

## Chapter 33 EasyDiagnoser

## 33.1 Overview and Configuration

#### Overview

EasyDiagnoser is a tool for detecting the error occurs while HMI is communicating with PLC.

### Configuration

Step 1.

Open Project Manager and click EasyDiagnoser.

🍑 Project Manager		$\mathbf{X}$
HMI IP, Password		
Туре: МТ6000/8000	) i Series 🛛 👻	
Settings	Reboot HMI	]
Connection		
⊙Ethernet ○USE	3 cable (i series only)	
HMI IP :	~	
Data/Event Log	File Information	]
- Utility		
EasyBuil		
EasyConverter	EasyAddressViewer	EasyDiagnoser
EasyPrinter	EasyDiagnoser -	
Recipe/Extende	d Memory Editor	]
Build Download Dat	a for CF/ USB Disk	1
Download	Upload	
On-line Simulation	Off-line Simulation	]
Pass-th		
Help	Exit	

#### Step 2.



Set the IP address of the HMI to communicate with.

Users can input IP address manually or simply click [Search All]. Please input Project Port as well.



It is also available to right click and select "Run EasyDiagnoser" for entering the setting window when executing On-Line Simulation in EB8000.





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After setting completed, click OK, EasyDiagnoser operation window appears as below:

🤯 Weintek MT I	Diagn	ostic 1	fool - Easyl	Diagnoser								
<u>F</u> ile <u>V</u> iew <u>O</u> p	tions	<u>H</u> elp										
Command: Rea	ad + V	Vrite	~	Device:	All			tation:	0		Output	<u>g</u> ×
				_						=		~
Address Type: P	AU .		×	<u>R</u> ange	e: Lu	~ 95	1999		<u>C</u> apture			
No Cm	nd. 🛛	PID	Device		St.	Index	Address / Lengt	n Tir	me Er	ror		
											<	>
											Revices Output	
Polling Packages								Ø×	Logger			<u>@</u> ×
Package ID			Device		Station	Index	Address / Len	gth	[15:15:	22] Loc	oking for the target HMI	
± 4 (1)			Local HMI	I			[LB] 00562/1		[16:16:	22] Cor	nnection established with the target Hi	VII.
8 (0)			Local HMI	l			[LB] 00574/1					
<ul> <li>£ 67 (32)</li> </ul>			SIEMENS	S7/300	1		[M] 00000/1					
£ 68 (14)			SIEMENS	S7/300	1		[DB10] 00000.	14				
Ready											CA	P NUM SCRL



## 33.2 EasyDiagnoser Settings

Item	Description
File	Save As The captured information of Easy Diagnoser can be saved as *.xls which can be read in Excel. Weintek MT Diagnostic Ele View Options Help Save Asd + Write Egit Augress Type.
	Exit Exit current file.
View Device Bax Ctul+Alt+D Sector Package Bax Ctul+Alt+P Logger Bax Ctul+Alt+L Qutput Bax Ctul+Alt+O	Click [Device Bar] to display Device window. Click [Package Bar] to display Package window. Click [Logger Bar] to display Logger window. Click [Output Bar] to display Output window.
Options Options Help <u>Toolbars</u> ✓ Status Bar Update Package List F5 Show Object ID (HMD) Clear Activity List	Toolbars         Display toolbar icons of [Device Bar] [Package Bar] [Logger         Bar] [Output Bar].         Weintek MT Diagnostic Tool - EasyDiagnoser         File       View Options         Help         Image: State Sta
	Show Status Bar         At the bottom of EasyDiagnoser window, display information of CAP, NUM, and SCRL.         Ready       CAP NUM SCRL ,;;
	Update Package List When users change window in HMI, update the Polling Package information of current window with this list. Show Object ID (HMI) Show the ID of objects in HMI as shown below.



#### • Activity area

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In the activity area, users can observe the communication between HMI and PLC.



Coj	<u>m</u> mand:	Read + V	Vrite	Device: All						
Address Type: All				✓ Range: 0 ~ 99999			9999	<u>C</u> apture		
No Cmd. PID			PID	Device	St.	Index	Address / Length	Time	Error	^
►	139	R	68	SIEMENS \$7/300	1	255	[DB10] 00000 / 14	50	0	
	138	R	4	Local HMI			[LB] 00562/1	20	0	
	137	R	8	Local HMI			[LB] 00574/1	10	0	
	136	R	67	SIEMENS \$7/300	1	255	[M] 00000 / 1	40	0	
	135	R	4	Local HMI			[LB] 00562/1	20	0	
	134	R	8	Local HMI			[LB] 00574/1	20	0	
	133	R	68	SIEMENS \$7/300	1	255	[DB10] 00000 / 14	30	0	
	132	R	4	Local HMI			[LB] 00562/1	20	0	
	131	R	8	Local HMI			[LB] 00574/1	20	0	
	130	R	67	SIEMENS \$7/300	1	255	[M] 00000 / 1	40	0	
	129	R	4	Local HMI			[LB] 00562/1	20	0	~

Item	Description			
Command	a. Read + Write			
	Display Read and Write commands in activity area.			
	b. Read			
	Display only Read commands in activity area.			
	c. Write			
	Display only Write commands in activity area.			
Device	a. All			
	Display information of Local HMI and PLC. It depends on the setting of			
	command as following.			
	• If command is set <b>Read + Write</b> , the Read and Write information of			
	Local HMI and PLC will be displayed in activity area.			
	• If command is set <b>Read</b> , the Read information of Local HMI and PLC			
	will be displayed in activity area.			
	• If command is set <b>Write</b> , the Write information of Local HMI and PLC			
	will be displayed in activity area.			
	b. Local HMI			
	Display information of Local HMI, it depends on the setting of command			
	as following.			
	<ul> <li>If command is set Read + Write, the Read and Write information of</li> </ul>			
	Local HMI will be displayed in activity area.			
	<ul> <li>If command is set Read, the Read information of Local HMI will be</li> </ul>			



	displayed in activity area.
	<ul> <li>If command is set Write, the Write information of Local HMI will be</li> </ul>
	displayed in activity area.
	Display information of PLC, it depends on the setting of command as
	following
	lonowing.
	• If command is set <b>Read + Write</b> , the Read and Write information of PLC
	will be displayed in activity area.
	<ul> <li>If command is set <b>Read</b>, the Read information of PLC will be displayed</li> </ul>
	in activity area.
	<ul> <li>If command is set Write, the Write information of PLC will be displayed</li> </ul>
	in activity area.
Station	Select specific Station for display on the screen. (This function will be
	disabled when selecting [All] in Device).
Address	Users can select all or a part of address types to be displayed on the
Туре	screen. (This function will be disabled when selecting [All] in Device).
Range	Set the range of address types to be displayed. (This function will be
	disabled when selecting [All] in Address Type).
Capture	Click to start/stop capturing communication message.
Error	Please refer to the section coming later.

## Polling Packages

Poll	Polling Packages						
	Package ID	Device	Station	Index	Address / Length		
±	4 (1)	Local HMI			[LB] 00562/1		
	8 (0)	Local HMI			[LB] 00574/1		
Đ	67 (32)	SIEMENS S7/300 Ethernet	1		[M] 00000/1		
Đ	68 (3)	SIEMENS S7/300 Ethernet	1	10	[DB10] 00000 / 3		
Đ	69 (3)	SIEMENS S7/300 Ethernet	1	11	[DB10] 00003/3		
Đ	70 (3)	SIEMENS S7/300 Ethernet	1	12	[DB10] 00006/3		
Đ	71 (5)	SIEMENS S7/300 Ethernet	1		[DB10] 00009/5		

Item	Description
Package ID	Use the information of package ID to check the PID in activity area for
	finding the problem.
Device	Displays HMI and PLC type.
Station	Displays PLC station number.
Index	Display objects-used index register numbers.



Address/Length Displays device type address. Length-how many words of the Package.

Po	olling Packages 🧭								
	0	oject		Screen	ID	Address			
÷	4 (	1)	Local HMI			[LB] 00562/1			
	8 (	0)	Local HMI			[LB] 00574/1			
Ξ	67	(32)	SIEMENS S7/300 Ethernet	1		[M] 00000/1			
	►	Toggle S		10	30	[M] 00000			
		Toggle S		10	30	[M] 00000			
		Toggle S		10	29	[M] 00000			
		Toggle S		10	29	[M] 00000			
		Toggle S		10	28	[M] 00000			
		Toggle S		10	28	[M] 00000			
		Toggle S		10	27	[M] 00000			

After opening Package, the information such as Object, Screen, ID, Address inside it will be displayed.

Object	Package ID where this object is placed.
Screen	Window in the project where this object is placed.
ID	ID of the object.
Address	Address of the object.

#### Note:

**a.** Click **[Package ID]**, the device station number will be displayed in 3<sup>rd</sup> column.

iress / Length
00562/1
00574/1
00000/1
10] 00000 / 3

**b.** Double click **[Package ID]** then select **[object]**, the 1<sup>st</sup> column directs the object's position.

For example, select [Numeric Input] and the screen no. displays 10.

This shows that this object is in window no. 10 in the project and will be marked with pink frame in HMI as shown below.



1	Polling	Packages				G	×
	0	bject		Screen	ID	Address	
	± 4	(1)	Local HMI			[LB] 00562/1	
	8	(0)	Local HMI			[LB] 00574/1	
	<b>⊞</b> 67	(32)	SIEMENS S7/300 Ethernet	1		[M] 00000/1	
	<b>a</b> 68	3 (3)	SIEMENS S7/300 Ethernet	1	10	[DB10] 00000 / 3	
	•	Numeric I		10	2	[DB10] 00000	
		Numeric I		10	3	[DB10] 00001	
		Numeric I		10	4	[DB10] 00002	

# SIEMENS S7-300 Ethernet



#### • Devices

Devices window displays information of HMI and PLC.

Devices 9					
Ξ	Local HMI				
	Index	0			
	Type Name	MT8000 Series HMI			
	Location	Local			
	Block Interval	5 words			
	Max. Read Length	256 words			
	Max. Write Length	256 words			
	SIEMENS S7/300 Ethernet		=		
	Index	1			
	Type Name	SIEMENS S7/300 Ethernet			
	Location	Local			
	PLC I/F	Ethernet (192.168.1.97:1			
	Block Interval	5 words			
	Max. Read Length	20 words			
	Max. Write Length	20 words			
			~		

#### • Output (Macro debug)

With Trace function offered by Macro, the executing status of Macro can be seen. Please refer to EB8000 user's manual *"Chapter 18 MACRO"* for more information.

In illustration below, for [ID 2, Ln 7] and [ID 2, Ln 8]

ID 2 represents Macro name.

Ln 7 and Ln 8 represent that they are in 7<sup>th</sup> and 8<sup>th</sup> lines of Macro.

💖 Weintek MT Diagnostic Tool - EasyDiagnoser							
<u>F</u> ile <u>V</u> iew <u>O</u> ptions <u>H</u> elp							
i 📰 🐗 🚊 🖄							
Output	$\mathcal{O}$ ×						
[ID 2, Ln 7] The results are [ID 2, Ln 8] c1 = a, s1 = 32767, f1 = 1.234567 [ID 2, Ln 7] The results are [ID 2, Ln 8] c1 = a, s1 = 32767, f1 = 1.234567 [ID 2, Ln 7] The results are [ID 2, Ln 8] c1 = a, s1 = 32767, f1 = 1.234567 [ID 2, Ln 7] The results are							
[ID 2, Ln 8] c1 = a, s1 = 32767, f1 = 1.234567 [ID 2, Ln 7] The results are [ID 2, Ln 8] c1 = a, s1 = 32767, f1 = 1.234567 [ID 2, Ln 7] The results are	>						



### 33.3 Error Code

In activity area, users can find the reason of error through error codes listed below.

- 0: Normal
- 1: Time out
- 2: Fail Error
- 12: Ignore

When error occurs, error message will be shaded red as shown below.

The error code is 1 since PLC is disconnected with HMI.

The error code is 12 since "PLC No Response" message window is shown.

🦞 Weintek MT Diagnostic Tool - EasyDiagnoser										
<u> </u>	le <u>V</u> iew	Options	<u>H</u> elp							
Command: Read + Write <ul> <li>Device: SIEMENS S7/300 Ethernet</li> <li>Station:</li> </ul>										
<u>A</u> dd	Address Type: All  Range: 0 ~ 99999 Capture									
	No	Cmd.	PID	Device	St.	Index	Address / Length	Time	Error	^
	591	R	71	SIEMENS \$7/300 Et	1	255	[DB10] 00009 / 5	310	12	-
	590	R	67	SIEMENS \$7/300 Et	1	255	[M] 00000 / 1	310	12	
	589	R	68	SIEMENS \$7/300 Et	1	10	[DB10] 00000 / 3	300	12	
	588	R	69	SIEMENS \$7/300 Et	1	11	[DB10] 00003/3	310	12	
	587	R	70	SIEMENS \$7/300 Et	1	12	[DB10] 00006 / 3	310	12	
	586	R	71	SIEMENS \$7/300 Et	1	255	[DB10] 0000975	1210	12	
	585	R	67	SIEMENS \$7/300 Et	1	255	[M] 00000 / 1	1120	12	
	584	R	68	SIEMENS \$7/300 Et	1	10	[DB10] 00000 / 3	1020	1	
	583	R	69	SIEMENS S7/300 Et	1	11	[DB10] 00003/3	40	0	
	582	R	70	SIEMENS S7/300 Et	1	12	[DB10] 00006 / 3	30	0	
	581	R	71	SIEMENS S7/300 Et	1	255	[DB10] 00009/5	40	0	~



## 33.4 Save As

The captured information of Easy Diagnoser can be saved as \*.xls which can be read in Excel.

💖 Weintek MT Diagnostic Tool - EasyDiagnoser									
<u>File</u> <u>View</u> Options <u>H</u> elp									
Save As									
<u> </u>	( <u>B₂a</u> t d + Write <mark>─</mark> Device: SIEMENS S7/300 Ethernet <b>─</b> [								
Address Type: All 🕑 🗌 Range: 0 ~ 99999									
	No	Cmd.	PID	Device		St.	Index	Address / Length	
	176	R	68	SIEMENS 8	37/300 Et	1	10	[DB10] 00000/3	
	175	R	69	SIEMENS 8	37/300 Et	1	11	[DB10] 00003/3	
	174	R	70	SIEMENS 8	37/300 Et	1	12	[DB10] 00006/3	
	173	R	71	SIEMENS 8	37/300 Et	1	255	[DB10] 00009/5	



### 33.5 Window Adjustment

Users can drag or use smart docking icons in editing window to place the windows to the desired position.



Note:

EasyDiagnoser doesn't support Siemens S7/1200 (Ethernet) and Allen-Bradley Ethernet/IP (CompactLogix/ControlLogix) – Free Tag Names since both of the PLC use tag.