# Working eLogger HMI with ISaGRAF SoftLogic in the WP-8xx7, VP-2xW7 and XP-8xx7-CE6 PAC

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The "eLogger" is a HMI development tools developed by ICP DAS. It features with easy use and friendly interface. The eLogger HMI can run with ISaGRAF SoftLogic in the WP-8xx7, VP-2xW7 and XP-8xx7-CE6 (will be available).

The WP-8xx7, XP-8xx7-CE6 and VP-25W7/23W7 support eLogger in the following driver version. WP-8xx7: 1.16 or later ver. VP-25W7/23W7: 1.07 or later ver. XP-8xx7-CE6: 1.05 or later ver

Download the latest PAC driver at http://www.icpdas.com/products/PAC/i-8000/isagraf-link.htm

This paper may be modified in the future to include more functions provided by the newer eLogger version. User may visit the below web site to get the latest document and example programs. <u>Www.icpdas.com</u> > FAQ > Software > ISaGRAF > FAQ-115.



Reference: <u>http://www.icpdas.com/products/PAC/i-8000/getting\_started\_manual.htm</u>

ISaGRAF User's Manual XP-8xx7-CE6 Getting Started WinPAC ISaGRAF PAC Getting Started VP-2xW7 Getting Started

# 1.1: Building A ISaGRAF SoftLogic Project

This sample project name is "eL\_01.pia" which can be downloaded at <u>www.icpdas.com</u> > FAQ > Software > ISaGRAF > FAQ-115. If user is familiar with the ISaGRAF programming, please restore this "eL\_01.pia" to the PC / ISaGRAF first. Then download it to the WP-8xx7 PAC. Then go to the section 1.2 to learn more about building eLogger HMI pictures.

File       Edit       Project       Projects	📓 ISaGRAF - Project Management						
Image: Second contract of the second	<u>File Edit Project</u>	Tools Options Help					
Libraries       Common esta         Im       demo_43       Im         Archive - Projects       ×         Reference       : eL_         Author       :         Date of creation : 20       Version number         Version number       : 1         Description       :         Im       Archive         Author       : 1         Version number       : 1         Description       :         Im       Cr_ahu1         Im       215xin         Backup       ardebil1         ct_asm_n       ct_cool         ct_mhu2       itst1         Im       Close         Im       Eleption		Archive	·				
Image: demo_43       Image: Archive - Projects         Reference       : eL_         Author       :         Date of creation : 20       Version number : 1         Version number : 1       :         Description       :         Image: Construction of the second constr	💷 test1	Libraries <u>C</u> ommon deta					
Reference       : eL_         Author       :         Date of creation : 20       Cr_ahu1         Version number : 1       :         Description       :         Cr_ahu2       cr_asm_n         cr_cool       cr_mhu2         cr_mm       cr_tmc_n         cr_win       cr_win1         Cr_win1       Lepp	🎹 demo_43	In Archive - Projects	×				
cr_win2 cr1_win creation demo_43 el_01 ✓ Compress Archive location D:\TEMP\ Browse	Reference : Author : Date of creation Version number Description :	eL_ Workbench Archive : 20 : 1 cr_ahu1 cr_ahu2 cr_asm_n cr_cool cr_mhu2 cr_mhu2 cr_mm cr_tmc_n cr_win1 cr_win2 cr1_win creation demo_43 el_01 Archive location D:\TEMP\	Backup <u>R</u> estore <u>C</u> lose <u>H</u> elp				

If user is not familiar with ISaGRAF, then please follow steps listed in the section 1.1 .

(New beginner can refer to the Chapter 2 of the "ISaGRAF User's Manual". The PDF file name are "user\_manual\_i\_8xx7.pdf" and "user\_manual\_i\_8xx7\_appendix.pdf" burned in the below CD-ROM. XP-8xx7-CE6 CD-ROM: \Napdos\isagraf\xp-8xx7-ce6\english manu\

WP-8xx7 CD-ROM: \Napdos\isagraf\wp-8xx7\english\_manu\

VP-2xW7 CD-ROM: \Napdos\isagraf\vp-25w7-23w7\english manu\

or download at <a href="http://www.icpdas.com/products/PAC/i-8000/getting\_started\_manual.htm">http://www.icpdas.com/products/PAC/i-8000/getting\_started\_manual.htm</a> )

If your PC hasn't installed the ISaGRAF software, then install it first. (You need to purchase at least one pcs. of ISaGRAF-256 or ISaGRAF-32 software. Please refer to the "Ordering Information" at the bottom of <u>http://www.icpdas.com/products/PAC/i-8000/isagraf.htm</u>)

Then follow steps listed in the section 1.2 of the "ISaGRAF User's Manual" to install the "ICP DAS utilities For ISaGRAF".

## **1.1.1: Creating A New Project**

🞇 ISaGRAF - Project Manage	nent		
<u>File Edit Project Tools Optio</u>	ns <u>H</u> elp		
Open Ctrl+O	🕆 🗘 🖶 🎦 Trouble2	2	
Select project group			
<u>N</u> ew Ctrl+N	Create new project		×
Rename         Copy       Ctrl+C         Delete       Upload project         Exit       version number : 1 - 15 acc	た。 院 Name: eL_01 10 configuration: 2 R		<u>Q</u> K <u>C</u> ancel
Description :		•	

Run ISaGRAF project software, then create a new project. Name it as "eL\_01".

Then double click the project name to get into it.

🞇 ISaGRAF - Projec	t Management					
<u>File Edit Project To</u>	ools <u>O</u> ptions <u>H</u> elp					
🖹 🖽 🗋 🛅 🍈	🕦 🚝 🖞 🤑 🏪 🎦 Trouble2					
m demo_43	SMS demo, Please declare your own pho					
eLogger + ISaGRAF						
Reference : eL_01 Author : Date of creation : 2009/11/9 Version number : 1 - ISaGRAF 3.46 Description :						

#### **1.1.2: Declaring The ISaGRAF Project Variables**

Name	Туре	Attribution	NetWork Addr.	Description
Long_1	Integer	Internal	1	To access to eLogger 's 32-bit Long Tag
Word_3	Integer	Internal	3	To access to eLogger 's 16-bit Integer Tag
Word_4	Integer	Internal	4	To access to eLogger 's 16-bit Integer Tag
Float_5	Real	Internal	5	To access to eLogger 's 32-bit Float Tag
OUT_101	Boolean	Output	101	Link to Ch.1 D/O of slot 1: I-87055W
OUT_102	Boolean	Output	102	Link to Ch.2 D/O of slot 1: I-87055W
M1	Boolean	Internal	0	
DIR	Boolean	Internal	0	Declared with an initial value "True"

This example will use the following ISaGRAF variables

Get into the "Dictionary", then click "Integers/Reals", then double click the blue area at below.



Name it as	"Long	1",	set Network	Address	as	1
------------	-------	-----	-------------	---------	----	---

Integer/Real ¥ariable		×	
Name: Long_1	Network	rk Address: 1 Always be Hex	adecimal
Comment:			
Unit	Conversion:	(none)	
Attributes Internal Input Output Const <u>a</u> nt Dim:	Format Integer (standard) Beal Initial value: Retain	Store       Cancel       Next       Previous       Extended	

Then click "Store". Then declare "Word\_3" and "Word\_4" by the same way. Set their NetWork Address as 3 and 4 respectively.

🂊 ISaGRAF - EL_01	- Global integers/reals	
<u>File E</u> dit <u>T</u> ools <u>Op</u>	tions <u>H</u> elp	
	🖴 🔾 🕼 🥴 🏍 🗈 💰 📉 🚝	
Booleans Integers/Re	als Timers Messages FB instances Defined words	
Name	Attrib. Addr. Comment	
Long_1	[internal,integer]0001	<b>A</b>
		-

Then we got the following picture.

By the similar way to declare the "Float\_5". Set its format as "Real" and the Network Addr as 5.

Integer/Real ¥ariable		×
Name: Float_5	Network A	ddress: 5
Comment:		
Unit:	Conversion: (r	ione)
Attributes	Format Integer (standard) Real Initial value: Retain	Store Cancel Next Previous Extended

Then we got the following picture. To declare Boolean variables, please click "Booleans" first.

SaGRAF - EL_01 - Global integers/reals						
<u>File E</u> dit <u>T</u> ools <u>Op</u> t	File Edit Tools Options Help					
🔄 🖸 🖉 🧐 🏭 😽 🗈 🤞 📉 🖴						
Booleanse Integers/Reals Timers Messages FB instances Defined words						
Name	Attrib.	Addr.	Comment			
Long 1 🔪	[internal,integer	0001				
Word 3	[internal,integer	0003				
Word 4	[internal,integer	0004				
Float_5	[internal,real]	0005				

By the similar way as former to declare "OUT\_101" and "OUT\_102" and "M1". Set the attribution of "OUT\_101" and "OUT\_102" as Output. Set their Network address as 101 and 102 respectively. While set M1's attribution as Internal .

Boolean ¥ariable			Always be Hexadecimal
Name: OUT_101	Network /	Address: 0065	
Comment:			
Attributes	Values	<u>S</u> tore	
C Internal	False:	Cancel	<b>~</b>
○ Input	True:		
C Const <u>a</u> nt	set to true at init	<u>N</u> ext	
	□ R <u>e</u> tain	<u>Previous</u>	
Dim:		E <u>x</u> tended	

Then we got the following picture.

SaGRAF - EL_01 - Global booleans							
<u>File E</u> dit <u>T</u> ools <u>O</u>	<u>File Edit T</u> ools <u>Options H</u> elp						
🔄 🙆 🔘 🚱 🌿 😽 🖻 🤞 📉 🗃							
Booleans Integers/Reals Timers Messages FB instances Defined words							
Name	Attrib.	Addr.	Comment				
OUT_101 OUT_102	[output] [output]	0065 0066	Always be H	exadecimal			
M1	[internal]	0000	format here.				
1							

Declare one more boolean variable "DIR" as below. Check the "set to true at init".

Boolean ¥a	ariable		×
Name:	DIR	Network Address:	
Comment:			
Attribute	es ernal ut put ist <u>a</u> nt	Values False: True: ✓ set to true at init Retain	<u>S</u> tore <u>C</u> ancel <u>N</u> ext <u>Previous</u> E <u>x</u> tended

#### 1.1.3: Creating the Sample Ladder Diagram Program - LD1

After all variable declaration is finished, click "save" to save it and then exit the following window.

💊 ISaGRAF - EL_01 - Global booleans 📃 🗖 🗙					
<u>File Edit T</u> ools <u>Op</u> t	ions <u>H</u> elp			<b>\</b>	
	🍳 🔾 🔕 🌸 🛰 🗈 🤞 📉 🗃				
Booleans Integers/Rea	als   Nimers   Mes	sages   FB	instances Defined words		
Name	Attrib.	Addr.	Comment		
OUT 101	[output]	0065			
OUT_102	[output]	0066			
M1	(internal)	0000			
Dir	[internal]	0000			
				-	
Dir @0000 [internal] (false,true) [:=TRUE]					

Then create a new program as the following picture. Name it as "LD1", select its language as "Quick LD : Ladder Diagram". Set the "Style" as "Begin: Main program".

- ISaGRAF - E	L_01 - Prog	grams _ 🗖	×				
<u>F</u> ile <u>M</u> ake <u>P</u> roj	ect <u>T</u> ools D	De <u>b</u> ug <u>O</u> ptions <u>H</u> elp					
🖹 🖬 😵 🗓	0 🗋 🗈 t	:5 ∰ 옷 🗰 斜 🗶 🗒					
	Create	new program					
	New Progra	am 🔟	_				
Begin: LD1 (Lac	Name:	LD1					
	Comment:						
	Language:	Quick LD : Ladder Diagram					
	Style:	Begin : Main program					
		<u>OK</u> <u>C</u> ancel					

Then we got the following picture. Please double click the program name to get into it.

-: IS	aGRAF - EL_01 - Programs	
<u>F</u> ile	<u>Make Project Tools Debug Options H</u> elp	
	🖬 😓 🗊 🕒 🖬 🍵 🐺 👗 💷 🎽 冬 🛄 '	S.
Begin		
Begin	n: LD1 (Ladder Diagram)	

We are going to create a "SYSTIM\_R" function block to get the PAC 's Hour/Minute/Second . Click "Block on the left", then double click inside the block to select the "SYSTIM\_R".

ISaGRAF - EL_01:LD1 - Quick LD Program				
<u>File Edit T</u> ools <u>Options H</u> elp				
F2: HHE F3: HHE F4: GH F5: -()4 F6: ()4 F7: H() F8: () F9: → +F9: ∞				
Block on the left				
The IsaGRAF - FL 01 LD1 - Onick LD Program				
File Edit Toole Ontione Help				
◎ ◙ ◙ ፟ጞ ፟ ፟ ፟				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				
	<b>_</b>			
(* *)				
	_			
Function block	×			
CMC_OFTCOpt response data 9 athens				
SMS_GETS Get message data & others				
pos=2,1 SMS_STS_Get message sending status				
SMS_TEST Test if message coming or not Cancel				
SQRT square root				
SR set dominant bistable Info				
STACKINT stack of integers				
STATIST statist calculation				
STOP_APL Stop ISaGRAF project running				
STP_DIS Disable stepping motor output				
STP_EN Enable stepping motor output				
STP_EN2 Move stepping motor some step				
STP_STS Get stepping output status				
STR_ARY convert string to a byte array				
STR_REAL CURVER a string to a real val				
SYSDAT W write Conker's system date				
SYSTIM R read Conker's system time				
SYSTIM W write Conker's system time				

Double click on the right hand side of the "SS\_" parameter to connect the "Word\_3" on it.

🔤 ISaGRAF - EL_01:LD1 - Quick LD Program	
<u>File Edit T</u> ools <u>Options H</u> elp	
▙≙ ▓▣옷 ▥⊗ ≫ ▣ ਂ ฿ 밤 밤 Q Q = ⅲ ≝	
$F2:\exists H: F3:\exists H: F4: \overset{H}{H} F5: \bigcirc F5: \bigcirc F6: \bigcirc H: F7: \exists H \cap F8: \overset{H}{\Box} F3: \longrightarrow *F3: \bigcirc$	
(* *) en en e	
Ela Edit Toola Ontiona Hala	
(* *) (* *) (* *) H H H H K SYSTIM_R H H K SYSTIM_R SS H H K SYSTIM_R H K K K K K K K K K K K K K K K K K K	
▼ pos=0,6	

We are going to generate a pulse True every second to the boolean variable "M1". Move the cursor to the below position under the block first.

📲 ISaGRAF - EL_01:LD1 - Quick LD Program					
<u>File Edit T</u> ools <u>Options H</u> elp					
ÈÈ 🖆 👗 🖳 🛠 🖬 🛃 📂 🖓 🔍 🗨 🛄 🚝					
F2: HHE F3: HHE F4: HT F5: -()4 F6: -()4 F7: HC F8: 10 F9: -→ +F9:>					
(* *) Block on the left					
en eno < > I					
нн_					
MM_					
SS					

Then double click on the left hand side of the "CYCLE" parameter to key-in "T#1s".

📷 ISaGRAF - EL_01:LD1 - Quick LD Program	
<u>File Edit T</u> ools <u>Options H</u> elp	
🖹 🚵 👗 🖳 冬 📶 😵 🛰 🖺 💰 🏦 🖓 🔍 🔍	l = III / S
$\label{eq:F2:HE} F2: \exists HE \ F3: \exists HE \ F4: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	0
(* *) en eno HH_	Select variable
(* *)	Scope: (Global) 💽 🖪 💌 🚫 🚥
	Float_5 Long_1 Word_3 Word_4
pos=1,7	

Then move the cursor to the coil at right hand side of the block. Click "Coil / Contact type" several time to select the "N" coil.



Then double click on the "N" coil to connect the boolean variable "M1" on it.



Select variable						×
Scope: (Glob	al)	•	<u>n</u> ~	<u> 🛛 🚾</u>	Boolean	
M1					Boolean Integer/Real	
					Timer	
21×108					Message Program	
%0X1.1.3					C function	-
%QX1.1.4						
%QX1.1.5						
%QX1.1.6						
%QX1.1.7						
%QX1.1.8						
Dir						_
M1						
OUT_101						-
	<u></u> K			<u>C</u> ance	el	

Then we have finished the "LD1" program. Click "save" and exit the window.



#### 1.1.4: Creating a Structured Text program - ST1

- ISaGI	RAF - EL_01	l - Programs		_ [	
<u>File M</u> a	ke <u>P</u> roject j	<u>T</u> ools De <u>b</u> ug <u>O</u> ptions <u>H</u> elp			
	I 🕹 🔟 🛛	🔰 💼 🚿 💥 i+ 💷 🌠	🐥 😐	2°	
Begin:	ню				
		Create new program			
Begin: L	New Progra	m	×		
	Name:	ST1			
	Comment:				
	Language:	ST : Structured Text	-		
	Style:	Begin : Main program	-		
		<u>OK</u> <u>Cancel</u>			

Create a ST program "ST1" as the following picture.

Double click the program name to get into it.

ISaGRAF - EL_01 - Programs	
<u>File Make Project Tools Debug Options H</u> elp	
🖹 🖬 😓 🎹 🗅 🖬 🍈 🐥 👗 🐖 🙀 冬 💻	*2 <b>,</b>
Begin: HD1	
Begin: ST1 (Structured Text)	

Edit the following code.

```
if M1 then
if (Dir=True) then
Word_4 := Word_4 + 1; (* Counting up *)
else
Word_4 := Word_4 - 1; (* Counting down *)
end_if;
end_if;
if Word_4 <= 0 then
Dir := True; (* reach Min. value, change to counting up *)
end_if;
if Word_4 >= 50 then
Dir := False; (* reach Max. value, change to counting down *)
end_if;
```

Then we got the following picture. Click "save" and then exit it.



#### 1.1.5: Connecting The I/O

We have declared two boolean variables with attribution "Output". Their name are "OUT\_101" and "OUT\_102". To connect them to the physical I/O board (I-87055W in this example), please click the "I/O connection".

	SaGRAF - EL_01 - Programs	
File	<u>Make Project Tools Debug Options Help</u>	
	🔟 😓 🛈 🗅 🗈 💼 🕷 👗 🌬 💷	\$4 <u>\$</u> ∰ \$4
Begir	n: 😡 LD1 📧 ST1	I/O connection
Begir	n: ST1 (Structured Text)	

Double click the slot number "1" to insert the "i\_87055". (If find no "Equipments" > "i\_87055", it means the "ICP DAS Utilities For ISaGRAF" has not installed. Please refer to section 1.2 of the "ISaGRAF User's Manual")

📷 ISaGRAF - EL_01	- I/O connection	
<u>File Edit T</u> ools <u>O</u> pt	ions <u>H</u> elp	
🖆 🖻 🗟 🖄 🍵	ዮ ቶ 🖪	
0	Select board/equipment	×
1 2 3 4 5 6 7	i_87005a: 8 CH. Thermistor with Alarm i_87013a: 4 CH. RTD Input with Alarm i_87017a: 8 CH. Analog Input with Alarm i_87018a: 8 CH. Thermocouple with Alarm i_87019a: 8 CH. Thermocouple with Alarm i_87040c: 32 CH. D/I & Cnt (Max. 100Hz) i_87046c: 16 CH. D/I & Cnt (Max. 100Hz) i_87051c: 16 CH. D/I & Cnt (Max. 100Hz) i_87052c: 8 CH. D/I & Cnt (Max. 100Hz) i_87052c: 8 CH. D/I & Cnt (Max. 100Hz)	<u>O</u> K <u>C</u> ancel <u>N</u> ote
8	i_87053c: 16 CH. D/1 & Cht (Max. 100Hz) i_87054: Isolated 8 CH. DI & 8 CH. DO i_87054c: 16 CH. I/O & Cht (Max. 100Hz) i_87055; 8 CH. DI & 8 CH. DO i_87055c: 16 CH. I/O & Cht (Max. 100Hz)	C Boards
	i_87058c: 8 CH. D/I & Cnt (Max. 100Hz) i_87063: Isolated 4 CH. DI & 4 CH. DO	

Then double click the channel number on the right hand side to connect "OUT\_101" and "OUT\_102". (If find no "OUT\_101" and "OUT\_102", it means their attribution were not declared as "Output". Please refer to section 1.1.2 of this paper to declare their attribution as "Output")

<b>iSaGRAF - EL_01 -</b> 1	I/O connec	tion	
<u>File Edit T</u> ools Option	s <u>H</u> elp		
🔛 🖻 🗟 🖄 🌐	ዮ ᡛ 🖡	7 👗 🗃	
0 1 Ⅲ i_87055 - № DI8 ■ D08	лф лф	1 2 2 3 2 4 0 channel #1	5B
2 3 4 5 6	Channel: Free:	OUT 101 OUT_102	<u>C</u> lose
			Eree <u>N</u> ext <u>P</u> revious

Then click "Save" and exit it.

ISaGRAF - EL_01 - I/O connection	
<u>File Edit T</u> ools <u>Options H</u> elp	
👜 🖕 🗟 🎾 🌐 🗘 🤑 🕞 🔏 🚝	•
0 see ref = 87055B	
- 🖿 DI8 лф 🛛 OUT_102	
. 📼 DO8 л Ф 🛛 🖉	
2 4	
3 5 🖉	
<u>4</u> <u>6</u> Z	
5 7 2	
8 ∠	

#### 1.1.6: Compiling The ISaGRAF Project

Select the following Compiler options. Must check the "ISA86M: TIC code for Intel" and the "Use embedded SFC engine" and the first Optimizer "Run two optimizer passes".

- ISaGRAF - EL_01 - Programs	
<u>File Make</u> Project Tools Debug Options Help	
🖹 Make application 📈 🌬 💷 🊧 🕵	😐 🖏
Begir Verify	
Touch	
Application run time Options	
Compiler options	
Resources	
Compiler options	×
Beg Targets:	
> SIMULATE: Workbench Simulator	🔺 Select 💊
ISA68M: TIC code for Motorola	
> ISA86M: TIC code for Intel	<u>U</u> nselect
LL86M: L source code (V3.04)	<u> </u>
✓ Use embedded SFC engine	Upload
C Optimizer:	
Run two optimizer passes	
Evaluate constant expressions	Default
Suppress unused labels	
C Optimize variable copying	
Optimize expressions	
Suppress unused code	
Uptimize arithmetic operations	<u>0</u> K 🔍
Uptimize boolean operations     Equild binary decision discreme (PDDe)	
Found binary decision diagrams (6005)	<u>C</u> ancel

Then run "Make application" to compile the project.

=: IS	aGRAF	- EL_01 - Programs	
File	<u>M</u> ake <u>I</u>	Project Tools Debug Options Help	
	<u>M</u> ake	application 📈 🌬 💷 🌠 🤽 🖳	
Begir	<u>V</u> erify	y 🔪	
	<u>T</u> oucl	h - IS-CD & F. FL 01. Colo Comentar	
	Appli	Eile Options Edit Help	
	Comp		
	<u>R</u> esou	m	
	_	Verifying LD1 Code Generator	×
Begin	c ST1 (	No error detected	
12		Verifying ST1	
		No error detected Do you want to exit the Code Generator now ?	
		Resetting temporar	
		Building configuration data Linking object files Relocating object files	
		Post-compiling code No error detected No error detected	

If no error detected, congratulations !

## 1.1.7: Download the ISaGRAF Project to the PAC

Click "Link Setup".

-: IS	SaGRAF - EL_01 - Programs	
File	<u>Make Project Tools Debug Options H</u> elp	
	🖩 😔 🔟 🗅 🖻 🍵 🐥 👗 🕨 😫 🔍 🖳 😫	
Begin	n: ••••• LD1	$\mathbf{X}$
	🗯 ST1	Link setup
Begin	in: ST1 (Structured Text)	

To download project via Ethernet cable, please select "ETHERNET" and enter the IP address of the PAC and must set Port number as 502.

PC	-PLC link	parameters					×	
	Target Slave	Number:	1			<u>0</u> K		
	Communicatio	on port:	ETH	IERNET	_ <b>_</b>	<u>C</u> ance		
	- Control				\ r	Setun		
	Time o	ut (seconds):	2			<u></u>		
	Retries	:	1				1	
	<u> </u>	ETHERNET	link p	arameters				×
		Internet add Port number	lress: ::	192.168.1. 502	181		<u>O</u> K <u>C</u> ancel	4
		The Worl library for that this fil	kbench TCP-IP e is corr	uses the WIN: communicatio rectly installed disk.	SOCK.DLL ins. Ensure on the hard	1		

Then click "Debug" to connect to the PAC. If it is connected, click "Stop Application" first and then click "Download" to download the "TIC code for Intel" to the controller.

- ISaGRAF - EL_01 - Programs	
<u>File Make Project Tools Debug Options Help</u>	
🗈 🖬 😔 🛈 🕒 🖻 🍵 📈 🐝 🗰 🙀 🔍 🖳 😫	
Begin: ID1 Débug	
🤹 ISaGRAF - EL_01 - Debugger	
File Control Tools Options Help	
<u>@</u> _}}N २> ► N ► � & #\ #	
RUN allowed=0 current=2 maximum=5 ov Stop application	erflow=0
SaGRAF - EL 01 - Debugge	×
File Control Tools Options He ISA86M: TIC code for Intel	
Pplication sympols	
No application	
12:17: Download plication sto	
	el

## 1.2: Build eLogger HMI Project

If there are problems when running the eLogger RunTime, refer to section 1.3 of this paper to fix it.

The "eLogger" includes "Developer" and "RunTime". The eLogger Developer is the development toolkits installed in PC for building HMI pictures and items. The eLogger RunTime is the driver installed in the PAC (WP-8xx7 or VP-2xW7 or XP-8xx7-CE6). User need to upload his HMI pictures created by the eLogger Developer from PC to the PAC. Then the eLogger RunTime will execute it and display HMI pictures on the VGA Monitor of the controller.

#### **1.2.1: Install the eLogger Developer in PC and the eLogger RunTime in Controller**

Please visit <u>ftp://ftp.icpdas.com/pub/cd/winpac-8xx7/napdos/elogger/elogger\_developer/</u> to download the latest eLogger Developer (Ver. 1.2.0.0 or later) .Then install it in PC.

Then visit <u>ftp://ftp.icpdas.com/pub/cd/winpac-8xx7/napdos/elogger/elogger\_runtime/</u> to download the eLogger RunTime (Ver. 1.2.0.0 or later).

It is better to show the "Taskbar" in the PAC 's VGA monitor at design time. Please enable it as below.

Connect one VGA Monitor to the VGA port of the controller. And connect one USB mouse to the USB port of the controller. Then set the "Taskbar" as "Always on top". **DO NOT check the "Auto hide"**. Then run WinPAC utility (or ViewPAC Utility) to save the setting.



#### How to install eLogger RunTime:

Please click "My Device" on the controller's VGA. Then get into the "\System\_Disk\" path to create a new folder "eLogger".



To copy all files of the eLogger RunTime to the "\System\_Disk\eLogger\" path of the controller, it is better to use the ftp tools in PC . First make sure FTP is enabled in the controller and its path is set as "\". Then click "Setting", then run File > Save and Reboot to save the FTP setting.

5D	WinPAC Utility [2.0.1.3]					
	File Help Configuration					
WINPAC	System Setting Ethernet Setting FTP Setting System Information Auto E					
2 North Court	Access Login					
Regview	FTP  Senable  Disable					
	Allow Anonymous 💿 Enable 🔵 Disable					
	Allow Anonymous  Enable Unload					
	Change FTP default download directory (Temp to:					
	WinPAC Utility [2.0.1.3] Setting					
	File Help Configuratio					
	<u>S</u> ave					
	Save and Reboot					
	Repoot <u>wi</u> thout Save					

Entering the IP address of the connected controller on the Internet Explorer running in the PC, for example, **ftp://192.168.1.181** 

Then get into the "\System\_Disk\eLogger\" path, copy all files of the eLogger RunTime from PC to the controller's "\System\_Disk\eLogger\" path.



Then click "My Device" on the VGA of the controller, get into the "\System\_Disk\eLogger\" path, then run "eLogger.exe". Check "Auto Run" and exit it.



Run the WinPAC Utility (or ViewPAC Utility) to set the second "Auto Execution" as "\System\_Disk\eLogger\eLogger.exe" (Note: the first execution of the WP-8xx7 and VP-2xW7 should be their ISaGRAF driver.). Then run File > "Save and Reboot" to save the settings.

WinPAC	Utility (	2.0.1.3]							
File H	lelp Co	nfigurati	on						
System	Setting	Ethernet	Setting	FTP :	Setting	System Info	ormation	Auto Execution	Multi-serial por
		Prog	gram 1:	\Syst	em_Disl	k∖isagraf\isaV	VinPAC.e	xe	Browse
		Prog	gram 2:	∖Syst	em_Disl	k\eLogger\eL	ogger.exe	9	Browse 2
		Prog	gram 3:						Browse
		Prog	gram 4:						Browse
		Prog	gram 5:						Browse
At mo progra	ost 10 ams can l	Prog	gram 6:						Browse
specif	fied to Ite	Prog	gram 7:						Browse
auton	natically a	it Prog -	gram 8: -						Browse
W	inpac ut	ilit <b>y [2.</b> 0	.1.3]	_					Browse
	ile Help Save	) Config	guration	<u>ו</u>					Browse
	S <u>a</u> ve and	Reboot		etting			Settin	g 🔪	
	Reboot <u>W</u> Restore D	(ithout Sa lefault Set	tings	am 1:				3	

If problem happens while installing the eLogger RunTime, please refer to section 1.3 of this paper to fix it.

#### 1.2.2: Building An eLogger Project

User may open an existing example project for reference. Copy "eL\_01.wez" ~ "eL\_06.wez" (downloaeded from Web 's FAQ-115) to the PC 's C:\ICPDAS\eLogger\eLogger\_Developer\Project\ directory first. Then run eLogger Developer > Project > Open to open them.

Ŀ	eLogger Develop ¥1.0	0.2.0 2009/11/16				
F	Project Edit V	開啓				? ×
	Upload Projec	查詢(I):	🗀 Project	•	0 🟚 📂	<del></del> -
	) New	_	I al OS was	_		
	j Open		BeL 04.wez			
	Save as	我最近的文件	eL_03.wez			
	Language		eL_02.wez			
	Exit			<b>`</b>		
	🗐 📕 AO Tag		檔名(N):	eL_01.wez	•	開啓(0)
			檔案類型(I):	Project File (*.wez)	•	1 取消

To create a new project - "eL\_01", please run Project > New. (DO NOT name it as "Demo")

L	eLogger Develop ¥1.0.2.0	2009/11/6 C:\IC	CPDAS\eL	ogger\eLogger_	_Developer\P	rojectV
	Project Edit View	Layout Size	Abou	ıt		
	Upload Project Ct	rl+U			ON	
	🗅 New 🐧 🛛 Ct	rl+N	- A			0 1 2
1	🎒 Open 🔪 Ct	rl+O				
I	見啓					? >
	查詢(I): 🔂 Project			• 6	ø 🖻 🖽	-
L	□ 複製 -eL 武最近的文件	_02.wez ez				
			DO	NOT name	it as ''De	mo''
			<u></u>			
	檔名(N):	eL_01			<b>~</b>	開啓(0)
	檔案類型(I)	): Project File	(*.wez)		-	取消

DO NOT check the "Local Database" if your controller will run eLogger HMI with ISaGRAF Softlogic. Recommend to set the "Sampling Time" as 1 second.

System     System     Driver(New)	Sampling Time(sec)
⊡⊶ <b>≣</b> Tag Mapping	Local Database
⊡⊶ <b>≣</b> Al Tag	Record Time(hour) 1

And DO NOT add any Device and Modify them in the eLogger 's Driver menu, leave them empty. (eLogger HMI working with ISaGRAF SoftLogic cannot support any eLogger Device, or it will fail.)



#### 1.2.3: Declare eLogger Tags

To make eLogger HMI communicate with the ISaGRAF SoftLogic well, only "AO Tag" and "DO Tag" can be used (eLogger 's AI Tag and DI Tag cannot communicate with ISaGRAF 's variables). eLogger AO Tag can communicate with ISaGRAF 's Integer, Real, Timer, A/I and A/O variables. eLogger DO Tag can communicate with ISaGRAF 's Boolean, D/I and D/O variables.

Click "AO Tag" to declare several AO Tags.

🗾 eLogger Develop ¥1.0.2.	0 2009/11/6 C:\ICI	PDAS\eLogger\eLo	ogger_Developer\Pro
Project Edit View	v Layout Size	About	
23.45 Kg			
System Driver(New) Tag Mapping AI Tag AI Tag DI Tag DI Tag DO Tag	Memory Address	Name	Service Type
Page(New)	New Tag Tag Name	Delete Tag	Scaling Memory Ad
	Tag Name	Description	Memory Addr

Enter 4 in the following pop-up window.

🛃 Add Tag		×
How many tags to add	1?	
4		
ОК	Cancel	

Then click the first tag to key-in the Tag Name as "Long\_1", Memory Add as 1, Data Type as "32-bit Signed Long", Gain as 1 and Offset as 0.

(ISaGRAF 32-bit Integer and Real must occupy two network address numbers. Here the address of "Long\_1" is 1, so the address number "2" must not assign for other tags. Please refer to the section 4.2 of the ISaGRAF User's Manual)

New Tag     Delete Tag     Scaling       Tag Name     Description     Memory Add Data Type     Gain     Offset       Long_1     32-bit long     1     32-bit Signed Long     1     0							
	Tag Name	Description	Memory Address	Data Type	Gain	Offset	
۲.	Long_1	32-bit long	1	32-bit Signed Long	1	0	
	A01	AO1	(null)	16-bit Signed Inte	1	0	
	AO2	AO2	(null)	16-bit Signed Inte	1	0	
	AO3	AO3	(null)	16-bit Signed Inte	1	0	

Then declare the 2<sup>nd</sup>, 3rd and 4th AO Tag as below table.

Tag Name	Memory Add	Data Type	Gain	Offset
Word_3	3	16-bit Signed Integer	1	0
Word_4	4	16-bit Signed Integer	1	0
Float_5	5	32-bit Flaot	1	0

Then we got the following picture.

Ne	w Tag Dele	ete Tag 🛛 Sca	ling			
Taj	g Name I	Description	Memory Add Data T	уре	Gain	Offset
Float_9	5 (百數)	Real)	5 32-bit F.	loat	• 1	0
	Tag Name	Description	Memory Address	Data Type	Gain	Offset
	Long_1	32-bit long	1	32-bit Signed Long	1	0
	Word_3	秒 (Seconds)	3	16-bit Signed Inte	1	0
	Word_4		4	16-bit Signed Inte	1	0
•	Float_5	宙數 (Real)	5	32-bit Float	1	0

Click "DO Tag" to declare two DO Tags( DO\_101 and DO\_102 with address as 101 and 102 resolutively). The eLogger tag name can be a different name from the ISaGRAF variable (Because they are shared data by using the Memory Addr, called "Network Address" in ISaGRAF).

Tag Name	Memory Add	Data Type	Gain	Offset
DO_101	101	-	-	-
DO_102	102	-	-	-



#### 1.2.4: Creating An eLogger Page

The eLogger RunTime will show the "Page0" when started (user can rename it). This sample project uses two pages, the Page0 and Page1.

To declare the second page, click "Page(New)" on the left, then click "New" on the right. You may name it to a different name (or name it as Page1).



Click the "Page1" on the left to edit the second page. First, Select the VGA layout size to fit the PAC (The max. resolution is WP-8x47: 800 x 600, WP-8x37: 1024 x 768, VP-25W7: 640 x 480, VP-23W7: 320 x 240; The VP-23W7: doesn't build-in a Touch screen, however the VP-25W7 is built-in with a Touch screen). Then the "Property" window will pop-up, or please click View > Component Properties to open it.



#### 1.2.4.1: Add Component - Label

Add a component "Label" in the second page (named Page1) for this example.



Drag the component to the proper position. Then set up the display text, font size and color in the Property window.

0	Pr	operty		×
Page1 (第2百)	01	utput Limit(Max)	0.000	
	Output Limit(Min)		0.000	
		DataPointer		
		Address	Not support	
		AddressType	Not support	
		DisplayFormat		
		DisplayText	Page1(第2頁)	
		FontSize	14	
		Fore_Color	Red	

The Property window also can be opened by click View > Component Properties.

🗾 eLogger I	)evelop \	¥1.0.2.0	2009/11/6 C:	ICPDAS/eLo	gger\eL
Project	Edit	View	Layout Siz	ze About	
		Co	omponent Pi	roperties	
23.45 Kg		$\overline{}$			<u> </u>
				· · · · ·	

To delete an existed component, please select it then click Edit > Delete.

🗾 eLogger E	evelop \	71.0.2.0	2009/11/6	C:\I0
Project	Edit	View	Layout	Size
22.45 Ka	D	elete		

#### 1.2.4.2: Add Component - SwitchPage

To add a "SwitchPage", please click "Button" in the first page "Page1".



Set Button Type as "SwitchPage", Switch Page To as "Page0". Then, setup the "DisplayText", "FontSize" and "Fore\_Color" you want.



Then, click "Page0" on the left, add a "Label" and a "SwitchPage" by the similar way.



#### 1.2.4.3: Add Component - LED

In the page0, click "LED" to add a LED component.



This "LED" is to control the ISaGRAF variable OUT\_101 (the relative DO Tag in eLogger is DO\_101). Please set Tag Type as "DO Tag", Tag Name as "DO\_101", ConfirmWindow as "True" (will output after confirmation), MouseControl as "True" (True: allow Tag outputs its value; False: read only, not allowed to output). Then setup the Text and color you want.

		Рю	perty			<u>×</u>
	Page		Tag Type	D	O Tag	
			Tag Name	D	O_101	
		Т	ag Description	Г		
00		Ou	tput Limit(Max	эΓ		0.000
		Ου	- tput Limit(Min)	λh		0.000
			- DataPointer			
<u>о́</u> o			Address		101	
			AddressType	)	Coils	Status
			DisplayForm	at		-
			ConfirmWind	low	True	
			FontSize		12	
			LedStyle		Ellips	se
			MouseContro	ol	True	-
			OffColor			0, 127, 0
			OffDisplayTe	xt	OFF	
			OffTextColor			White
			OnColor			Lime
			OnDisplayTe	oxt	ON	
			OnTextColor			Black
			ValueTest		False	•

Please click View > Component Properties to open this Property window if it is closed.

🗾 eLogger I	)evelop '	71.0.2.0	2009/11/6	C:\ICF	DAS\eLo;	gger\eL
Project	Edit	View	Layout	Size	About	
		Co	mponent	t Prop	erties	
23.45 Kg		<b>_</b>		•	4	<u> </u>
	-	<u> </u>			·	

#### 1.2.4.4: Add Component - Switch



Set Tag Type as "DO Tag", Tag Name as "DO\_102", ConfirmWindow as "True" (will output after confirmation), MouseControl as "True" (True: allow Tag outputs its value; False: read only, not allowed to output). Then setup the Text and color you want.



Then add two Labels as the descriptions for the LED and Switch (refer to section:1.2.4.1).



#### 1.2.4.5: Add Component - Seven Segment

Project Edit View Layout Size A

Click "Seven Segment" to add a Seven Segment numerical component.

Set Tag type as "AO\_Tag", Tag Name as "Long\_1" and MouseControl as "True" (True: allow Tag outputs its value; False: read only, not allowed to output). In this example, the data type of long\_1 is 32-bit long, no decimal places needed, so set "Decimal" as 0, DigitalNumber as 10 (can be  $1 \sim 24$ ). If user's application has output range limitation for local operators, please do the extra setting in the "Output Limit (Max)" and "Output Limit (Min)".

	_	Property 🛛					
	Page 0	Tag Type	AO Tag				
		Tag Name	Long_1	•			
DO 101	DO 102	Tag Description	32-bit long				
20_101	0.07105	Output Limit(Max)	2147483647 -2147483648				
OFF		Output Limit(Min)					
		DataPointer					
		Address	1				
		AddressType	Hold	ingRegister			
		DataType	32-b	it Signed Long			
		Gain	1				
		Offset	0				
		Range	-214	7483648.000~214			
00	DisplayFormat						
		Decimal	0				
		DigitalNumbe	r 10				
		Fore Color		Red			
		MouseContro	True	•			
		TestValue	0				

Then add a Label as its description.



To delete an un-need component, please select it, then click Edit > Delete.

🗾 eLogger I	evelop \	71.0.2.0	2009/11/6	C:\I0
Project	Edit	View	Layout	Size
23.45 Kg	D	elete		

By the similar way, add one more "Seven Segment" component with Tag Type as "AO Tag", Tag Name as "Word\_3" (In this example, this value is to read the "second" value from the WP-8xx7 PAC's time value), "MouseControl" as "False" (True: allow Tag outputs its value; False: read only, not allowed to output), Decimal as 0 and DigitalNumber as 3.

	Property 🛛 🛛 🗵
	Tag Type 🛛 🗛 🔽
_ 秒 _	Tag Name Word_3
	Tag Description 秒 (Seconds)
Jana and I	Output Limit(Max) 32767
	Output Limit(Min) -32768
	∃ DataPointer
	Address 3
	AddressType HoldingRegister
	DataType 16-bit Signed Integer
	Gain 1
	Offset 0
	Range -32768.000~32767.00
	∃ DisplavFormat
	Decimal 0
	DigitalNumber 3
	Fore Color Lime
	MouseControl False
	TestValue 0

Then we got the following picture – Page0.

	Page 0	Goto 第2頁
DO_101	DO_102	
OFF		
	ona 1	利
+	<u>g_</u> .	

Then by the similar way, add a "Seven Segment" component with Tag Type as "AO Tag", Tag Name as "Float\_5", MouseControl as "True" (True: allow Tag outputs its value; False: read only, not allowed to output), DigitalNumber as 7 and "Decimal" as 2 (display 2 decimal places). The range that operator can input is  $-1000 \sim +1000$ , so please set its "Output Limit(Max)" as 1000 and "Output Limit(Min)" as -1000.

	Pr	operty 🚽			_		×
		Tag Type	A	O Tag			-
		Tag Name	FI	oat_5			-
	Tag Description		ョ	寅數 (Real)			
	Output Limit(Max) Output Limit(Min)		0		1	000	
			)		-1	1000	
	Ξ	DataPointer					
		Address		5			
		AddressType	Э	Hold	ding	er	
		DataType		32-b	32-bit Float		
0 0 0		Gain		1			
		Offset		0			
		Range					
	Ξ	∃_DisplayFormat					
		Decimal		2			
		DigitalNumb	er	7			
		Fore Color			Yel	ow	
		MouseContro	ol	True	•		
		TestValue		0			

Then add a Label as its description. Then we got the following picture.



#### 1.2.4.6: Add Component - Angular Gauge

To add an "Angular Gauge", please click Angular Gauge as below.



First, set Tag Type as "AO Tag", Tag Name as "Word\_4", MouseControl as False, "ScaleMin" as 0, "ScaleMax" as 50 (In this example, ISaGRAF output range is  $0 \sim 50$ ). Next set "GaugeAngleMin" as 150 degrees (It means the minimum value is in the location of 150 degrees, anti-clockwise direction), "GaugeAngleSpan" as 120 degrees (It means the entire header open up can be 120 degrees.), "ColorSectionGreenStart" as 0, "ColorSectionGreenStop" as 20, "ColorYellowSectionStart" as 20 and "ColorYellowSectionStop" as 40.



Add a Label as its description. At last, we got the following picture.
```
Page 0:
```



Page 1:



Save Project.

	🛃 eL	ogger I	)evelop (	¥1.0.	2.0	2009/11/6
	Pr	oject	Edit	Vie	ЭW	Layout
		Uplo	ad Pro	ject	С	trl+U
		New			С	trl+N
Ì	2	Oper	n		С	trl+O
		Save	e as		С	trl+A

## **1.2.4.7: Recommend To Backup The Finished Project File For Safety**

For safety reason, recommend to backup the project file. The finished eLogger Project file resides in the C:\ICPDAS\eLogger\eLogger Developer\Project\ directory.

😂 Project			_	
檔案(F) 編輯(E) 檢視(Y) 我的#	最愛( <u>A</u> ) 工具( <u>T</u> ) 說明( <u>H</u> )			2
🔇 上一頁 • 🕥 - 🏂 🔎	搜尋 🝺 資料夾 🎼 🏂 🔀	<b>S</b>	•	
網址(D) 🗁 C:\ICPDAS'eLogger'eLogg	er_Developer\Project			移至
資料夾 ×	名稱	大小	類型	
約文件 🔺	E eL_05.wez	63 KB	WEZ 檔案	
的電腦	eL_04.wez	62 KB	WEZ 檔案	
▲ 3.5 軟碟機 (A:)	eL_02.wez	5 KB	WEZ 檔案	
▶ 本機磁碟 (C:)	■ eL_03.wez	61 KB	WEZ 檔案	
🛛 🦳 Chun	eL_01.wez	13 KB	WEZ 檔案	
🗄 🦳 cygwin	■ 複製 -eL_01.wez	13 KB	₩EZ 檔案	
🗄 🛅 DAQPro				
📄 def8ad35bee3cf2dc0c938865da7 🖉				
	•			F

## 1.2.5: Download the eLogger project to PAC

This example uses a WP-8447 + slot 1: I-87055W(leftmost I/O slot number is 0) as the hardware and uses the ISaGRAF SoftLogic + eLogger HMI as the software. First, please download the ISaGRAF project into WP-8447. (Please refer to the section 1.1.7 or 1.1 of this paper.)

The PAC must pre-install the eLogger RunTime and setup the relative configuration. (Please refer to the section 1.2.1 of this paper.) Then turn on the power, ISaGRAF and eLogger RunTime will start up automatically.

Before downloading the eLogger project, must close the eLogger project currently running in the PAC. Please use mouse right key click on the "eLogger" Taskbar in the screen bottom to close it.



**Note**: If using Touch Monitor, such as VP-25W7, there is no Mouse right key, please click the Taskbar once. Then run the "TaskMgr" (or \System\_Disk\tools\TaskMgr\TaskMgr.exe), click the "Processes" then select the "eLogger.exe" and then click "Terminate" to close the "eLogger.exe". Then follow the same step listed in the next page.

0.0 50.0	Windows CE Task Manager ? 🗙
	Performance Processes Applications Disk Sy
	Image Nam Threa 3 Mem. Usage 🔥
😑 eLogger ¥1.0.0.0 2009/11/03	WatchVCEP.exe 1 0K 1
1	v_remote.exe 1 1K B
	TaskMgr.exe 1 7K 1
7	eLogger.exe 💊 6 2924 K 56
	isaviewpac.exe 12 41 K 1
	services.exe 4 10 66 K 9
	explorer.exe 6 52 K !
2	gwes.exe 9 1141 K 1
	device.exe 56 1252 K B
VIEWP	filesys.exe 2 126 K D 🞽
	<pre></pre>
	5 Terminate

Double click "My Device", then get into " $\System_Disk\eLogger\" path to delete the file "ICPDAS_eLogger.xml" .$ 



After that, run the eLogger.exe again (mouse double click). The eLogger will show "Project not exist" (Because the file ICPDAS\_eLogger.xml has been deleted.)



Click "OK" in the top. Make sure the "Auto Run" is checked.

Please click "Receive Project" to wait the PC / eLogger Developer sending over the eLogger project.

eLogger V1.0.2.0 2009/11/16										
Execute Project	Auto Run									
📒 Open Project	WinPAC SDK V1.2.3.5									
Receive Project										
Project : \System_Disk\eLogger\Project\Demo.wez										

On the PC side, to send the eLogger project to PAC, please click Project > "Upload Project" of eLogger Developer, then input the PAC 's IP address and click "OK".

	🛃 eL	ogger Develo	p ¥1.0.2	2.0 2009	/11/6	C:\I	CPDAS\	eLogger\el	ogger	_Developer\P
	Pr	oject Edi	it Vie	w La	yout	Size	e Ab	out		
		Upload P	roject	Ctrl+U			🚽 U ploa	d Project		×
		New		Ctrl+N		<b>B</b>				
ĥ	2	Open	N	Ctrl+O			Please inp	put the IP add	ress of t	he WinPAC/
		Save as		Ctrl+A			192.	168.1.181		
		Language	Э		•			ok 🔪	Са	ncel
		Exit		Ctrl+X						

If the operation is successful, the eLogger Run Time will show the eLogger Project name (eL\_01.wez in this example). Please click "Execute Project" to run the new eLogger project, or reset the PAC that also can run the new eLogger project (If the eLogger does not auto-run after resetting PAC, it means the eLogger does not set to Auto-Execution and Auto-Run. Please refer to the last 2 steps of the section 1.2.1.).

eLogger V1.0.2.0 2009/11/16									
Execute Project	🖌 Auto Run								
📒 Open Project	WinPAC SDK V1.2.3.5								
🖲 Receive Project									
Project :									
,System_Disk\eLogger\F	Project\eL_01.wez								

After test and confirm the Project, when the PAC is ready for long time running, user can hide the Taskbar, so that the eLogger project can be displayed on full screen. Then run WinPAC Utility (or ViewPAC Utility), click File > "Save and Reboot" to save the setting to the Registry.

🛅 Programs	•	
👷 F <u>a</u> vorites	•	Taskbar and Start Menu OK 🗙
🕒 Documents	•	General Advanced
🎐 Settings	🚱 <u>C</u> ontrol Panel	
🧼 <u>H</u> elp	📚 Network and Dial-up Connections	Always on <u>t</u> op
🖅 <u>R</u> un	🝜 <u>T</u> askbar and Start Menu 🔍	, ✔ Auto hide
	WinPAC Utility [2.0.1.3]	
	File       Help       Configuration         Save       Save         Save and Reboot       attin         Reboot       Without Save         Restore       Default Settings         Exit       Exit	

It is suggested to display the Taskbar when it is in the design and test time.

When using the full screen display for the eLogger HMI (hide the Taskbar), please refer to the section 1.3 if user want to modify the eLogger project again.

## 1.2.6: Testing The eLogger HMI

When WP-8xx7 / VP-2xW7 (or the XP-8xx7-CE6 available in the future) has received and Auto-Run the eLogger project, the "eL\_01" (in this example) will show on the VGA of PAC as below. You can click "Float\_5" and input a value to test it, and use ISaGRAF to connect the PAC to see if the value correct or not.



# **1.3: eLogger Run Time Trouble Shooting**

If there are troubles when installing the eLogger Run Time, or the eLogger Run Time cannot be turned off when using the eLogger full screen, please power off the PAC, switch the Rotary Switch to 1, then reboot the PAC.

After rebooting, The ISaGRAF and eLogger will not auto-Run.

Next, get into "\System\_Disk\eLogger\" path to delete the file "ICPDAS\_eLogger.xml" (or rename it).



After deleting \System\_Disk\eLogger\ICPDAS\_eLogger.xml, please turn off the PAC, switch the Rotary Switch to 0, reboot the PAC once. The eLogger project will not auto-run this time (Because it cannot find the eLogger project.). Then user can download the new eLogger Project to it.

If user want to re-install the eLogger RunTime, please delete all files in the  $System_Disk\eLogger$ . Then follow steps listed in section 1.2.1 of this paper to install it.

## 1.4.1: Setting Gain & Offset for scalling data

In many applications, it needs to display the engineering data values rather than the integer data values. For instance, the I-8017HW module, when setting the "Range" as 8, its value measured in ISaGRAF is  $(-32768 \sim +32767)$ . That is a signed 16-bit integer to represent  $(-10 \sim +10)$  Volt. To display the -10  $\sim +10$  value on the eLogger HMI, we must set the Gain and Offset.

### NOTE: If the Gain is set to 1 and the Offset is set to 0, it means without data scalling.

Formula : Y = [Gain] \* X + [Offset]

Convert (X0 ~ X1) to (Y0 ~ Y1), that

Gain = (Y1 - Y0) / (X1 - X0)Offset = (X1 \* Y0 - X0 \* Y1) / (X1 - X0)

For example: convert  $(-32768 \sim 32767)$  to  $(-10 \sim 10)$ , that

X0 = -32768 , X1 = 32767 , Y0 = -10 , Y1 = 10

So the result will be

Gain = 0.0003051804 (Gain : even its value is very small, don't ignore it.) Offset = 0.0001525902 (Offset : if its value is too small, we usually ignore it and set it to 0.)

So if the "AI\_7" Tag is to read the value from one Channel of the I-8017HW, the Gain and the Offset can be set as below. (NOTE: Data\_Type is a "16-bit Signed Integer". )

Ne	w Tag Del	lete Tag 🛛 Sca	ding						
Ta	g Name	Description	Memory Add	l Data Tvi	ре		Gain		Offset
AI_7			7 16-bit Signed Integer			•	0.0003051804		0
	Tag Name	Description	Memory Addres	s	Data Type	Ga	ain	Off	set
۲.	AI_7		7		16-bit Signed Int	te	0.00030518		0

The converted value displayed in the eLogger project is showing in the next page.

In the Property window, please set "TestValue" to the maximum converted value while doing the test, 10 in this example.

	Property	. r		<u>لا</u>
	Tag T	уре	AO Tag	•
、毎つ百	Tag Na	me	AI_7	-
・第4頁	Terr Derr	rintian		
	Tag Deat.		<u> </u>	10.00
	Output Lm	ut(Max)		10.00
	Output Lin	ait(Min)		-10.0
	🗆 DataP(	ointer		
	Addres	ss	7	
	Addres	ssType	Holdir	ngRegister
	DataTy	/pe	16-bit	Signed Integer
	Gain		0.000	30518
Float 5	Offset		0	
	Range	!	-10.00	)0~10.000
1 + 16336	🗆 Display	yForma	t	
	Decim	al	2	
	Digital	Numbe	r 4	
	Fore_(	Color	0	, 255, 0
	Mouse	Control	False	
	TestVa	alue	10	
00				
0 0				
	TestValu	e		
	Input the	value to	) test the (	display.

## 1.4.2: Declare Many eLogger Tags With Similar Names And Same Format



User may declare may eLogger Tags with similar names and same format as the following.

Use "Shift" key and Mouse to select these Tags, then set them to have the same format.

Ne	New Tag		Delete Tag		Scaling					
Ta	Tag Name		Description		Memory Add Data Type					
					-1		32-bit F	loat	-	
-	Tag Name			n	Memory Addre 16-b			oit Signed Integer bit Unsigned Integer		
	AOO		AOO		(null) 32-bi 32-bi		32-bit Si 32-bit U	Signed Long Unsigned Long		
	AO1		AO1		(null) 32-bit		32-bit Fl	oat 32-bit Float		
	AO2		AO2		(null)			32-bit Float		
	AO:	3	AO3		(null)			32-bit Float		
	AO4	4	AO4		(null)			32-bit Float		
	AO:	5	AO	5		(null)		32-bit Float		
	AOt	5	AO	6		(null)		32-bit Float		
	A07		A07		(null)			32-bit Float		
	AO8		AO8		(null)			32-bit Float		
•	AO9	9	AO	9		(null)		32-bit Float		

Then setting as similar Names and similar Descriptions.

New Tag D			elete Tag	Scaling	
Tag Name			Description	Memory Add Data	Туре
VAL				-1 32-bit	Float
Tag Name			Description	Memory Address	Data Type
		VAL_O	AOO	(null)	32-bit Float
	VAL_1		A01	(null)	32-bit Float
	VAL_2		AO2	(null)	32-bit Float
		VAL_3	AO3	(null)	32-bit Float
		VAL_4	AO4	(null)	32-bit Float
		VAL_5	AO5	(null)	32-bit Float
		VAL_6	AO6	(null)	32-bit Float
	VAL_7		A07	(null)	32-bit Float
	VAL_8		AO8	(null)	32-bit Float
•		VAL_9	AO9	(null)	32-bit Float

New Tag		Delete Tag			Sca	ling				
Tag Name			em	scription		Memory Add Data T			уре	
VAL REAL		REAL	/al	e		-1	32-bit J		loat 🔤	
	T		Ð			M	A 11-		Dete Trans	
	lag Name		υ	escription	n	Memory.	Addr	888	Data Type	
	VAL.	_0		REAL V	/ale_0	(	(null)		32-bit Float	
	VAL_1			REAL vale_1		(null)			32-bit Float	
	VAL_2			REAL vale_2		(null)			32-bit Float	
	VAL_3			REAL vale_3		(null)			32-bit Float	
	VAL.	_4		REAL V	/ale_4	(null)			32-bit Float	
	VAL.	_5		REAL V	/ale_5	(null)			32-bit Float	
	VAL_6			REAL vale_6		(null)			32-bit Float	
	VAL_7			REAL vale_7		(null)			32-bit Float	
	VAL_8			REAL vale_8		(null)			32-bit Float	
۱.	VAL.	_9		REAL vale_9		(null)			32-bit Float	

## 1.4.3: Switch the eLogger page by ISaGRAF program

User can declare the below two ISaGRAF integer variables to switch the page of the eLogger HMI and to read the current page number. . ( **Note : Only the eLogger Run-Time version 1.2.1.0 and later version supports this function** )

The integer variable which with the network address number 8191 (Hex is 1FFF) is for switching the eLogger page. Please must declare it as "internal" and assign an initial value 65535. For example, as the "To\_Page" in the below table. If setting it as 1, the eLogger HMI will switch to the Page 1 and then this "To\_page" will be reset as 65535 by eLogger HMI. If setting it as 0, the eLogger HMI will switch to the Page 0 and then the eLogger HMI will reset "To\_Page" as 65535. If setting it as a non-existing page number, the eLogger HMI will not swtich the page.

The integer variable which with the network address number 8190 (hex is 1FFE) is for reading the current eLogger HMI page number. The value can be 0, 1, 2, ...

Name	Туре	Attribution	NetWork Addr.	Description
To_Page	Integer	Internal	8191 (Hex = 1FFF)	<b>must set an initial value 65535.</b> for switching eLogger page
Current_Page	Integer	Internal	8190 (Hex = 1FFE)	For reading the current page number.

Integer/Real	Yariable				×
Name:	To_Page		Netwo	rk Address:	1FFF
Comment:	set initial value	to 65535, NetWor	k addr. is 8191 (	Hex=1FFF)	
Unit:			Conversion:	(none)	•
Attributes Intern Intern Dutpu Const Dim:	al .t <u>a</u> nt	Format © Integer © <u>R</u> eal Initial value: [] R <u>e</u> tain	(standard) 65535		<u>S</u> tore <u>C</u> ancel <u>N</u> ext <u>Previous</u> E <u>x</u> tended

# 1.5: Some Useful eLogger + ISaGRAF Example Programs

### The example programs listed in this section can be downloaded at the following web site. <u>www.icpdas.com</u> > FAQ > Software > ISaGRAF > FAQ-115

User may open the eLogger example programs for studying. First copy "eL\_01.wez" ~ "eL\_06.wez" to PC 's C:\ICPDAS\eLogger\eLogger\_Developer\Project\ directory, then run Project > Open to open them.

🛃 el	Logger Develop ¥1.0	.2.0 2009/11/16					
P	roject Edit V	閒啓					?
	Upload Projec	查詢(1):	🗀 Project	•	G 💋	⊳	
	New		, Del 05 weg				_
1 🔁	Open		BeL 04.wez				
	Save as	我最近的文件	eL_03.wez				
	Language		E eL_02.wez				
	Exit						
	📕 AO Tag		檔名(N):	eL_02.wez		▼	2)
			檔案類型( <u>T</u> ):	Project File (*.wez)		取消	

User may open the ISaGRAF programs for studying. First restore "eL\_01.pia" ~ "eL\_06.pia" to PC/ ISaGRAF, then double click the project name to open it.



## 1.5.1: Using A Pulse ON Then OFF Button To Control Something

ISaGRAF project file :	eL_02.pia
eLogger project file :	eL_02.wez

This example setup an eLogger "Switch". The ISaGRAF program will send a message which contains the PAC's date and time from the WP-8xx7 's COM1: RS-232 to PC when setting this "Switch" to ON. User may run one Hyper-Terminal utility in PC to open a RS-232 port (9600,8,N,1) to receive this message. Then the "Switch" state will reset to OFF automatically by the ISaGRAF program.

eLogger Developer:



## ISaGRAF :

Variables:

	n	r	·	
Name	Туре	Attribution	NetWork Addr.	Description
Switch1	Boolean	Internal	1	To access to eLogger 's Switch
TMP	Boolean	Internal	0	
INIT	Boolean	Internal	0	Declare its initial value as TRUE
STR1	Message	Internal	0	Declare its max. Length as 64
Year1	Integer	Internal	0	To get PAC 's year
Month1	Integer	Internal	0	To get PAC 's month
Day1	Integer	Internal	0	To get PAC 's day in month
WeekDay1	Integer	Internal	0	To get PAC 's weekday
Hour1	Integer	Internal	0	To get PAC 's hour
Minute1	Integer	Internal	0	To get PAC 's minute
Second1	Integer	Internal	0	To get PAC 's second

Project :

<u>File Make Project T</u> ools De <u>b</u> ug Options <u>H</u> elp	
🖹 🖩 🚭 🕮 🗅 🖪 💼 🐺 🗶 🛤 🔆	🛠 🛄 📚
Begin: ED1	
Begin: ST1 (Structured Text)	

```
(* Open COM1 as 9600,8,N,1 at 1st scan cycle
must declare "INIT" with an initial value at True *)
if INIT then
INIT := False; (* only do it once in the 1st scan cycle *)
TMP := COMOPEN(1,9600,8,0,1);
end_if;
(* If eLogger set "Switch1" as True, send message to COM1 *)
if switch1 then
  (* Convert data and time to a string, like 'Feb/18/2010,13:25:45' *)
str1 := time_str(year1, month1, day1, weekday1, hour1, minute1, second1);
str1 := str1 + MSG('$0D$0A'); (* Add <CR><LF> at the end of string *)
  (* send one message to COM1 *)
TMP := COMSTR_W(1, str1);
switch1 := False; (* reset it when finished *)
end_if;
```

Program - LD1:



How to test ? :

Connect one RS-232 Cable from the WP-8xx7 's COM1 to one RS-232 port of PC (refer to Appendix A.5 of the WP-8xx7 Getting Started Manual for COM1 's pin assignment). Then power up the WP-8xx7 and run the Hyper-Terminal utility in PC to open that RS-232 port as 9600, 8, N, 1.

WP-8xx7 - eLogger HMI :

You may click the "Send\_it" button and set as ON to send one message to PC .



PC – Hyper Terminal (9600, 8, N, 1) :

♣COM1,9600,8N1 - 超級終端機	- D ×
檔案(F) 編輯(E) 檢視(V) 呼叫(C) 轉送(T) 說明(H)	
	<u> </u>
Nov/20/2009,12:11:23,Fri	
Nov/20/2009,12:11:30,Fri	
Nov/20/2009,12:11:38,Fr1	
連線 00:09:29 自動偵測 9600 8-N-1 SCROLL CAPS NUM 描 列印	

## 1.5.2: Read Or Save Process Parameters From/To A File. The File Contains Two Rows, Each has Ten REAL Values.

ISaGRAF project file :	eL_03.pia
eLogger project file :	eL 03.wez

There is one another "eL\_04" project similar to this "eL\_03". However its data format is integer. ISaGRAF project file : eL\_04.pia eLogger project file : eL\_04.wez

There is one another "eL\_05" project similar to this "eL\_03". Its data format is also REAL. However it can read or save these process parameters from/to several files.

ISaGRAF project file :	eL_05.pia
eLogger project file :	eL_05.wez

This example provides 20 process parameters for controlling the process. These parameter values will be stored in the "Working\_Real.txt" file in the WP-8xx7 's \System\_Disk\ directory. The "Working\_Real.txt" is a pure text file. It contains 2 rows, each has 10 REAL values. It looks like as the following.

23, 65.9, 0.12, 5.87, 88.2, 0.34, 8.5, -2.08, 4.08, 5.32 2, -7, 6666.8, 456.07, 1.01, 5, 6, 7, 8, 9

The eLogger HMI picture has 20 "Seven Segment" items on the top to display the current working parameters (Their addresses are 101, 103, 105, ..., 139, the "MouseContrl" properties are set as FALSE for read-only). And there are other 20 "Seven Segment" items to display and for entering new process parameters (Their addresses are 201, 203, 205, ..., 239, the "MouseContrl" properties are set as TRUE for reading and writting).

There are 3 "Switch" items to re-load parameters and re-store parameters and display data is OK or not. Their addresses are 1, 2, 3 respectively.

eLogger Developer:





Ne	ew Tag 🕴 Dele	te Tag	Scaling				
Ta	g Name D	escription	M	emory Add D	ata I	уре	
				0			
ſ	Tag Name	Description	Mem	ory Address		Data Type	
►	Working_VAL_0			101	$\prod$	32-bit Float	
	Working_VAL_1			103		32-bit Float	
	Working_VAL_2			105		32-bit Float	
	Working_VAL_18			137	Π	32-bit Float	
	Working_VAL_19			139		32-bit Float	
	TMP_VAL_0			201		32-bit Float	
	TMP_VAL_1			203		32-bit Float	
	TMP_VAL_2			205		32-bit Float	
	• • •		1				
	TMP_VAL_18			237		32-bit Float	
	TMP_VAL_19			239		32-bit Float	

Pr	operty		×	o
	Tag Type	DO Tag	-	Dete Error
	Tag Name	Read_Data_OK	-	Dala Error U
	Tag Description	TRUE: Data is ready		ÓÓ
O	utput Limit(Max)	0.000		+ 2446 +
0	utput Limit(Min)	0.000		
	DataPointer	,		
	Address	3		- +
	AddressType	CoilStatus		
	DisplayForma	at		
	ConfirmWind	ow True		+ 12346 +
	FontSize	14		
	LedStyle	Ellipse		
	MouseContro	False		
	OffColor	255, 255, 25	5	
	OffDisplayTex	d Data Error		
	OffTextColor	255, 0, 0		
	OnColor	255, 255, 25	5	
	OnDisplayTe	d Data OK		• 12446 •
	OnTextColor	0, 0, 255		
	ValueTest	False		



		20
1234 <u>6</u> + 12	Property	×
	Tag Type 🛛 🛛 🛛	O Tag 🗾 💌
1 ~ 20	Tag Name 🛛 🛛 🛛	E_Store
	Tag Description S	tore new data to file
c196 + 1C	Output Limit(Max)	0.000
	Output Limit(Min)	0.000
<u> 2346 + 13</u>	🗆 DataPointer	
	Address	2
	AddressType	CoilStatus
23UC + 13	🗆 DisplayFormat	
	ConfirmWindow	True
	FontSize	12
2346 + 12	MouseControl	True
	OffColor	0, 127, 0
L Annhables Val	OffDisplayText	Apply New VAL
👌 Apply New VAL 🖕	OnColor	0, 255, 0
	OnDisplayText	Apply New VAL
00	ValueTest	False



Property				
Tag Type	AO Tag	▼ Page1		
Tag Name	Working_VAL_19	-		
Tag Description				
Output Limit(Max)	10.0		Data Error	
Output Limit(Min)	-10.0			5
□ DataPointer	-			
Address	139	110	10110	* icino
AddressType	HoldingRegister			10
DataType	32-bit Float			10
Gain	1		+ 2346	+ 12346
Offset	0			
Range				15
DisplayFormat	<u> </u>		1 (330)	1 (3300
Decimal	2			
DigitalNumber	r 7			20
Fore Color	0, 255, 0	-	17.7015	
MouseControl	False	RAR	+ (C 3.76	
Show_Sign	True			
TestValue	123.456	20		

6				1
	Property		<u>×</u>	
+ 16396 + 10	Tag Type	AO Tag	•	<u>ic</u>
11	Tag Name	TMP_VAL_0	•	
	Tag Description			
	Output Limit(Max	) 9999	99	
16	Output Limit(Min	) -999	99	
+ 12346 + 12	🗆 DataPointer			- 12
	Address	201		
	AddressType	e HoldingRe	egister	
	DataType	32-bit Floa	t	
	Gain	1		1
1 <b>* ([]]10  * ([</b>	Offset	0		
	Range			
	🗆 DisplayForm	at		1
T (C170 T (C	Decimal	2		
	DigitalNumb	er 7		
	Fore_Color	255, 0	), 0	17
+ iC170 + iC	MouseContr	ol True		
	Show_Sign	True		
	TestValue	123.456		1
* iC170 * iC				
RE-L				/AL
	DataDaintar			

+ (334	r	17007	13346	+ (000g
	Property	×		
	Tag Type 🛛 🗛	.O Tag 💌	[	
	Tag Name	MP_VAL_19 💌		
+ (234)	Tag Description		1334 <u>C</u>	+ 12346
	Output Limit(Max)	99999		
	Output Limit(Min)	-99999		
• iC 1.%i	🗆 DataPointer			• iC 1.70
	Address	239		
. (111)	AddressType	HoldingRegister		. (11)([
T (C 1.1)	DataType	32-bit Float		T (C 3.70
	Gain	1		
. (330)	Offset	0		
T (C 1.1)	Range			
	⊡ DisplayFormat		la la	00
RE-LOAD	Decimal	2		
	DigitalNumber	7		
	Fore Color	255, 0, 0		
	MouseControl	True		
	Show_Sign	True		
	TestValue	123.456		

## ISaGRAF :

Name	Туре	Attrib.	NetW. Addr.	Description
ТМР	Boolean	Internal	0	
RE_LOAD	Boolean	Internal	1	Set as TRUE to re-load a File
RE_Store	Boolean	Internal	2	Set as TRUE to store a File
INIT	Boolean	Internal	0	Declare its initial value as TRUE
Read_Data_OK	Boolean	Internal	3	True: data is ok, False: Data error.
Msg1	Message	Internal	0	Declare max. len as 128
str1	Message	Internal	0	Declare max. len as 255
TMP_file_name	Message	Internal	0	Declare max. len as 128
File1	Integer	Internal	0	
Working_ReaL_VAL[019]	REAL	Internal	101	The 20 process working parameters. variable array, Dim = 20 Declare its 1st Addr. as 101
TMP_Real_VAL[019]	REAL	Internal	201	variable array, Dim = 20. Declare its 1st Addr. as 201
NUM1	Integer	Internal	0	
ii	Integer	Internal	0	Index of "for" loops
jj	Integer	Internal	0	Index of "for" loops
Data_Cnt	Integer	Internal	0	
Row_Cnt	Integer	Internal	0	The row amount, set as 2
Data_Cnt_in_Row	Integer	Internal	0	The data amount in each row, Set as 10

Variables: (Please refer to the FAQ-039 to get more information about the ISaGRAF variable array.)

## Project :

•••ISaGRAF - EL_03 - Programs	
<u>File Make Project Tools Debug Options H</u> elp	
▙ █��∭ ▙▆▅ ▓▓⊵ 敎 옷▣놓	
Begin: Eoad1 Read data from a file	
🕮 Save1 save data to a file	
other1 Do user logic when Read_Data_ok is TRUE	
Begin: Load1 (Structured Text)	

```
(* Operations in the first PLC Scan *)
if INIT then
 (* Assign Network addr for Array Variable *)
 (* assign Working Real VAL[] as 101, 103, 105, ..., 139 *)
TMP := S MB ADR(101, 20, 1);
(* assign TMP Real VAL[] as 201, 203, 205, ..., 239 *)
 TMP := S MB ADR(201, 20, 1);
 (* file name which stores the current working parameters *)
 TMP file name := '\System Disk\Working Real.txt' ;
 RE LOAD := True ; (* trigger to read data from file when PLC is started *)
end if;
(* if RE LOAD is TRUE, Open one file and read it *)
if RE LOAD then
RE LOAD := FALSE ; (* Reset as FALSE *)
 Read Data ok := False ; (* set data error at the beginning *)
 Data Cnt := 0 ; (* set as no data read at the beginning *)
 File1 := f wopen(TMP file name); (* Try to open file in Read & Write mode *)
 if File1 = 0 then
  (* Open error, exit this ST program to run next program *)
  Msg1 := 'Can not Open file ' + TMP file name ;
  INIT := False ; (* reset it before exit this ST program *)
  return :
 end if;
 (* max 2 rows to read these 20 REAL values, Each row in the file contains 10 REAL values *)
 for ii := 0 to (Row Cnt - 1) do
  if f eof(File1) = TRUE then (* test if End Of File reached *)
    (* Reach End Of File *)
Msg1 := 'There should be at least ' + MSG(Row Cnt)+ ' rows in ' +TMP file name+ ' !!!';
    exit : (* exit for loop *)
   end if;
```

str1 := fm\_read(File1); (\* Read one row as String (message) \*)

```
(* Convert this string to some REAL values and store them into No.1 Float array *)
NUM1 := Msg_F( str1 , 1 );
```

if NUM1 > Data\_Cnt\_in\_Row then (\* there should be 10 REAL values in each row \*)

(\* error, it means the message is not correct REAL values or data number is not enough \*) Msg1 := 'The data format of No.' + Msg( ii + 1 ) + ' row is not correct or data number is not ' + MSG( Data Cnt in Row );

exit; (\* exit for loop \*)

end\_if;

```
Data_Cnt := Data_Cnt + Data_Cnt_in_Row; (* ok ! Data_Cnt plus Data_Cnt_in_Row *)
```

(\* conversion Ok, store these 10 REAL values to TMP\_Real\_VAL[]\*)
for jj := 0 to ( Data\_Cnt\_in\_Row - 1 ) do
 (\* Get these converted REAL values from No.1 Float array 's addr. 1 to 10 \*)
 TMP\_ReaL\_VAL[ Data\_Cnt\_in\_Row \* ii + jj ] := ARY\_F\_R(1, jj + 1);
end for;

end\_for;

```
(* Any file been open should be closed by f_close() *)
TMP := f close(File1);
```

```
(* All data are read Ok *)
if ( Data_Cnt = Row_Cnt * Data_Cnt_in_Row ) then
Msg1 := 'Read ' + TMP_file_name + ' Ok ';
Read_Data_Ok := True; (* set as read OK *)
```

```
(* if this scan is the first scan, store TMP_Real_Val[] to Working_ReaL_Val[] *)
if INIT then
   for ii := 0 to (Data_Cnt - 1) do
      Working_ReaL_VAL[ii] := TMP_ReaL_VAL[ii];
   end_for;
   end_for;
end_if;
```

end\_if ;

**INIT := False ;** (\* No more first PLC scan \*)

```
(* Store data to a file when RE Store is True *)
(* This "RE Store" can be triggered by eLogger HMI *)
if RE Store then
 RE Store := False ; (* reset it *)
 Read_Data_ok := False ; (* set data error at the beginning *)
 Data Cnt := 0 ; (* set as no data read at the beginning *)
 TMP := f delete(TMP file name); (* delete file first and then create and write it *)
(* creat a new file *)
File1 := f creat( TMP file name ) ;
(* Creat failed, exit this ST program *)
if File1 = 0 then
  MSG1 := 'Can not Create a new file - ' + TMP file name + ' !';
  return ; (* exit this ST program *)
 end if;
(* max 2 rows to save these 20 REAL values, Each row in the file contains 10 REAL values *)
for ii := 0 to (Row Cnt - 1) do
  str1 := "; (* set as an empty string at the beginning *)
  (* There is 10 data in one row *)
  for jj := 0 to (Data Cnt in Row - 2) do
   str1 := str1 + Real Str( TMP ReaL VAL[Data Cnt in Row * ii + jj] ) + ', ';
  end for ;
  (* add last data of this row to str1 *)
  str1 := str1 + Real Str( TMP ReaL VAL[Data Cnt in Row * ii + jj] ) + '$0D$0A';
  (* write this row to file *)
  TMP := F writ S(File1, str1);
  if TMP = False then
    MSG1 := 'Write data to file - ' + TMP file name + ' failed !' ;
    exit ; (* exit this for loops *)
  end if;
  Data Cnt := Data Cnt + Data Cnt in Row; (* ok ! Data Cnt plus Data Cnt in Row *)
end for;
```

```
TMP := f_close(File1); (* Any file been open should be closed by f_close() *)
(* All data are saved Ok *)
if ( Data_Cnt = Row_Cnt * Data_Cnt_in_Row ) then
    Msg1 := 'Write ' + TMP_file_name + ' Ok ';
    Read_Data_ok := True ; (* set data Ok *)
    (* Store TMP_Real_Val[] to Working_ReaL_Val[] *)
    for ii := 0 to ( Data_Cnt - 1 ) do
    Working_ReaL_VAL[ii] := TMP_ReaL_VAL[ii] ;
    end_for ;
end_if ;
```

Program - Other1 :

(\* if Read\_Data\_OK is False, that means the process parameter "Working\_ReaL\_VAL[]" is not ready. Then return. \*)

Read\_Data\_OK

(\* If Read\_Data\_OK is True, then you can use "Working\_ReaL\_VAL[]" in your Logic below. ... \*)

⊢\_\_\_\_ H

### How to test ?

User may click some "Seven Segment" items in the "NEW VAL" area to enter some different values. Then click the "Apply New VAL" and set as ON to apply the new value to become the working parameters. You will see value be changed in the "Working VAL" area. If connecting PC / ISaGRAF to the WP-8xx7 controller, you will find the related value of the ISaGRAF variable be changed too.

Then reset the WP-8xx7 controller once. You will also find the parameter values in the "Working VAL" area now are the new values after re-start the controller .

eL_03: Sec	tion 1.5.2 in FAQ-:	115					
	Workin	g VAL 01	~ 20	Data	a OK	_	
1			7 7 8		7.70	5	7149
+ 3.00	+ 3.10	+	3.6 8	+	3.3 8	+	3.90
6						10	
+ 3.50	+ 3.50	+	3.70	+	3.8 0	+	3.90
11						15	
+ 400	+ 4.10	+	H.20	+	4.30	+	N.N ()
16						20	
+ 4.50	+ 460	+	4.70	•	4.80	+	4.90
	Nev	v VAL 01	~ 20				
+ 300	+ 3.18	٠	120	٠	<u>1.30</u>	•	3.46
+ 158	+ 360	+	3.78	•	<b>180</b>	٠	398
• 400	+ 4.10	٠	428	٠	438	٠	4.48
+ 458	+ 460	٠	4.78	٠	4.8 8	٠	498
	RE-LOAD		Apply Ne	ew VAL	<		

## 1.5.3: Read And Modify The Date / Time And Doing Some Control

ISaGRAF project file :	eL_06.pia
eLogger project file :	eL_06.wez

This example can read and then disply the current date and time of the controller, and can modify it to be a new date and time. This example also outputs "OUT1" as ON at 09:00 to 18:00 on Monday to Friday, while outputs "OUT2" as ON at 09:00 to 12:00 on saturday and Sunday.

eLogger Developer:



	Pr	operty			×	
		Tag Type	AO	Tag	•	
• • - • —		Tag Name	Day	/1	-	
		leg Description				
_06: Section 1.5.3 in FAQ-11	01	utput Limit(Max)			32767	
	0	utput Limit(Min)			-32768	
ant Day / Month / Year and		DataPointer				
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				16-bit Signed Integer		
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		TestValue		123.	456	

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S: Section 1.5.3 in FAQ-11	Output Limit(Max)	32767		
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	Offset	0		
/ Day / Month / Year and	Range	-32768.000~32767.000		
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	TestValue	123.456		

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6: Section 1.5.3 in FAQ-11	Output Limit(Max)	31.0		
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	TestValue	123.456		
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	Tag Description	_		
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efresh as Current Date / tim	Show_Sign	False		
	TestValue	123.4	56	





## ISaGRAF:

Variables:

Name	Туре	Attrib.	NetW. Addr.	Description
Set_time	Boolean	Internal	101	Set True to modify to new time
Refresh_Time	Boolean	Internal	102	Set True to refresh to current time
OUT1	Boolean	Output	0	Link to I-87055W 's CH.1
OUT2	Boolean	Output	0	Link to I-87055W 's CH.2
time_val	Integer	Internal	0	Unit is minute 0 ~ 1439 means 00:00 ~ 23:59
Year1	Integer	Internal	1	Get Year
Month1	Integer	Internal	2	Get Month
Day1	Integer	Internal	3	Get day of Month
Hour1	Integer	Internal	4	Get Hour
Minute1	Integer	Internal	5	Get Minute
Second1	Integer	Internal	6	Get Second
WeekDay1	Integer	Internal	0	Get Weekday
W_Year1	Integer	Internal	11	New Year
W_Month1	Integer	Internal	12	New Month
W_Day1	Integer	Internal	13	New Day
W_Hour1	Integer	Internal	14	New Hour
W_Minute1	Integer	Internal	15	New Minute
W_Second1	Integer	Internal	16	New Second

Project :

ISaGRAF - TIME3 - Programs	
<u>File Make Project Tools Debug Options H</u> elp	
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Begin: ID1	
🕮 ST1	
Begin: LD1 (Ladder Diagram)	


```
(* Unit is second, 0 \sim 86399
Time val := 3600 * Hour1 + 60* Minute1 + Second1;
*)
(* Unit is minute, 0 \sim 1439 *)
Time_val := 60 * Hour1 + Minute1 ;
OUT1 := False ; (* set as False first *)
OUT2 := False ;
(* set OUT1 as True at 9:00 to 18:00 on Monday to Friday *)
if (WeekDay1>=1) and (WeekDay1<6) and
 (Time val \geq 540) and (Time val \leq 1080) then
 OUT1 := True ;
end if;
(* set OUT2 as True at 9:00 to 12:00 on Saturday and Sunday *)
if (WeekDay1=6) and (WeekDay1=7) and
 (Time val \geq 540) and (Time val < 720) then
 OUT2 := True ;
end if;
(* Refresh to Current date and time *)
if Refresh Time then
 Refresh Time := False ; (* reset as False *)
 W Year1 := Year1 ;
 W Month1 := Month1 ;
 W Day1 := Day1;
 W Hour1 := Hour1 ;
 W Minute1 := Minute1 ;
 W Second1 := Second1 ;
end if;
```

## I/O Connection:

• ISaGRAF - TIME3 - Programs									
<u>File Make Project Tools Debug Options H</u> elp									
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How to test ?

Click and set a new date and time and then click "Set Date / Time" button and set it as ON to implement the new date and time .

