Font from Acknowledge Acknow Sound	[Language & value for Eva ledge value :	è Font] settings ent/Alarm Displ 11 Sound Lil Play	ay object	Lan	guage & Font
* Font from Acknowledge Acknow Sound Enable	[Language δ value for Eva ledge value :	è Font] settings ent/Alarm Displ 11 Sound Lil Play	brary		

Setting	Description
Content	The text content displayed in [Alarm Bar], [Alarm Display],
	and [Event Display] objects. Use the formats in the
	following two examples of WATCH addresses to use
	register data in content. The content in Label Tag Library
	and String Table can be used in the Event Log message.
String ID	[Event Display] and [Alarm Display] objects display
	messages according to the String ID in the designated
	register.
	Record String ID
	With this option selected, when an event occurs, the
	string's ID number will be recorded. Message of the event
	triggered before can be retained.
Font / Color / Background	The font / color / background color can be set respectively



7-14

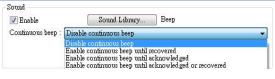


color

for each event. The font and color settings determine how [Alarm Bar] shows the text, while The font, color, and background color settings determine how [Alarm Display] and [Event Display] show the text. These settings are not available in the [Event Display] under History mode. Write value for When an event in the [Event Display] or [Alarm Display] Event/Alarm object is acknowledged, the acknowledge value is written **Display object** to the specified [Acknowledge] address. This feature can be used with an Indirect Window object's read address so that when the acknowledge value is written, a window pops up as a prompt about how to handle the alarm. As illustrated below, when an event is selected and the acknowledge value is set to 11, window 11 will pop up,

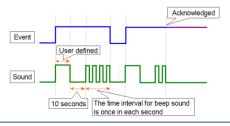


Click the icon to download the demo project. Please confirm your internet connection before downloading the demo project.



If enabled, the selected sound will be played when an event is triggered. Continuous beep can also be enabled, which only stops when the event is acknowledged or recovered.

For continuous beep, a delay time can be set between triggering the alarm and the start of beeping.





Sound

	Click the icon to download the demo project. Please confirm your internet connection before downloading the demo project.
Address of WATCH 1 ~ 8	Users can set how the value is displayed in the designated watch address when an event occurs. Up to 8 watch addresses can be used simultaneously. Click [Syntax] to see how to use the syntax to embed device data in the content of an event log displayed in the watch address. Click the icon to download the demo project. Please confirm your internet connection before downloading the demo project.

e-Mail Tab

Please enable this function in [System Parameter Settings] » [e-Mail] first.

ent (Alarm) Log ieneral Message e-M	lail Occurrence			
Enable Conditi	on	Recipients		
	hen event triggered			
▶ 📝 Send wl	hen event cleared	Group A		
Recipients				
	As recipients of trig	gered mail settings		
То	Group A			
Cc				
Bcc				
Subject				
-	Use event content	as subject		
Subject :	Tank level low. level=	%(WATCH1)d.0		*
	4		Þ	
Message				
Opening :				*
				*
	Use label library		P	
Ending :				*
	4		Þ	Ŧ
	Use label library			
	Labe	el Library	Language 1	

Setting	Description
Recipients	Select the [To], [Cc], and [Bcc] recipients.
Subject	Enter the subject of the e-mail.
Message	Enter the [Opening] and [Ending] content of an e-mail.

7-16



AttachIf the [Contains a screenshot of window] check box is
selected, the screenshot of the selected window will be
attached.

Note

The priority level of an event determines its importance in e-mail delivery.

Event Priority Level	Email Importance
Emergency	High
High / Normal	Normal
Low	Low

Statistics Tab

/ent (Alarm) Log	I			
General Messa	ge Statistics	Security		
-Read and rese	t occurrence -			
	🗹 Enable			
Device :	Local HMI		~ 4	
			461211	
Address :	LW	• 0	16-bit Unsigned	
Address : Read and rese			 10-bit Unsigned	
			 16-bit Unsigned	
	t elapsed time			

Setting	Description		
Read and reset	If enabled, the number of occurrence of the event after		
occurrence	HMI startup will be written to the designated word		
occurrence	address. The word address can be read / written.		
Elapsed time	If enabled, from an event occurs to its recovery, the		
read and reset	elapsed time (in seconds) will be written to the		
read and reset	designated word address. The word address can be read /		
address	written.		

Click the icon to download the demo project. Please confirm your internet

connection before downloading the demo project.

Security Tab

With security settings enabled, an address and a condition can be set so that an event is recorded only when the state of the specified address meets the preset condition.



	Event (Alarm) Log		
Setting	Description		
Use register status/value	With this option enabled, an event will be recorded only when the state of the specified address meets the preset condition.		



- When an event is triggered with the security settings enabled, the event can be acknowledged on Event Display or Alarm Display even when the security settings are disabled after the event is triggered.
- With security settings enabled, the event's address will not communicate with the device if the preset condition is not met.

