Chapter 33 EasyDiagnoser

33.1 Overview and Configuration

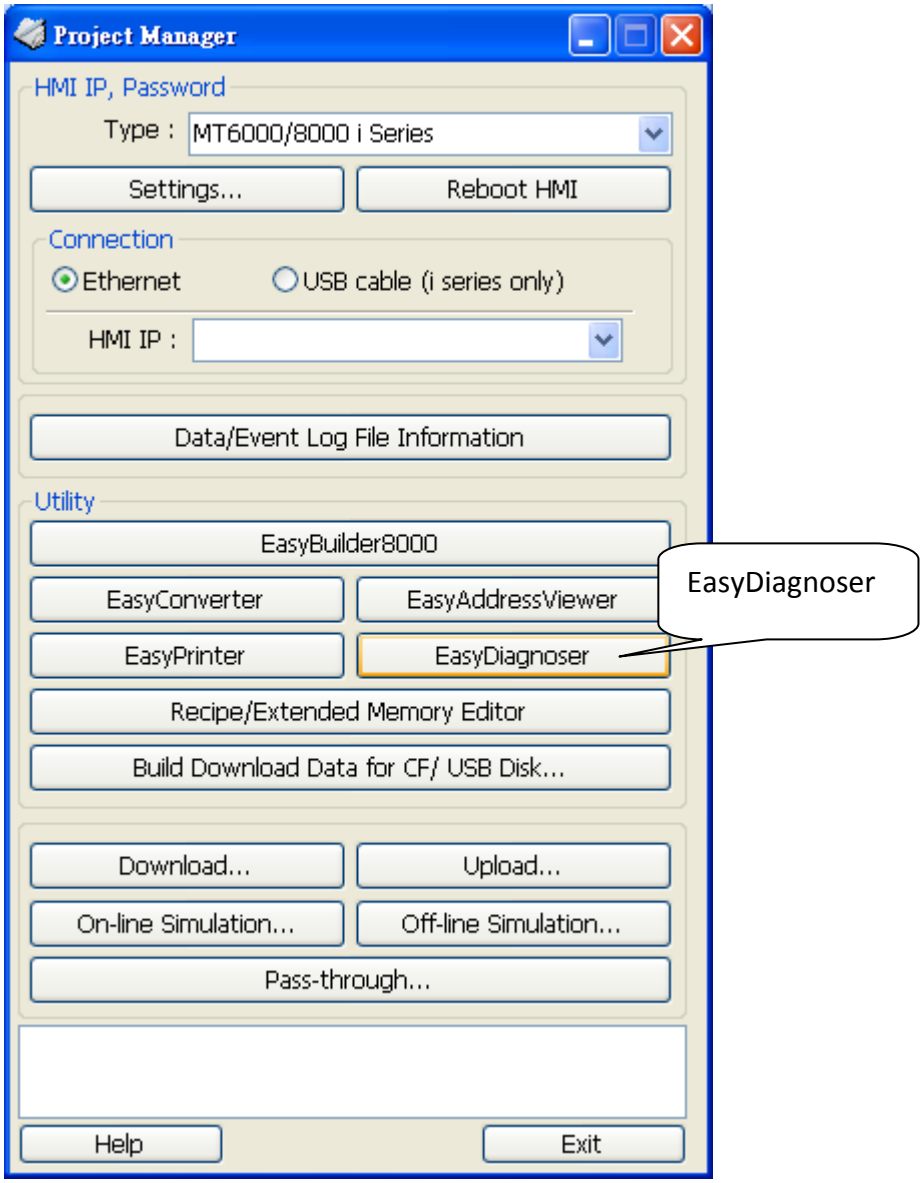
Overview

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

Configuration

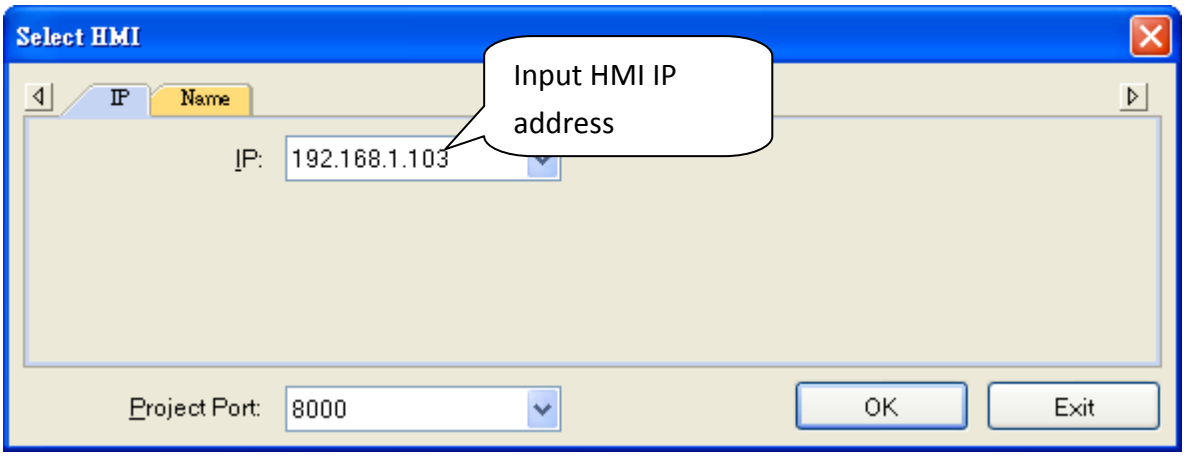
Step 1.

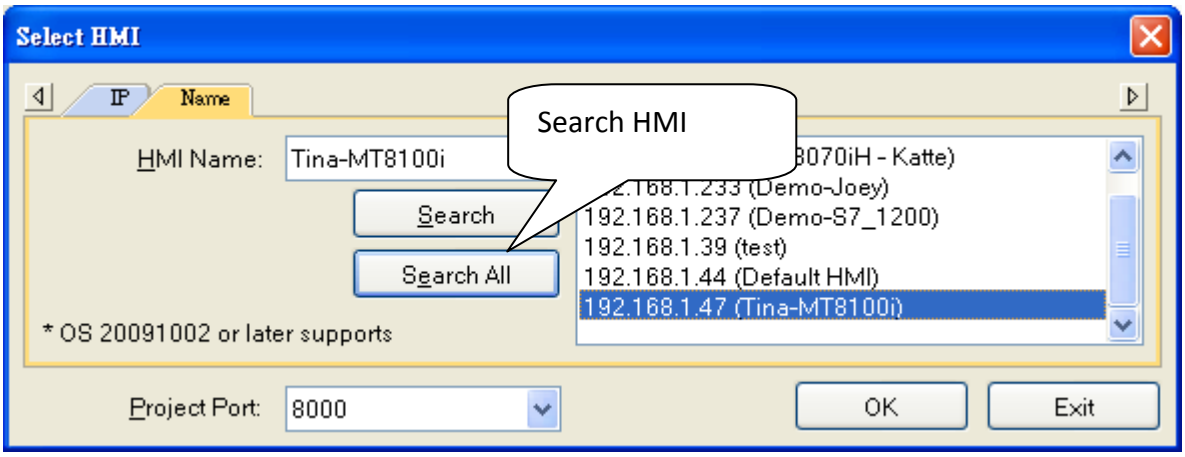
Open Project Manager and click EasyDiagnoser.



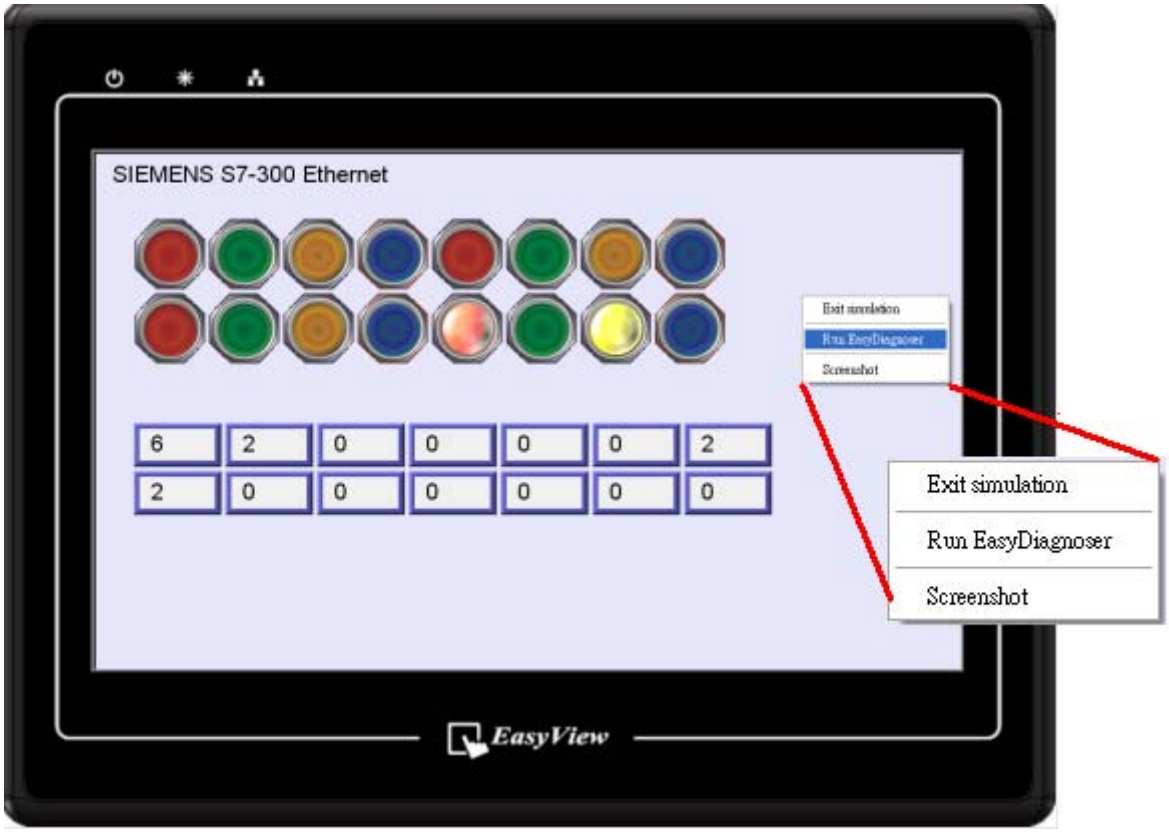
Step 2.

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.

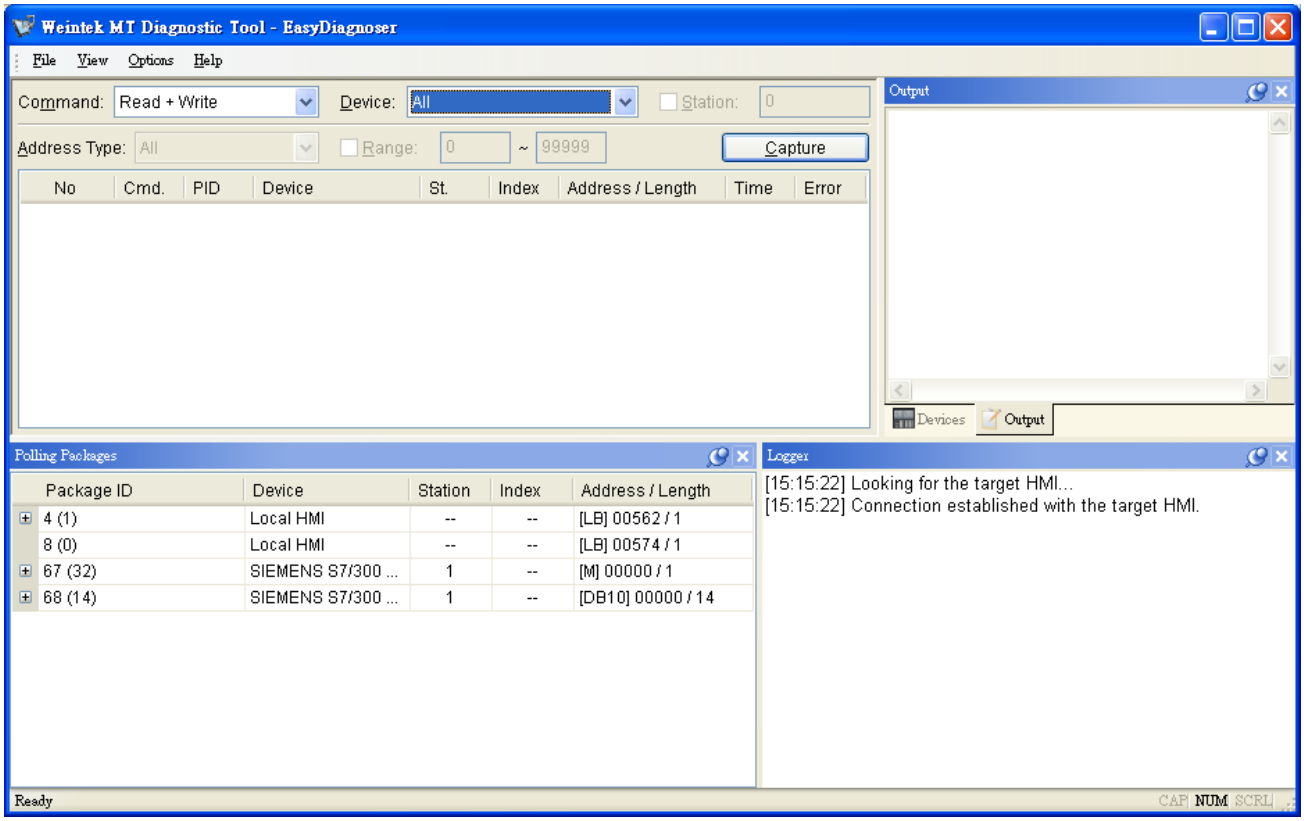




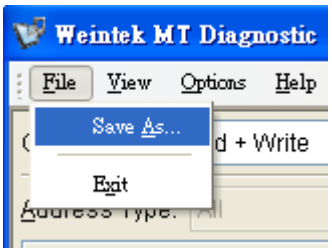
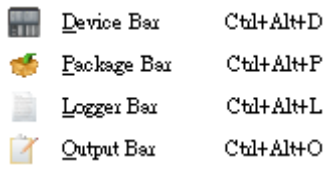
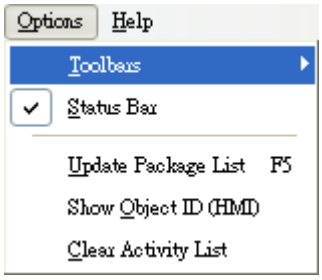
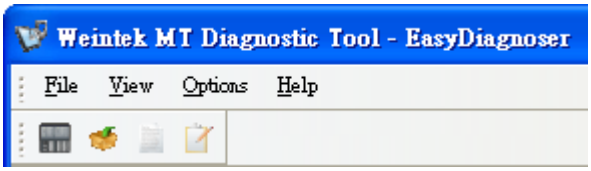
It is also available to right click and select "Run EasyDiagnoser" for entering the setting window when executing On-Line Simulation in EB8000.

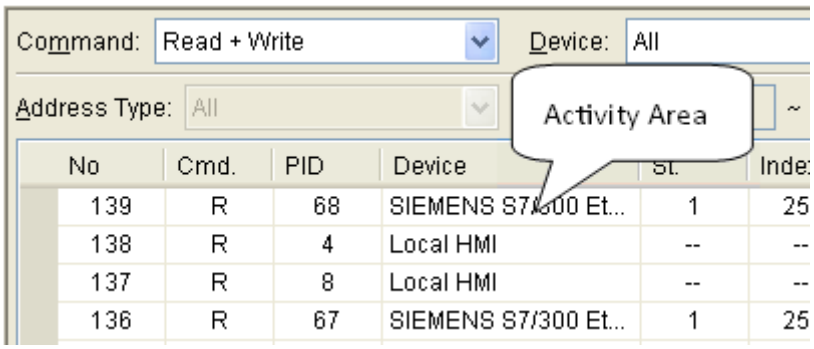
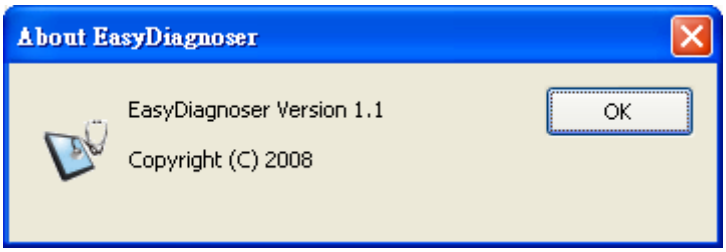


After setting completed, click OK, EasyDiagnoser operation window appears as below:



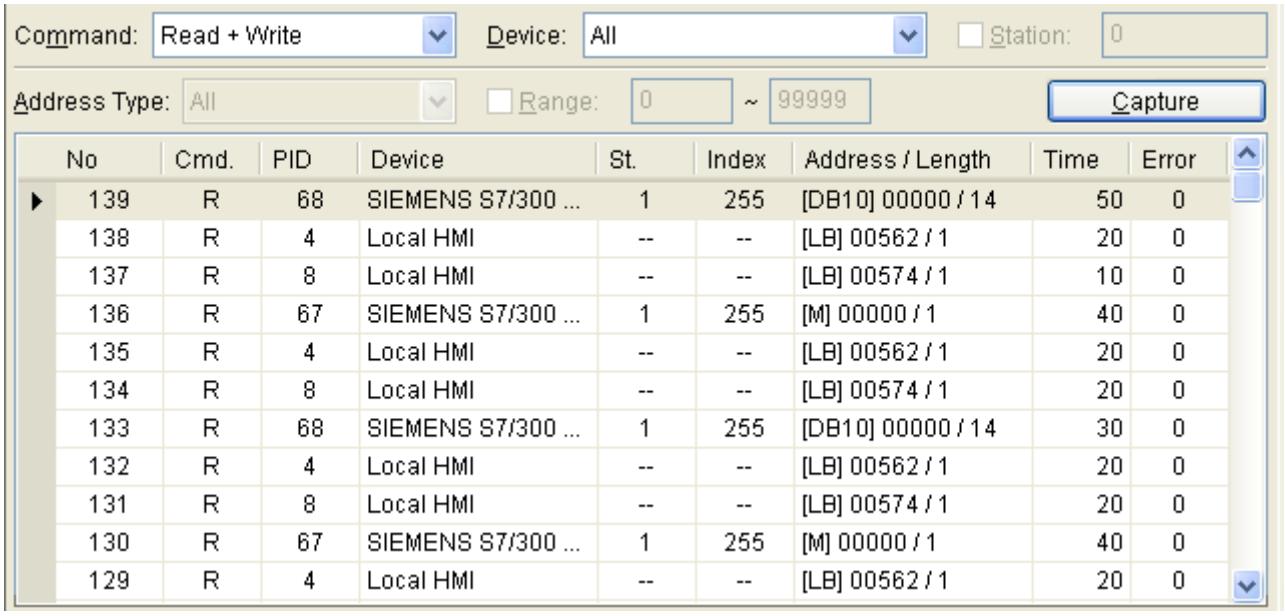
33.2 EasyDiagnoser Settings

Item	Description
File	**Save As** The captured information of Easy Diagnoser can be saved as *.xls which can be read in Excel. 
	Exit Exit current file.
View 	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 	**Toolbars** Display toolbar icons of [Device Bar] [Package Bar] [Logger Bar] [Output Bar]. 
	Show Status Bar At the bottom of EasyDiagnoser window, display information of CAP, NUM, and 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.

	
	Clear Activity List Clear all information in activity area. 
Help	Display EasyDiagnoser version information. 

- **Activity area**

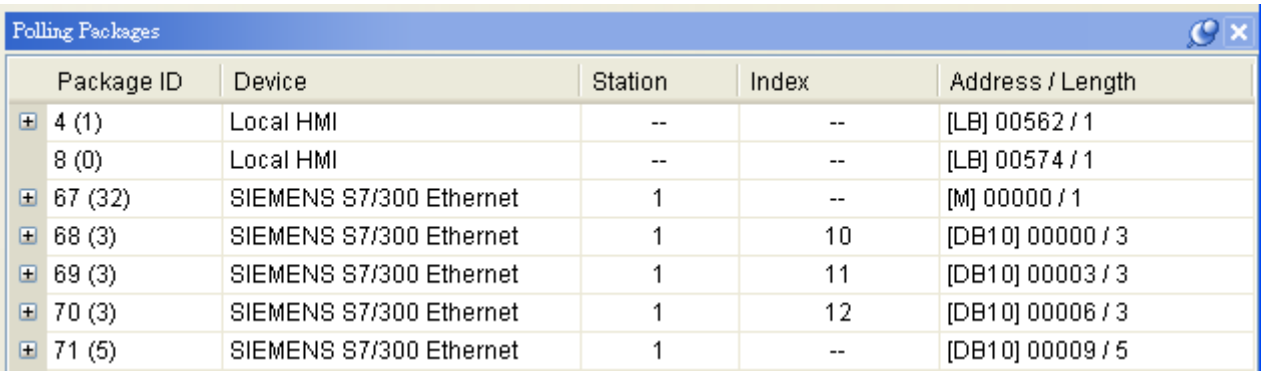
In the activity area, users can observe the communication between HMI and PLC.



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 **Read + Write**, the Read and Write information of Local HMI and PLC will be displayed in activity area. • If command is set **Read**, the Read information of Local HMI and PLC will be displayed in activity area. • If command is set **Write**, 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. • If command is set **Read + Write**, the Read and Write information of Local HMI will be displayed in activity area. • If command is set **Read**, the Read information of Local HMI will be

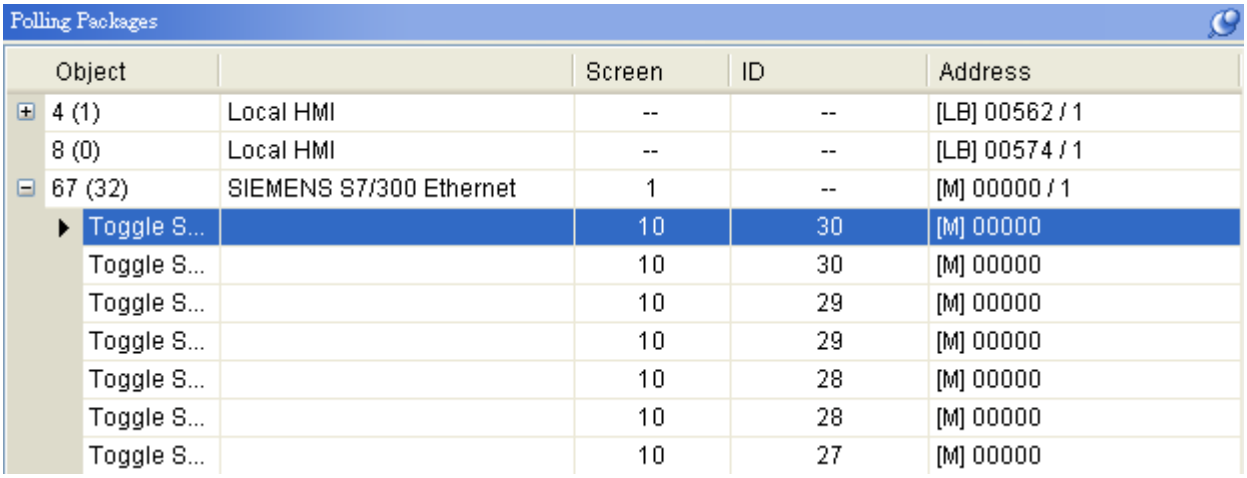
	displayed in activity area. • If command is set **Write**, the Write information of Local HMI will be displayed in activity area.
	c. PLC Display information of PLC, it depends on the setting of command as following. • If command is set **Read + Write**, the Read and Write information of PLC will be displayed in activity area. • If command is set **Read**, the Read information of PLC will be displayed in activity area. • If command is set **Write**, the Write information of PLC will be displayed in activity area.
Station	Select specific Station for display on the screen. (This function will be disabled when selecting [All] in Device).
Address Type	Users can select all or a part of address types to be displayed on the 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**



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.

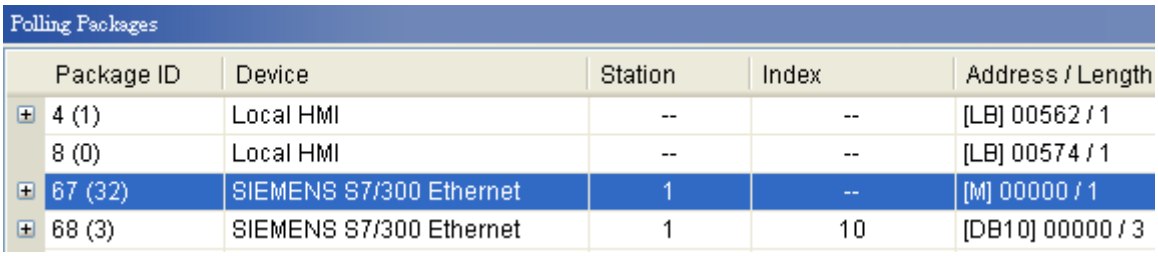


After opening Package, the information such as Object, Screen, ID, Address inside it will be displayed.

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 3rd column.



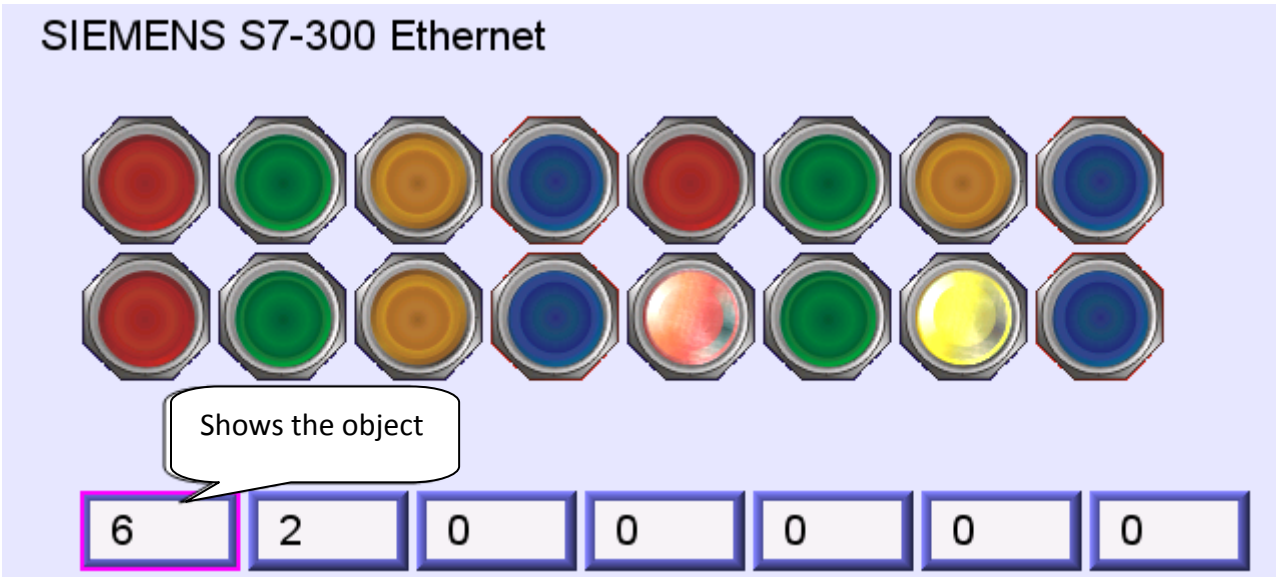
b. Double click **[Package ID]** then select **[object]**, the 1st column directs the object's position.

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.

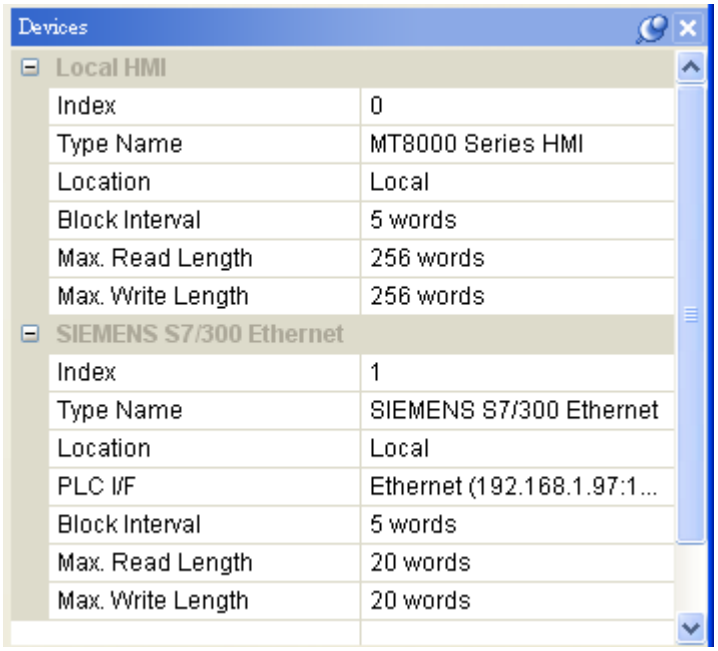
Polling Packages

Object		Screen	ID	Address
4 (1)	Local HMI	--	--	[LB] 00562 / 1
8 (0)	Local HMI	--	--	[LB] 00574 / 1
67 (32)	SIEMENS S7/300 Ethernet	1	--	[M] 00000 / 1
68 (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



- **Devices**

  Devices window displays information of HMI and PLC.



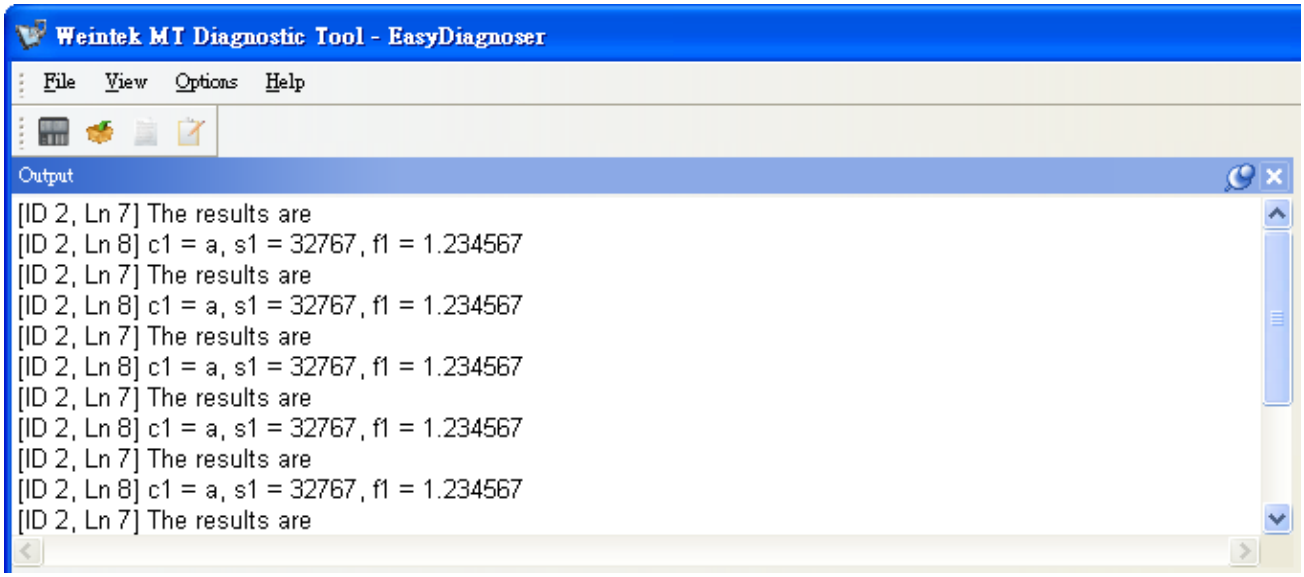
- **Output (Macro debug)**

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 7th and 8th lines of Macro.

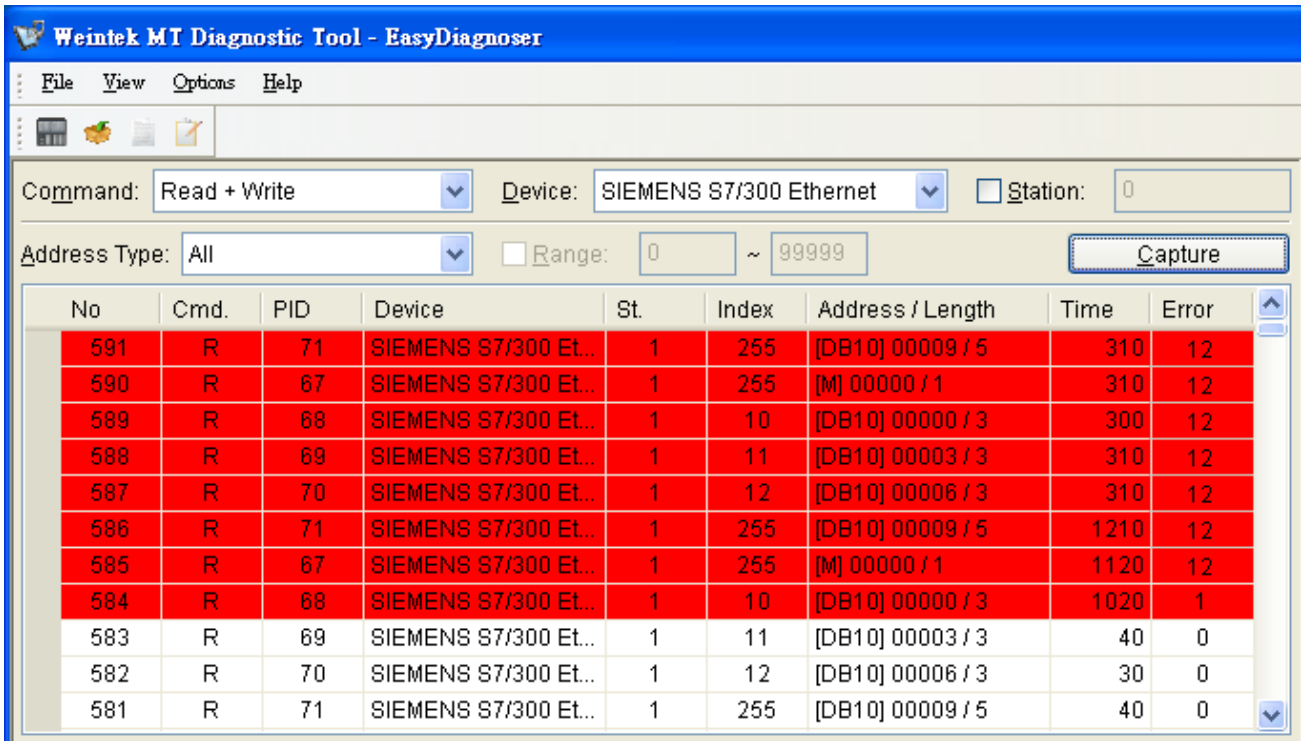


33.3 Error Code

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

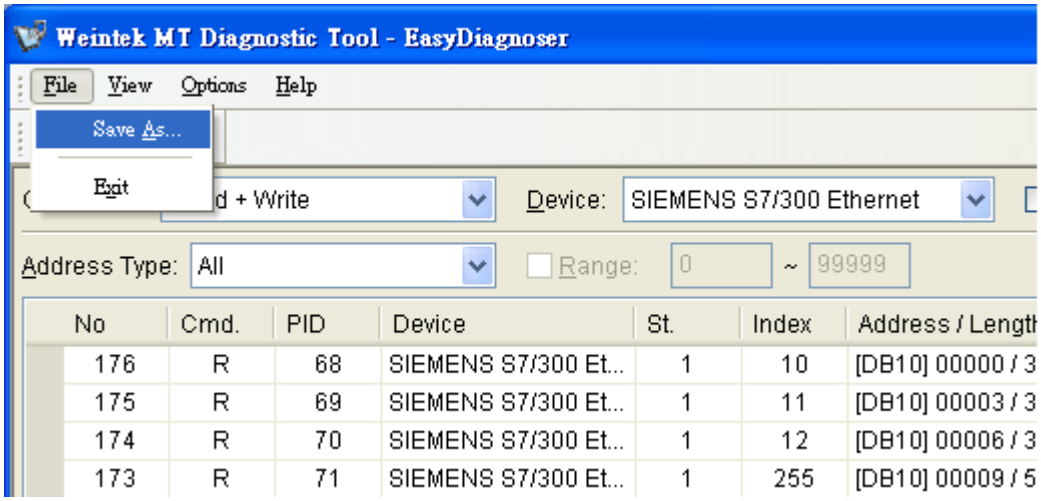
When error occurs, error message will be shaded red as shown below.
The error code is 1 since PLC is disconnected with HMI.
The error code is 12 since "PLC No Response" message window is shown.



No	Cmd.	PID	Device	St.	Index	Address / Length	Time	Error
591	R	71	SIEMENS S7/300 Et...	1	255	[DB10] 00009 / 5	310	12
590	R	67	SIEMENS S7/300 Et...	1	255	[M] 00000 / 1	310	12
589	R	68	SIEMENS S7/300 Et...	1	10	[DB10] 00000 / 3	300	12
588	R	69	SIEMENS S7/300 Et...	1	11	[DB10] 00003 / 3	310	12
587	R	70	SIEMENS S7/300 Et...	1	12	[DB10] 00006 / 3	310	12
586	R	71	SIEMENS S7/300 Et...	1	255	[DB10] 00009 / 5	1210	12
585	R	67	SIEMENS S7/300 Et...	1	255	[M] 00000 / 1	1120	12
584	R	68	SIEMENS S7/300 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

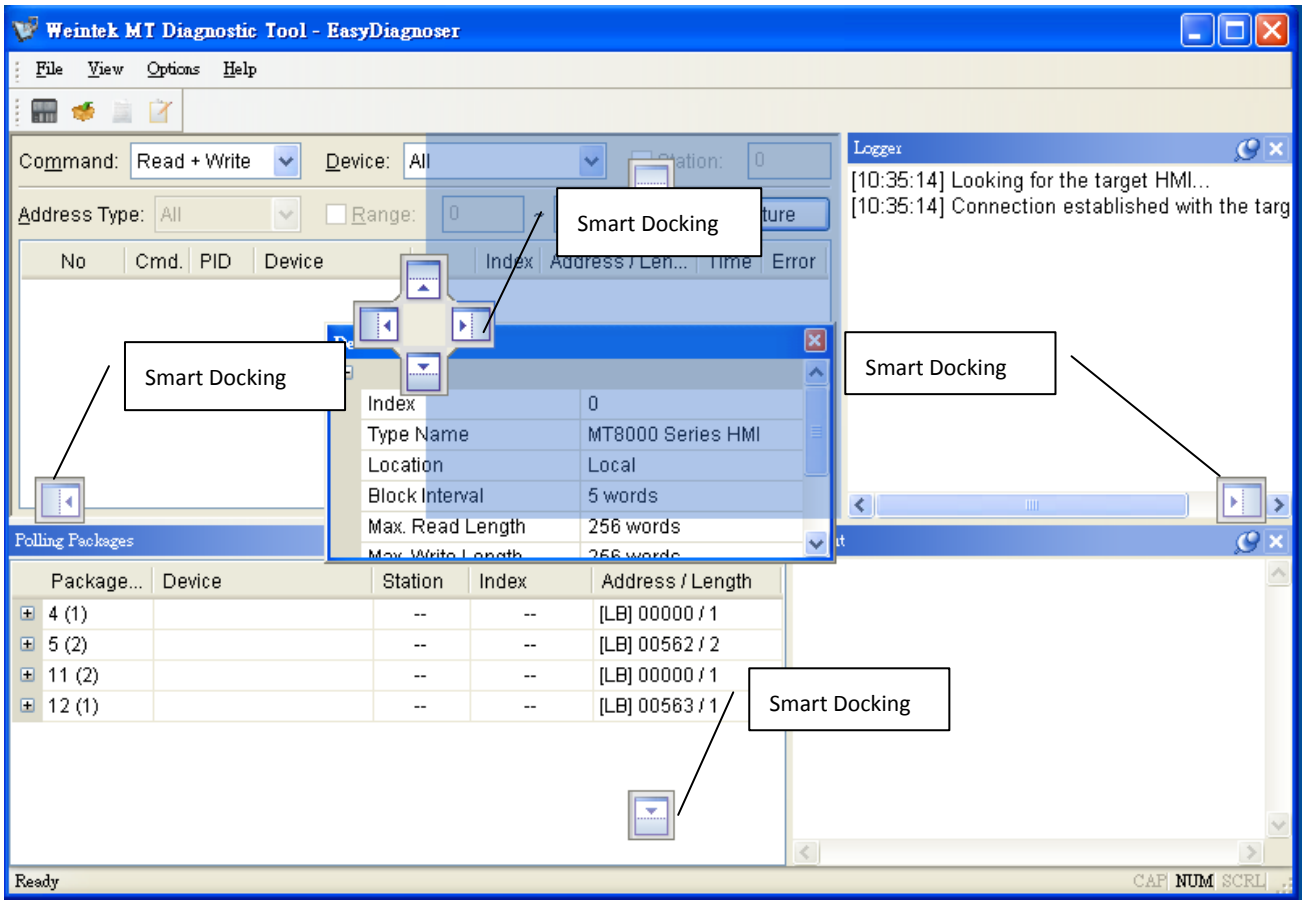
33.4 Save As

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



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.