

Technical Announcement					
Issued by	IMSBU HMI	Author	Tina Lee	Security Classification	<input checked="" type="checkbox"/> General <input type="checkbox"/> Confidential
Issue No.	HMI19122300		Release Date	Dec 23, 2019	
Recipient	Product Manager, BU Sales Representative, Global Service Partners				

Purpose :

DOPSoft 4.00.06.75 software for DOP-100 series products.

- After updating firmware of DOP-100 series is 1.0072-1.p3
- After updating OS kernel version is 1.0310.

Description :

1. Applicable models : DOP-100 Series.
2. Software and firmware revision:
 - 2.1 Fixed after HMI enter backlight off mode, meanwhile change screen via Control area, after that, touch HMI panel will not wake it up.
 - 2.2 Fixed Numeric entry and Numeric display element if input signed value will display incorrect result within Unit Conversion.
 - 2.3 Fixed if Screensaver trigger address set PLC address and communication between HMI and PLC is disconnect, meanwhile enter system menu could be caused HMI crash.
 - 2.4 Fixed when execute PLCDOWNLOAD macro to download PLC ladder to Delta DVP PLC series, Delta AH and Delta AS series, HMI do not show download progress bar.
 - 2.5 Fixed Set value button if set data format set as Floating, the range of Maximum and Minimum value is incorrect.
 - 2.6 Fixed when input multi format string like %d1 or %f1, only last format string can get data within SMTP function.
 - 2.7 Fixed when use SMTP to send alarm email but do not set mail information, after trigger alarm as on status will occur HMI crash.
 - 2.8 Fixed after execute Combo box without setting interlock address, HMI will crash.
 - 2.9 Fix when the Momentary button is triggered, if the invisible bit is enabled, its status is ON.
 - 2.10 Fixed Numeric entry set data format as Floating, also set gain, maximum and minimum as variables, input keypad of numeric entry will display incorrect range.

-
- 2.11 Fixed text message have multi-lines cannot display completely at Moving sign, History Event table and List box.
 - 2.12 Fixed when sub macro named as Traditional Chinese, execute compile will get error.
 - 2.13 Fixed open DOP-B program with internal parameter related network, after compile will get error.
 - 2.14 Fixed after add multi language setting and then open text bank will cause DOPSoft software crash.
 - 2.15 Fixed Extra description of TwinCAT3 ADS/AMS TCP driver.
 - 2.16 Fixed if select Keyence KV Series TCP, set address as MR and then use duplicate function will get incorrect result.
 - 2.17 Fixed use download.exe function to download program, HMI will show storage is not enough.
 - 2.18 Fixed when interface stopped at enhanced recipe, and then save file will cause DOPSoft crash.
 - 2.19 Fixed after change system language via DOPSoft, execute offline simulator cannot show correct system language.
 - 2.20 Fixed HMI cannot show correct font.
 - 2.21 Fixed if momentary button set write address and invisible address as the same, after click button will cause HMI stock.
 - 2.22 Fixed slider element display error at sub screen or embedded screen.
 - 2.23 Fixed picture state if get error setting will cause HMI crash.
 - 2.24 Fixed data format set floating and maximum as variables with History trend graph, HMI cannot display correct curve.
- 3. New functions of the software and firmware :
 - 3.1 Add Sync time from PC.
 - 3.2 Add Backlight Saving.
 - 3.3 Add Text picture function at Text, Button, and General message display.
 - 3.4 Add MI, MO and MV address of BACnet driver.
 - 3.5 Add High word first station number function of Modbus ASCII/RTU Hex Address (Master) driver.
 - 3.6 Add invisible address of Triangle, Polygon and Circle.
 - 3.7 Add Qword data type support Delta AH series PLC and Delta AH series PLC TCP.
 - 3.8 Add mail.Status, mail.SendFile and mail.SendAlarm in Lua command.
 - 4. New controller
 - 4.1 Add controller of Delta DXMC series Controller TCP, YUDIAN AIBUS, IDEC MicroSmart FC6A Series PLC (Serial and Ethernet).
-

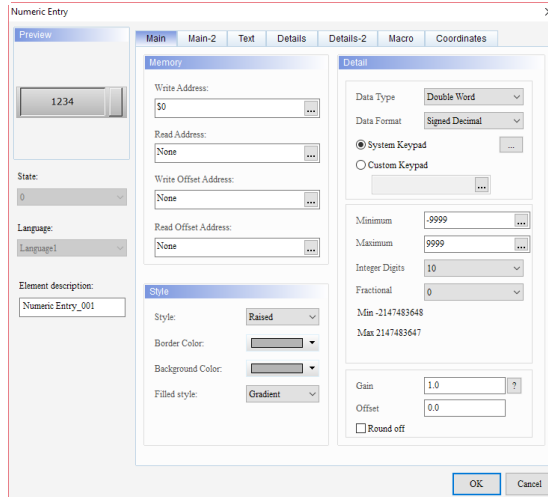


5. Website to download the software :

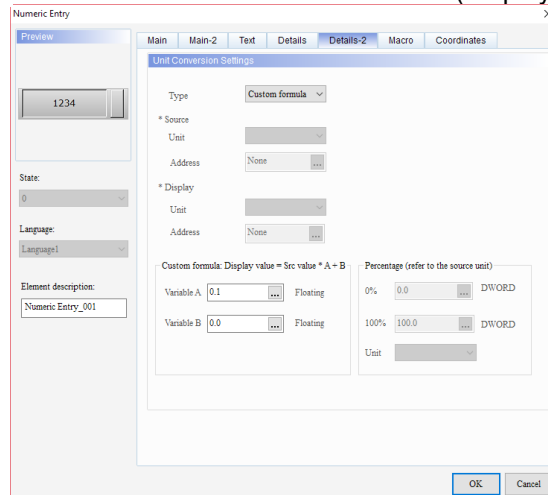
<http://www.deltaww.com/services/DownloadCenter2.aspx?secID=8&pid=2&tid=0&CID=06&itemID=060302&typeID=1&downloadID=&title=&dataType=8;&check=1&hl=zh-TW>

2.2. Fixed Numeric entry and Numeric display element if input signed value will display incorrect result within Unit Conversion.

Step1 \ Create first Numeric entry, set write address as \$0. (Source and called X)

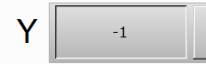
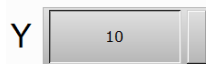
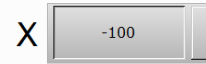
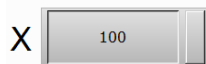


Step2 \ Create second Numeric entry, set write address as \$0, go to [Details-2] set variable A as 0.1 and variable B as 0.0 at custom formula. (Display and Called Y)



Before

Step3 \ Input 100 at X element, meanwhile Y element will display 10. But if input -100 at X element, but Y element cannot display correct value as -10.

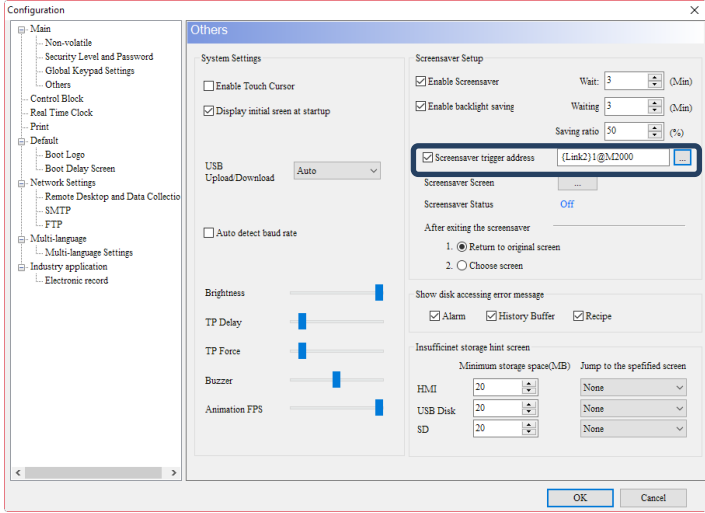
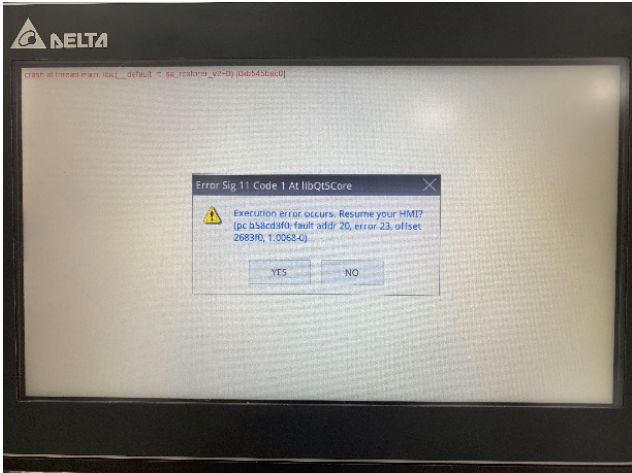


$Y=0.1 \cdot X$

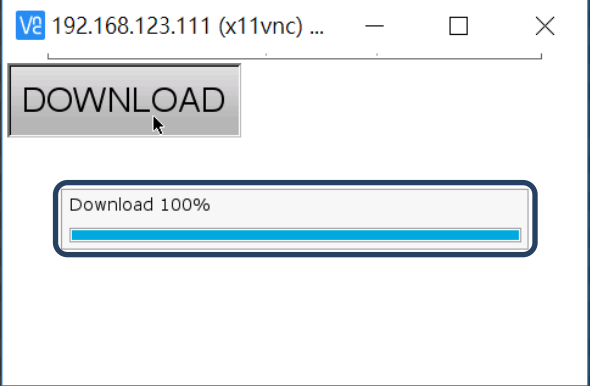
$Y=0.1 \cdot X$

After	<ul style="list-style-type: none">No matter input unsigned or signed value at X element, Y element will display correct data.					
	<table border="0" style="width: 100%;"><tr><td style="text-align: center;">X <input type="text" value="100"/></td><td style="text-align: center;">X <input type="text" value="-100"/></td></tr><tr><td style="text-align: center;">Y <input type="text" value="10"/></td><td style="text-align: center;">Y <input type="text" value="-10"/></td></tr><tr><td style="text-align: center;">Y=0.1*X</td><td style="text-align: center;">Y=0.1*X</td></tr></table>	X <input type="text" value="100"/>	X <input type="text" value="-100"/>	Y <input type="text" value="10"/>	Y <input type="text" value="-10"/>	Y=0.1*X
X <input type="text" value="100"/>	X <input type="text" value="-100"/>					
Y <input type="text" value="10"/>	Y <input type="text" value="-10"/>					
Y=0.1*X	Y=0.1*X					

2.3. Fixed if Screensaver trigger address set PLC address and communication between HMI and PLC is disconnect, meanwhile enter system menu could be caused HMI crash.

<p>Before</p>	<p>Step1 、 [Options] → [Configuration] → [Main] → [Others], set Screensaver trigger address as PLC address.</p>  <p>Step2 、 After download HMI program, if communication between HMI and PLC is disconnect or communication error, meanwhile enter system menu will cause HMI crash.</p> 
	<p>After</p>

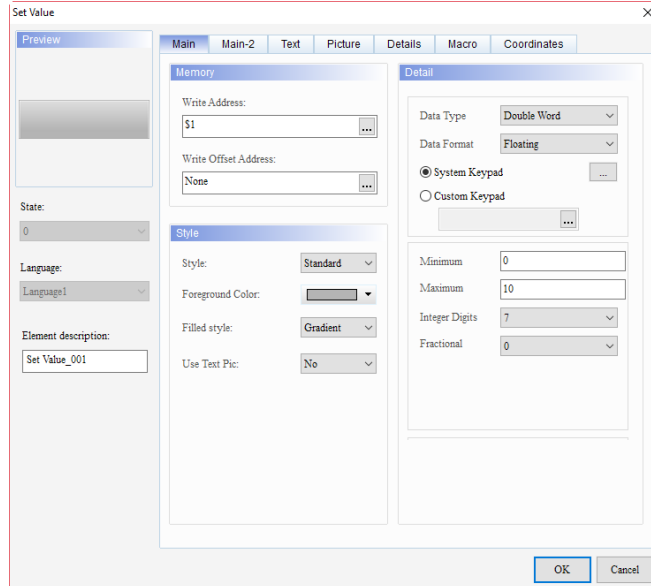
2.4. Fixed when execute PLCDOWNLOAD macro to download PLC ladder to Delta DVP PLC series, Delta AH and Delta AS series, HMI do not show download progress bar.

Before	<ul style="list-style-type: none"> Execute PLCDOWNLOAD macro to download PLC ladder that stored at USB disk or SD card, HMI will not show any progress bar.
After	<ul style="list-style-type: none"> Execute PLCDOWNLOAD macro to download PLC ladder that stored at USB disk or SD card, HMI will not show any progress bar. 

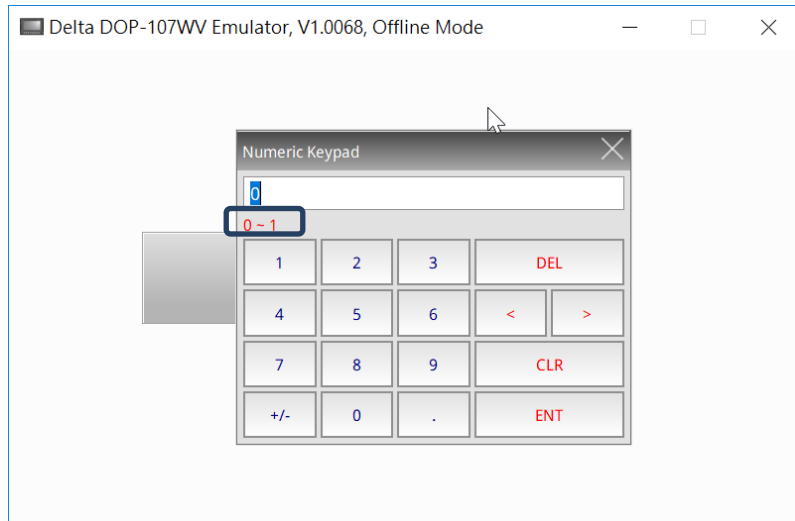
2.5. Fixed Set value button if set data format set as Floating, the range of Maximum and Minimum value is incorrect.

Before

Step1 \ Create Set value button, Data type set Double word, Data format set Floating, fill minimum value as 0, maximum value as 10.

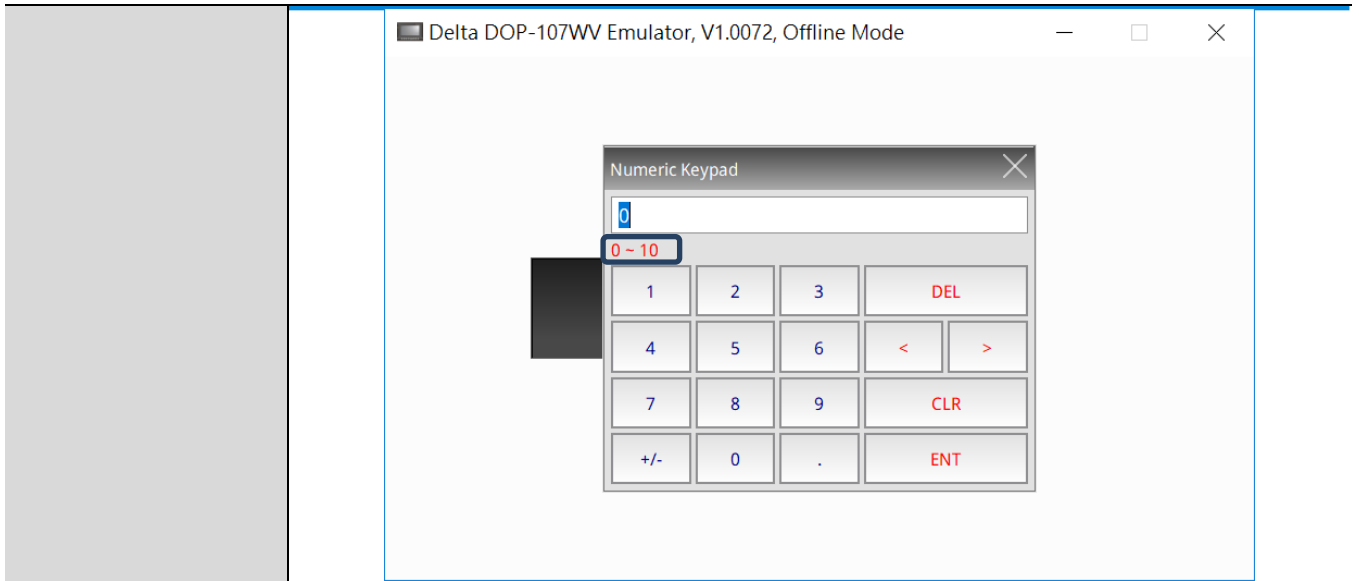


Step2 \ After setting and download to HMI, the range of minimum and maximum display incorrect.



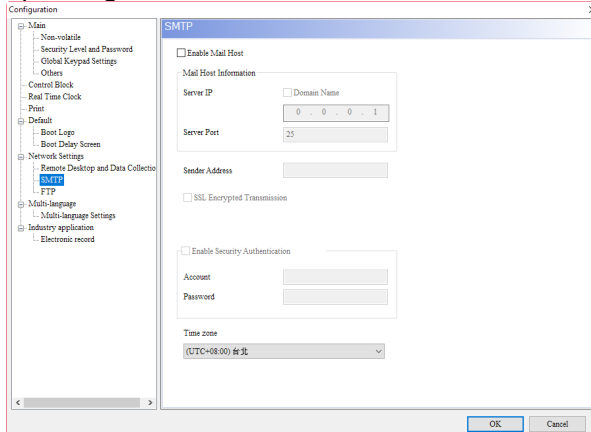
After

■ The range of minimum and maximum display correct.



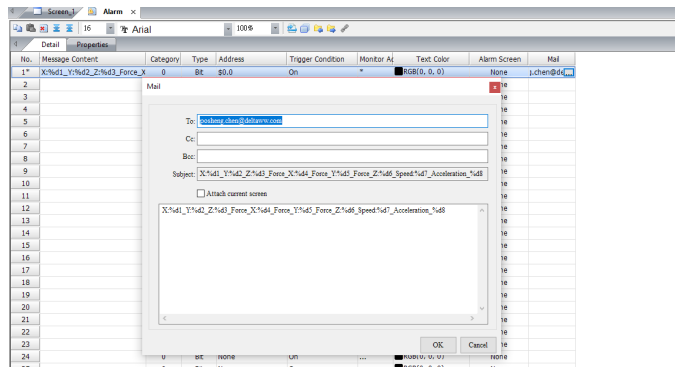
2.6. Fixed when input multi format string like %d1 or %f1, only last format string can get data within SMTP function.

Step1、[Options] → [Configuration] → [SMTP], enable Mail Host. About how to set up SMTP, please refer to DOP-100 operating manual CH27.



Before

Step2、[Options] → [Alarm settings], set alarm message and click Mail for detail setting with mail receiver.



Step3、After trigger alarm, HMI will send e-mail via SMTP server, but message content only the last one format string can get value.

Message

X:%d1_Y:%d2_Z:%d3_Force_X:%d4_Force_Y:%d5_Force_Z:%d6_Speed:%d7_Acceleration_0

After

■ All format string can get value to display.

Message

X:11_Y:22_Z:33_Force_X:134_Force_Y:135_Force_Z:222_Speed:13_Acceleration_0

2.7. Fixed when use SMTP to send alarm email but do not set mail information, after trigger alarm as on status will occur HMI crash.

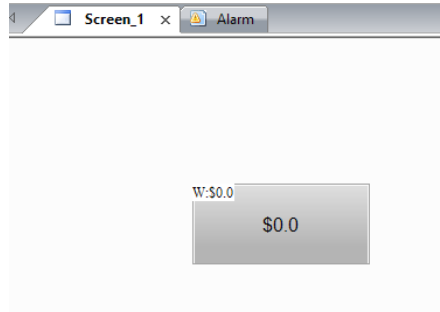
Before

Step1 \ [Options] → [Configuration] → [SMTP], enable Mail Host. About how to set up SMTP, please refer to DOP-100 operating manual CH27.

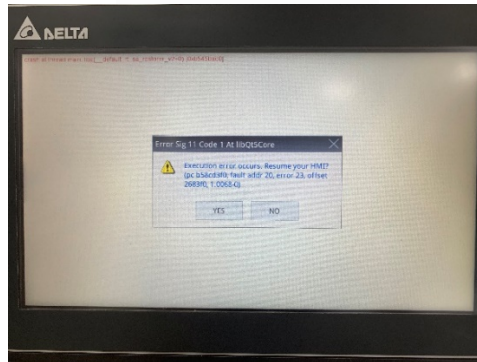
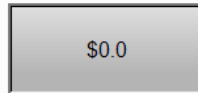
Step2 \ [Options] → [Alarm settings], set address as \$0.0 and do not enter Mail to do detail setting.

No.	Message Content	Category	Type	Address	Trigger Condition	Monitor Address	Text Color	Alarm Screen	Mail
1*	X:%d1_Y:%d2_Z:%d3_Force_X	0	Bit	\$0.0	On	*	RGB(0, 0, 0)	None	...
2		0	Bit	None	On	...	RGB(0, 0, 0)	None	
3		0	Bit	None	On	...	RGB(0, 0, 0)	None	
4		0	Bit	None	On	...	RGB(0, 0, 0)	None	
5		0	Bit	None	On	...	RGB(0, 0, 0)	None	
6		0	Bit	None	On	...	RGB(0, 0, 0)	None	

Step3 \ Create Momentary button, set write address as \$0.0.



Step4 \ After compile and download to HMI, when trigger \$0.0 to on, HMI will get crash.



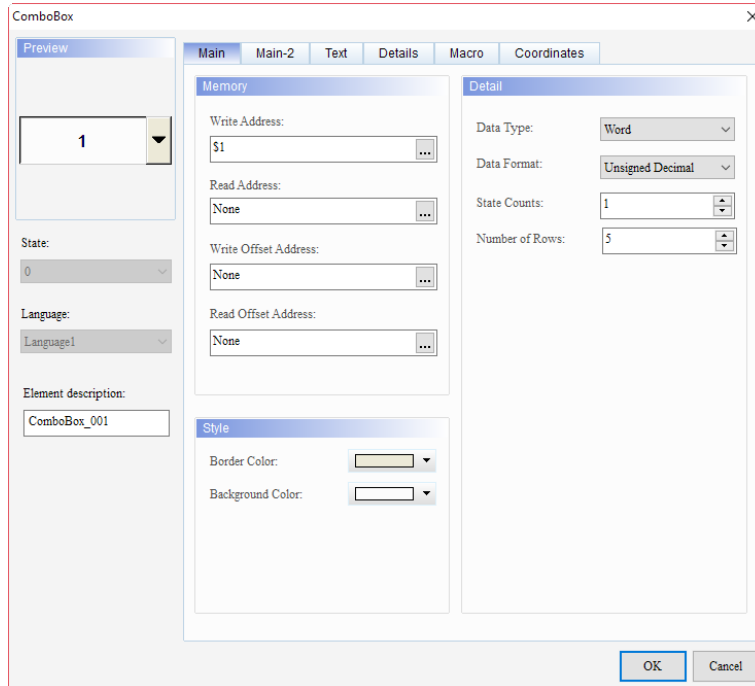
After

After trigger \$0.0 to on, HMI works normal.

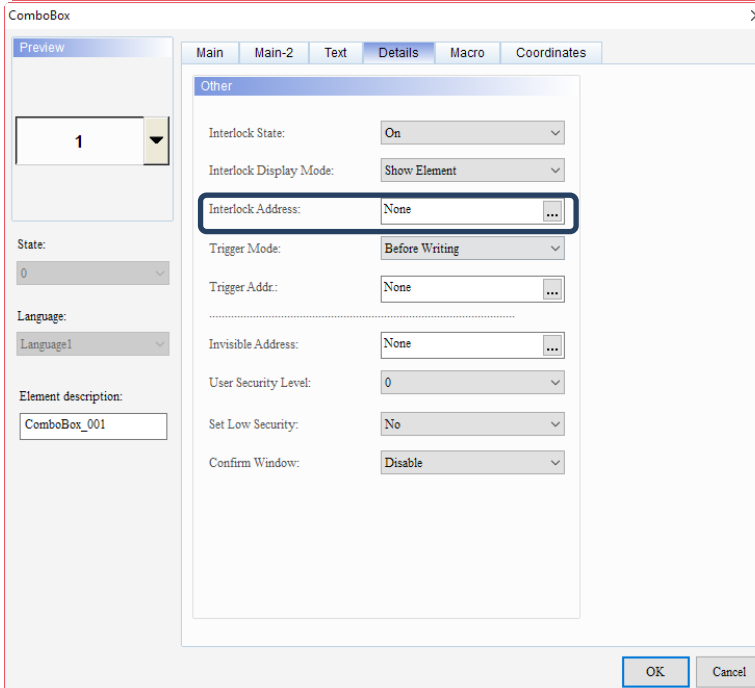
2.8. Fixed after execute Combo box without setting interlock address, HMI will crash.

Step1 \ Create Combo box, set write address as \$1, enter [Details] and do not set interlock address.

Before

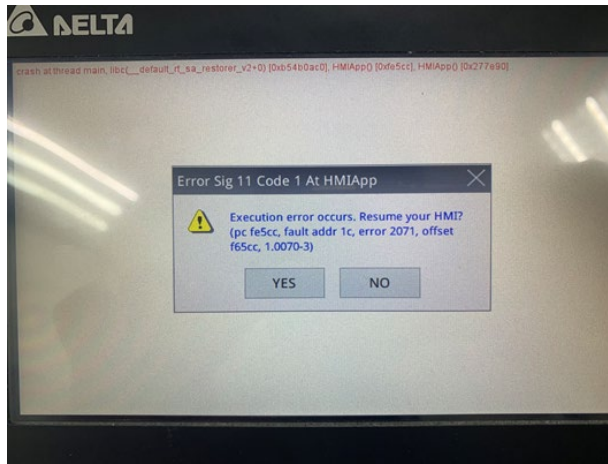
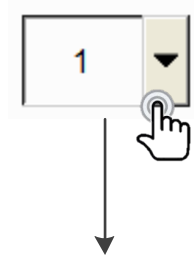


The screenshot shows the 'ComboBox' dialog box with the 'Details' tab selected. The 'Memory' section is active, showing fields for Write Address (\$1), Read Address (None), Write Offset Address (None), and Read Offset Address (None). The 'Detail' section shows Data Type (Word), Data Format (Unsigned Decimal), State Counts (1), and Number of Rows (5). The 'Style' section shows Border Color and Background Color. The 'Preview' section shows a dropdown menu with '1' selected. The 'Element description' field contains 'ComboBox_001'. The 'OK' and 'Cancel' buttons are visible at the bottom right.



The screenshot shows the 'ComboBox' dialog box with the 'Details' tab selected. The 'Other' section is active, showing fields for Interlock State (On), Interlock Display Mode (Show Element), Interlock Address (None), Trigger Mode (Before Writing), Trigger Addr. (None), Invisible Address (None), User Security Level (0), Set Low Security (No), and Confirm Window (Disable). The 'Preview' section shows a dropdown menu with '1' selected. The 'Element description' field contains 'ComboBox_001'. The 'OK' and 'Cancel' buttons are visible at the bottom right.

Step2、After finish setting, execute offline simulator or download program to HMI, click combo box will get crash.

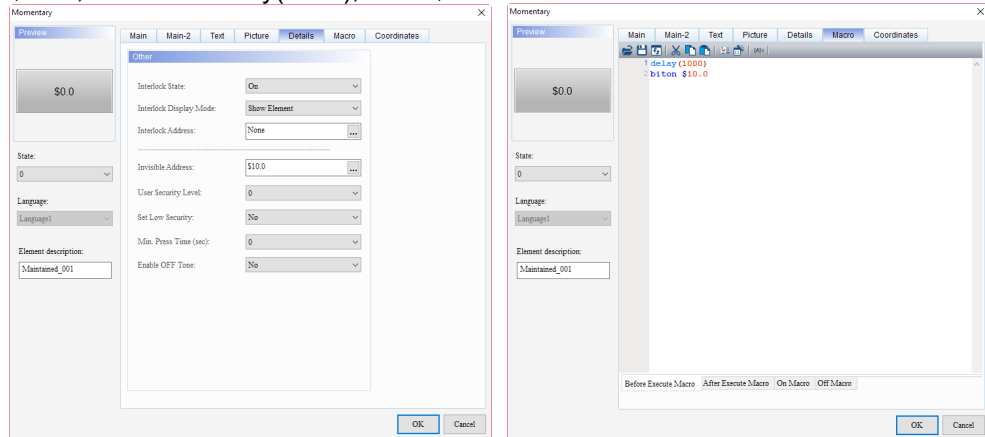


After

- Click combo box without interlock address setting will not cause HMI crash.

2.9. Fix when the Momentary button is triggered, if the invisible bit is enabled, its status is ON.

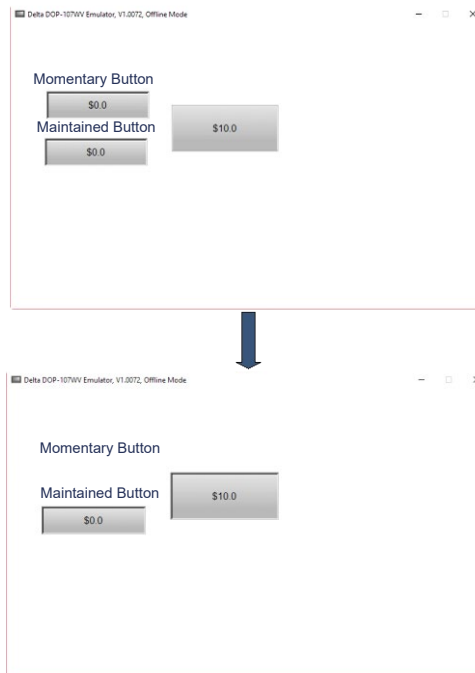
Step1 · Create Momentary button, set write address as \$0.0 and invisible address as \$10.0, also write delay(1000), biton \$10.0 macro command at after execute macro.



Step2 · Create Maintained button and set write address as \$0.0.

Step3 · After click momentary button, it will wait 1000ms and then trigger on invisible address \$10.0. When invisible address status change to on, the momentary button \$0.0 status also is on.

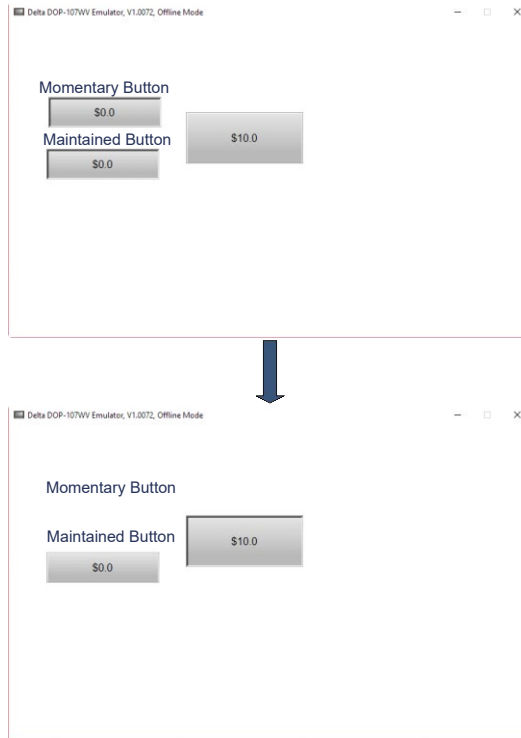
Before



(Note: Cause Maintained button set the same address \$0.0 with Momentary button, so we can know the status is ON.)

- When invisible address status change to on, the momentary button \$0.0 status also is off.

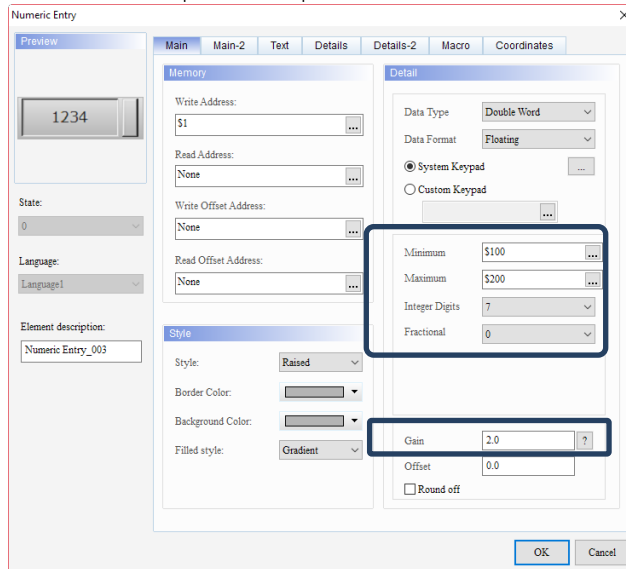
After



(Note: Cause Maintained button set the same address \$0.0 with Momentary button, so we can know the status is Off.)

2.10. Fixed Numeric entry set data format as Floating, also set gain, maximum and minimum as variables, input keypad of numeric entry will display incorrect range.

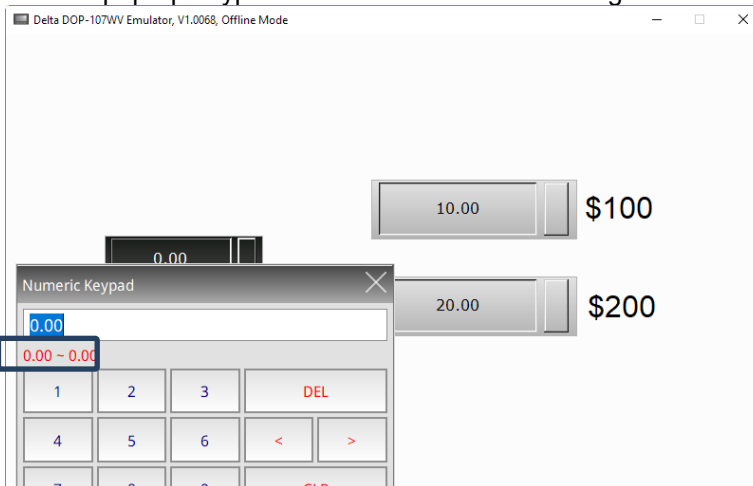
Step1 \ Create Numeric entry, set write address as \$1, fill gain 2.0 and set minimum and maximum as variables like \$100 and \$200.



Before

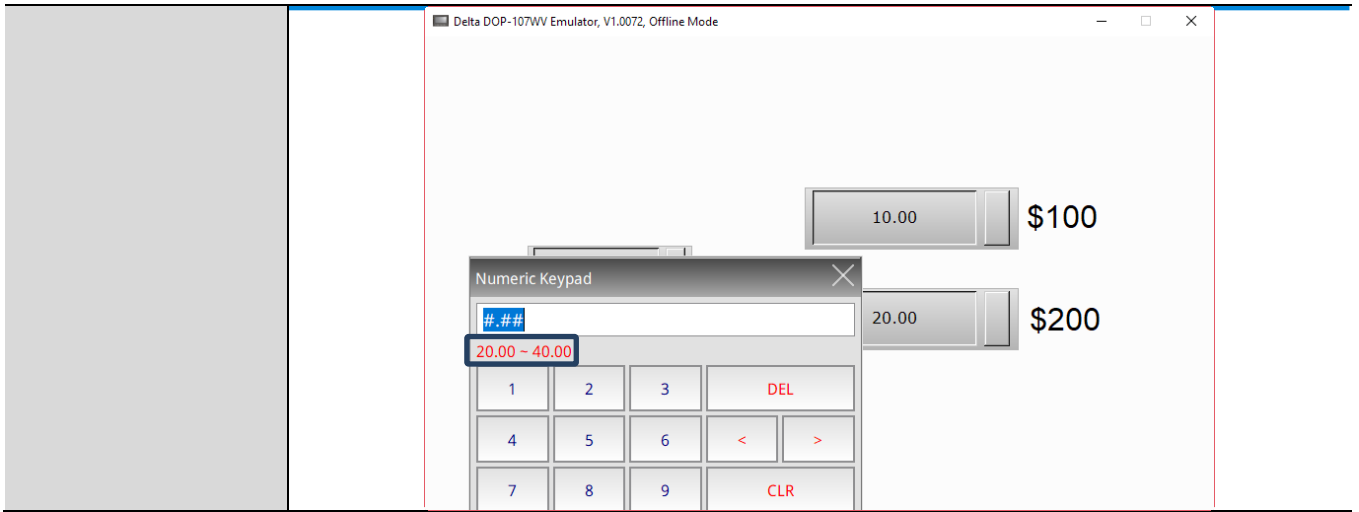
Step2 \ Create two numeric entry, set write address as \$100 and \$200, data type is Double word, data format is Floating.

Step3 \ After download to HMI, input 10.0 at \$100, input 20.0 at \$200 at first, and then press \$1 to see the pop-up keypad will show incorrect data range.

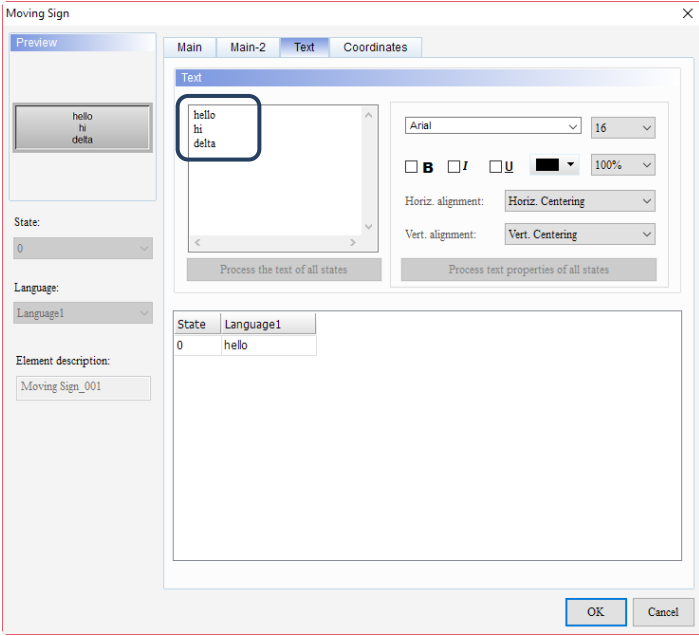
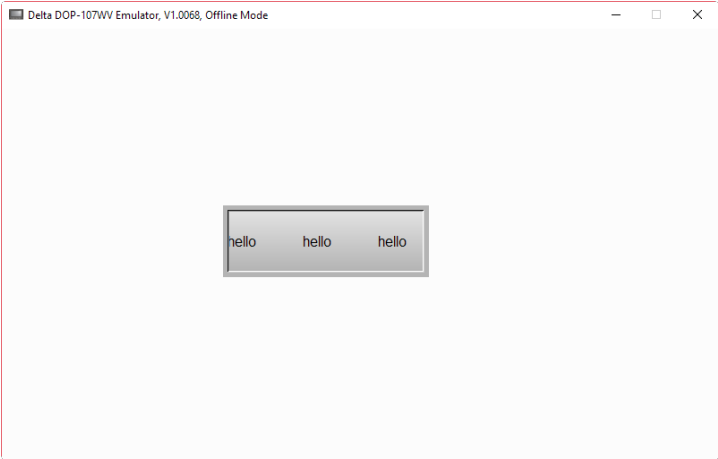


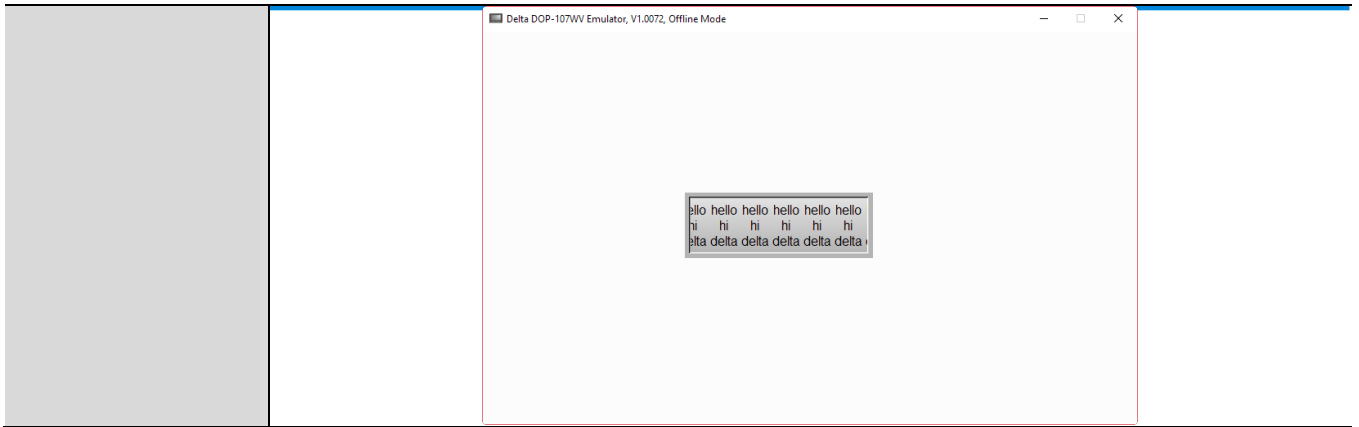
After

■ Keypad show correct data range.



2.11. Fixed text message have multi-lines cannot display completely at Moving sign, History Event table and List box.

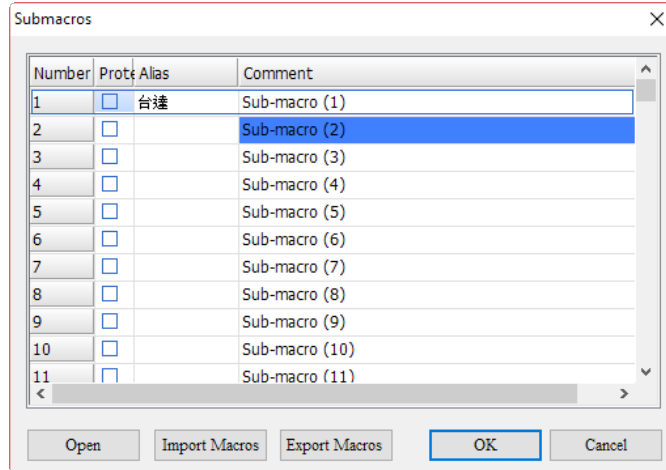
Before	<p>Step1 \ Create Moving sign, set read address as \$1, type multi-lines at [Text].</p> 
	<p>Step2 \ After download to HMI, element only can show first line text.</p> 
After	<p>■ Moving sign, History event table and List box can show multi-lines text.</p>



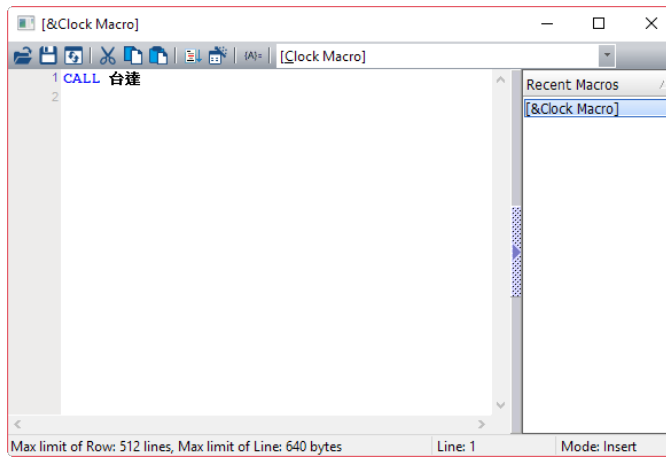
2.12. Fixed when sub macro named as Traditional Chinese, execute compile will get error.

Before

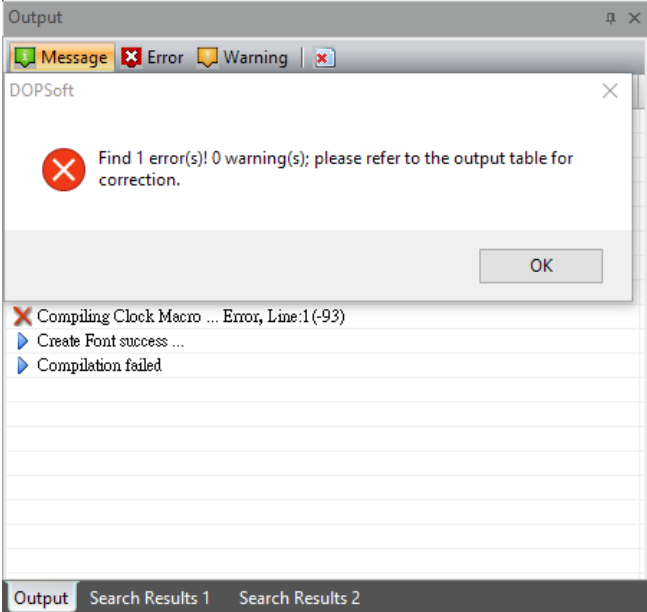
Step1、[Options] → [Sub macro], create sub macro and set Alias as 台達.



Step2、Write Call command at Clock Macro.



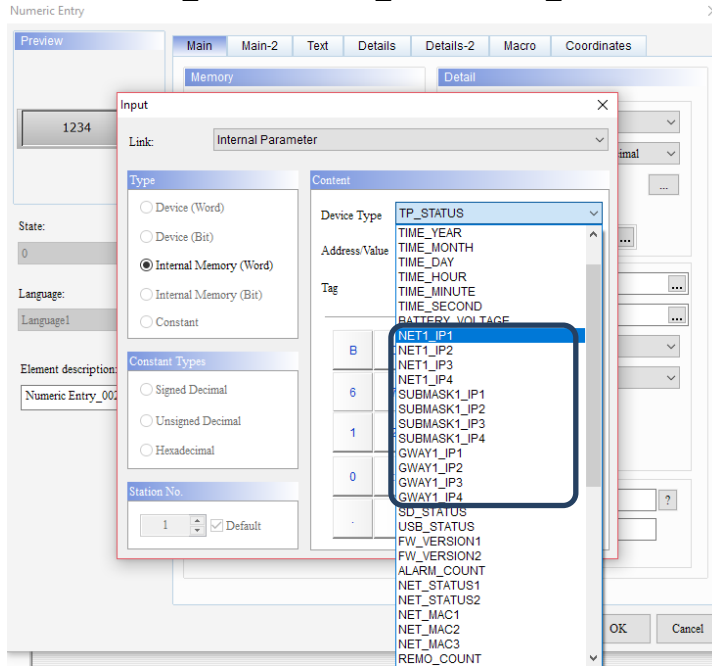
Step3、After compile will show error message.

	
After	<ul style="list-style-type: none">■ When set Alias as Traditional Chinese at sub macro, after execute compile will success.

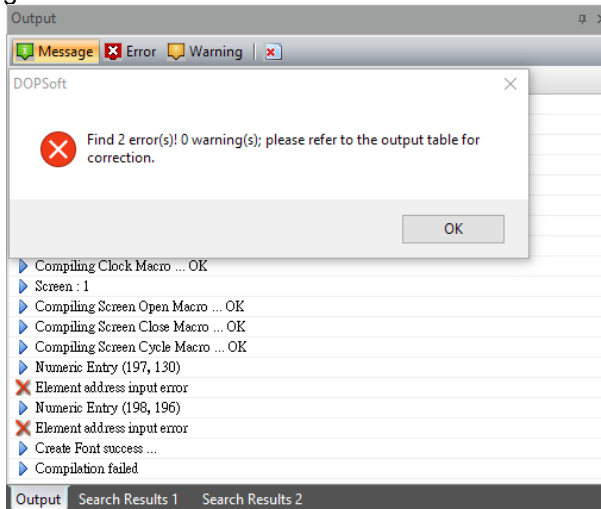
2.13. Fixed open DOP-B program with internal parameter related network, after compile will get error.

Before

Step1、Create Numeric entry to set write address as NET_IP1 to NET_IP4, SUBMASK_IP1 to SUBMASK_IP4 and GWAY_IP1 to GWAY_IP4 at DOPSoft 2.00.07.



Step2、Open DOP-B program with DOPSoft 4.00.06, after execute compile will get as below error message.

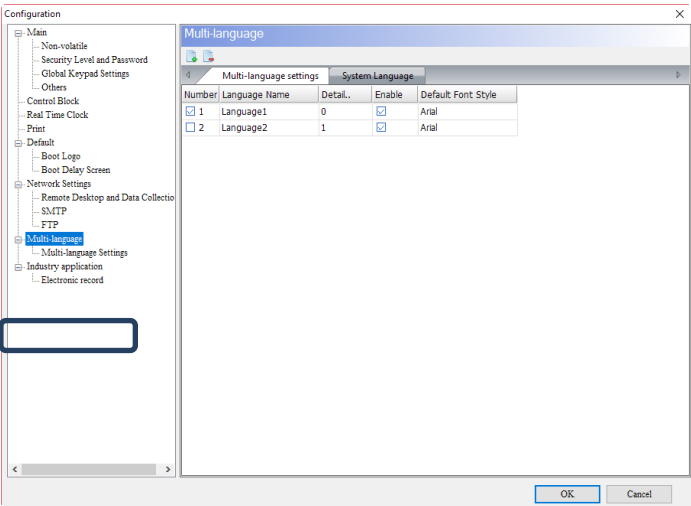
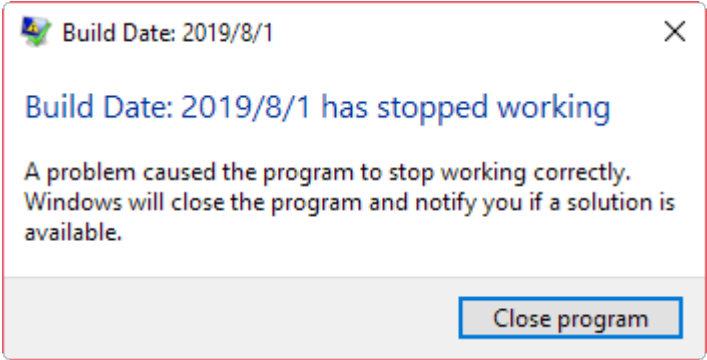


After

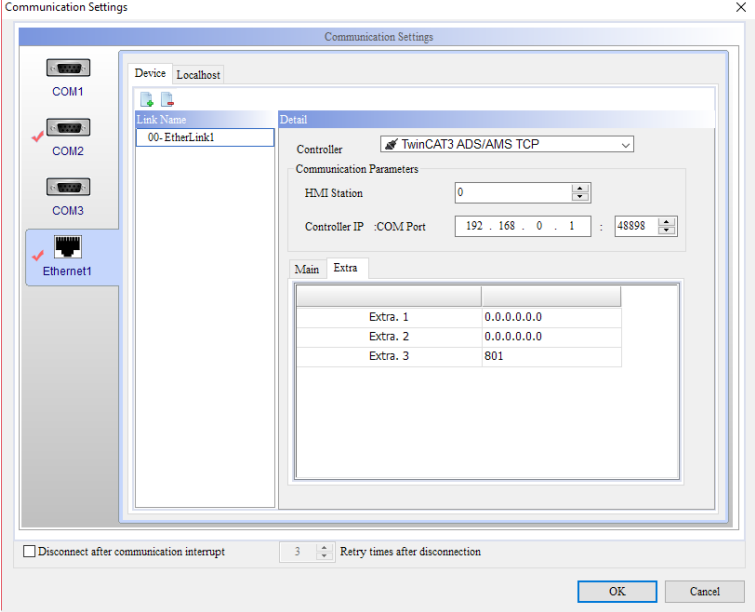
■ Cause some model type of DOP-100 have two Ethernet port, so we create NET1_IP1 to NET1_IP4, SUBMASK1_IP1 to SUBMASK1_IP4, GWAY1_IP1 to GWAY1_IP4 and NET2_IP1 to NET2_IP4, SUBMASK2_IP1 to SUBMASK2_IP4,

GWAY2_IP1 to GWAY2_IP4 parameters. But in order to compatible with DOP-B, DOPSoft add internal parameters of NET_IP1 to NET_IP4, SUBMASK_IP1 to SUBMASK_IP4 and GWAY_IP1 to GWAY_IP4 to avoid compile error issue.
(Note: Internal parameters of **NET1_IP1 to NET1_IP4, SUBMASK1_IP1 to SUBMASK1_IP4, GWAY1_IP1 to GWAY1_IP4** are same as **NET_IP1 to NET_IP4, SUBMASK_IP1 to SUBMASK_IP4** and **GWAY_IP1 to GWAY_IP4**.)

2.14. Fixed after add multi language setting and then open text bank will cause DOPSoft software crash.

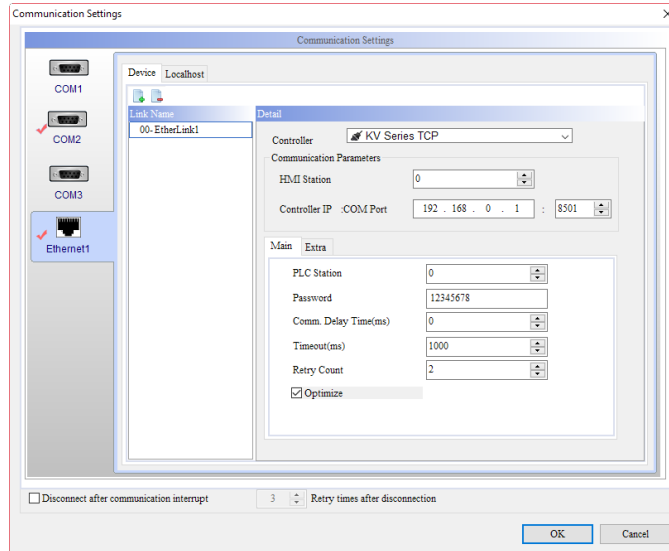
<p>Before</p>	<p>Step1 \ [Options] → [Configuration] → [Multi-language], add language.</p> 
	<p>Step2 \ After add language, open text bank, DOPSoft will get crashed.</p>  <p>■ After add language and then open text bank will not cause DOPSoft crashed.</p>
<p>After</p>	

2.15. Fixed Extra description of TwinCAT3 ADS/AMS TCP driver.

<p>Before</p>	<ul style="list-style-type: none"> Extra page of TwinCAT3 ADS/AMS TCP driver did not have detail description.  <p>The screenshot shows the 'Communication Settings' dialog box for the TwinCAT3 ADS/AMS TCP driver. The 'Device' is set to 'Localhost' and the selected link is '00-EtherLink1'. The 'Controller' is 'TwinCAT3 ADS/AMS TCP'. The 'Communication Parameters' section shows 'HMI Station' set to 0 and 'Controller IP -COM Port' set to 192.168.0.1 : 48898. The 'Main' and 'Extra' tabs are visible, with the 'Extra' tab active. The 'Extra' tab contains a table with the following data:</p> <table border="1" data-bbox="821 705 1212 907"> <thead> <tr> <th>Extra</th> <th>IP Address</th> </tr> </thead> <tbody> <tr> <td>Extra. 1</td> <td>0.0.0.0.0</td> </tr> <tr> <td>Extra. 2</td> <td>0.0.0.0.0</td> </tr> <tr> <td>Extra. 3</td> <td>801</td> </tr> </tbody> </table>	Extra	IP Address	Extra. 1	0.0.0.0.0	Extra. 2	0.0.0.0.0	Extra. 3	801
Extra	IP Address								
Extra. 1	0.0.0.0.0								
Extra. 2	0.0.0.0.0								
Extra. 3	801								
<p>After</p>	<ul style="list-style-type: none"> Add correct description in Extra of TwinCAT3 ADS/AMS TCP driver. 								

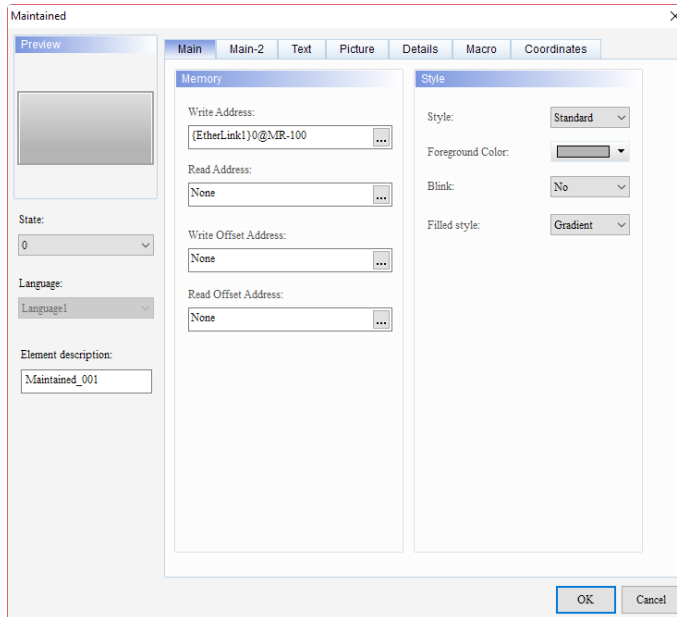
2.16. Fixed if select Keyence KV Series TCP, set address as MR and then use duplicate function will get incorrect result.

Step1、[Options] → [Configuration], create Ethernet link and select KV Series TCP.

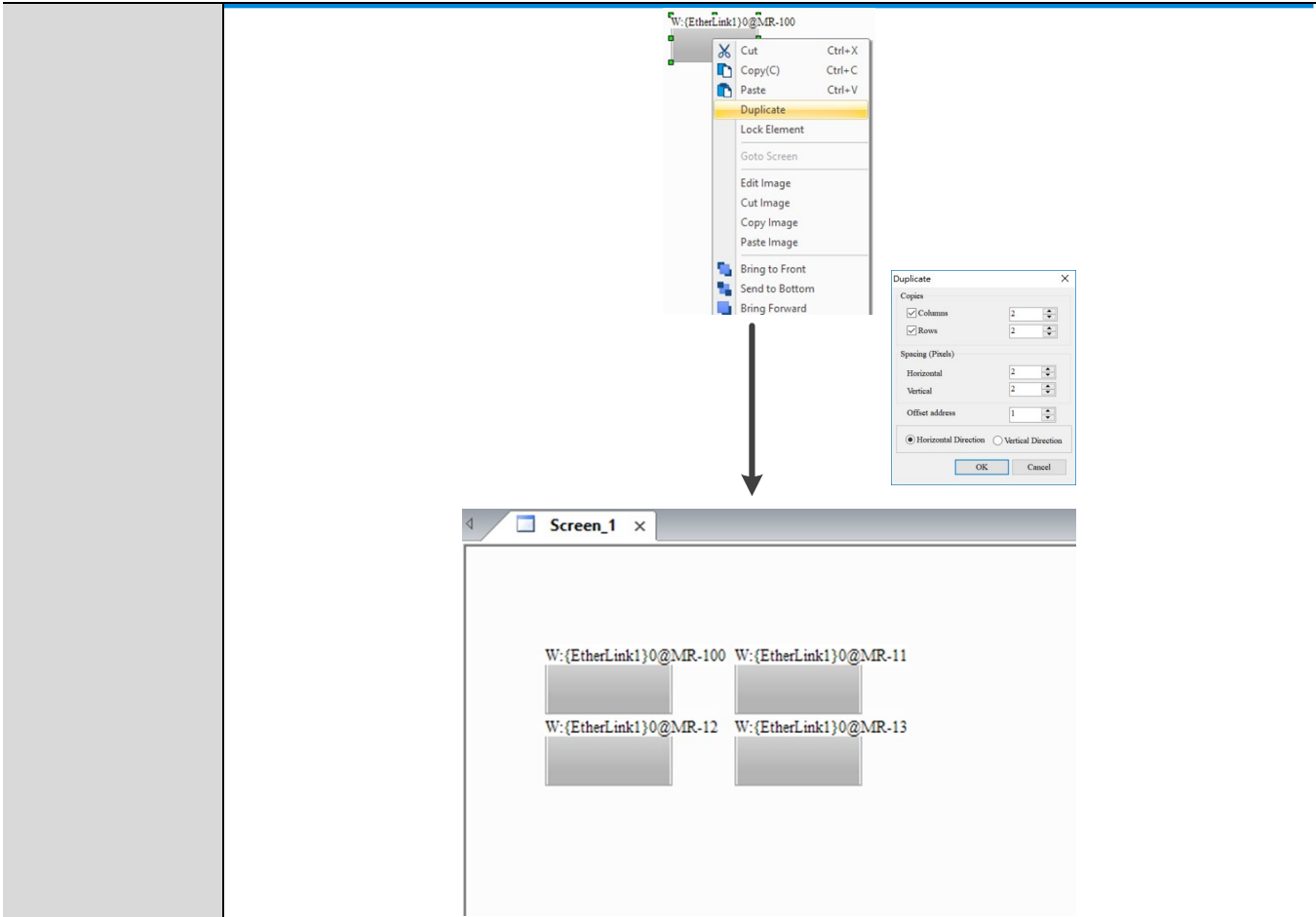


Step2、Create Maintained button, set write address as MR-100.

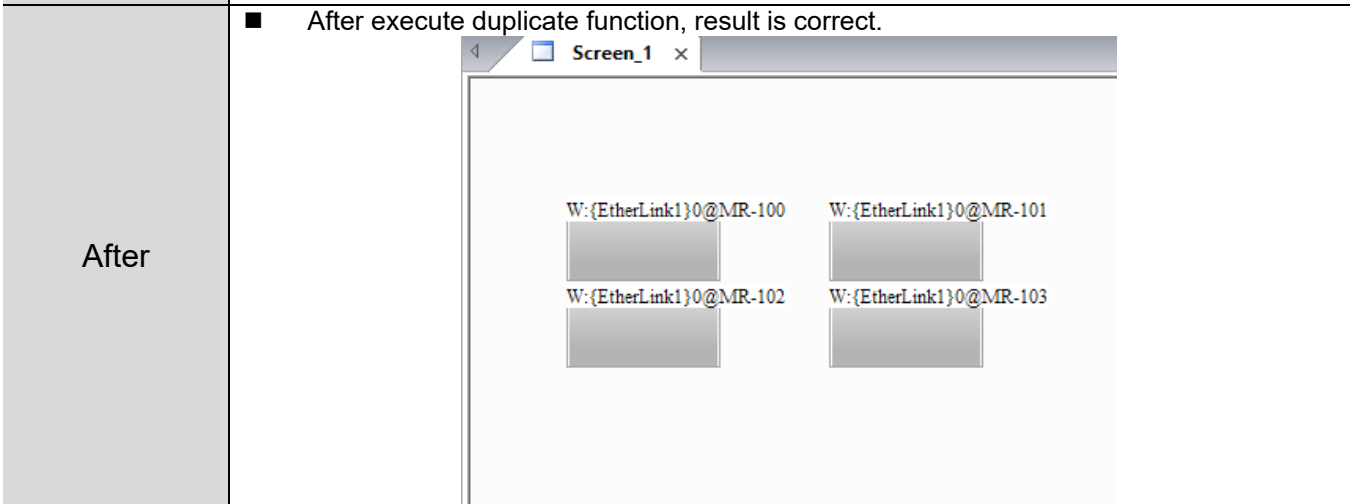
Before



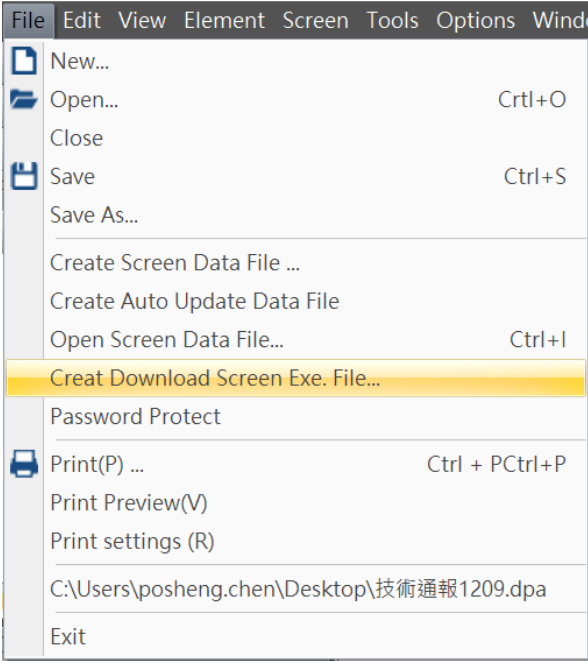
Step3、Use duplicate function, set offset address as 1. After execute this function, offset result is incorrect.



- After execute duplicate function, result is correct.

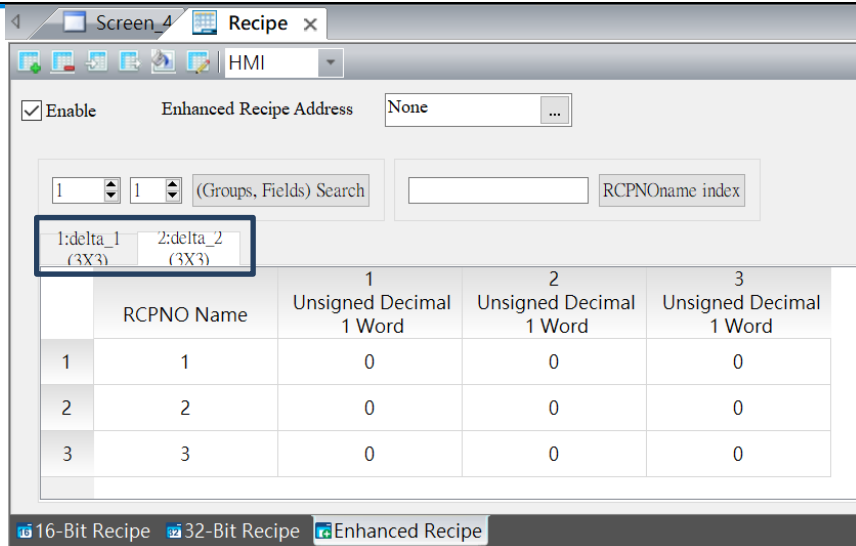


2.17. Fixed use download.exe function to download program, HMI will show storage is not enough.

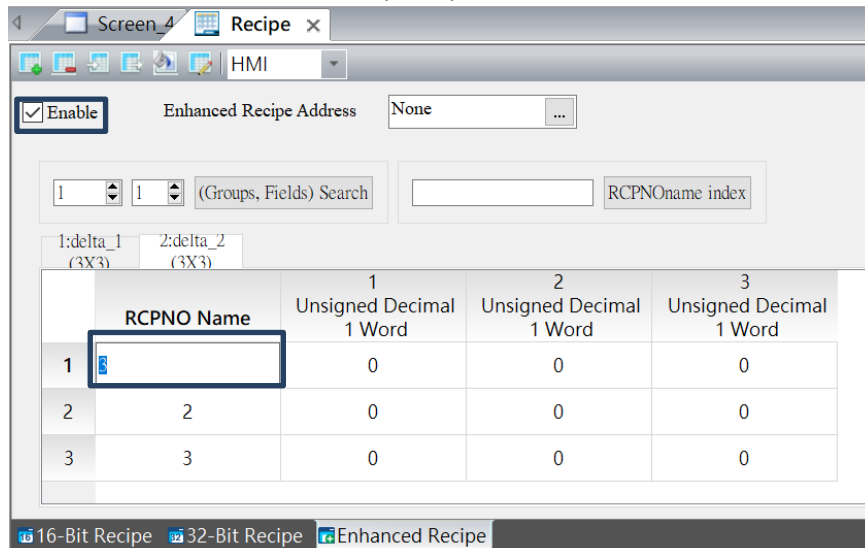
Before	<p>Step1 · [File] → [Create Download Screen Exe. File], make a execution file.</p>  <p>Step2 · Execute this file, PC will show [insufficient storage space, please reset HMI], but after reset HMI, still have the problem.</p>
After	<p>■ Execute this file, PC will not show error message.</p>

2.18. Fixed when interface stopped at enhanced recipe, and then save file will cause DOPSoft crash.

Before	<p>Step1 · [Options] → [Recipe] → [Enhanced Recipe], create two enhanced recipe, first named as delta_1 and set Fields and Groups as 3, second named as delta_2 and set Fields and Groups as 3.</p>
--------	---



Step2 、 After finished, check Enable and put input focus on each cell.

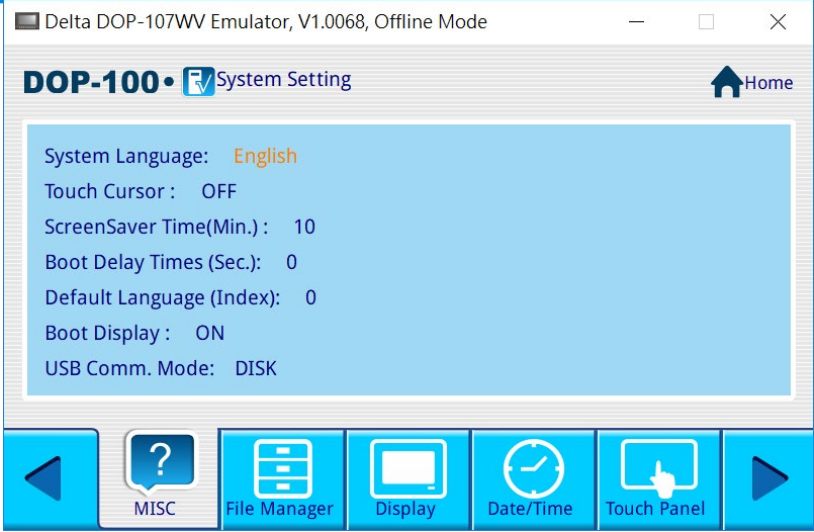
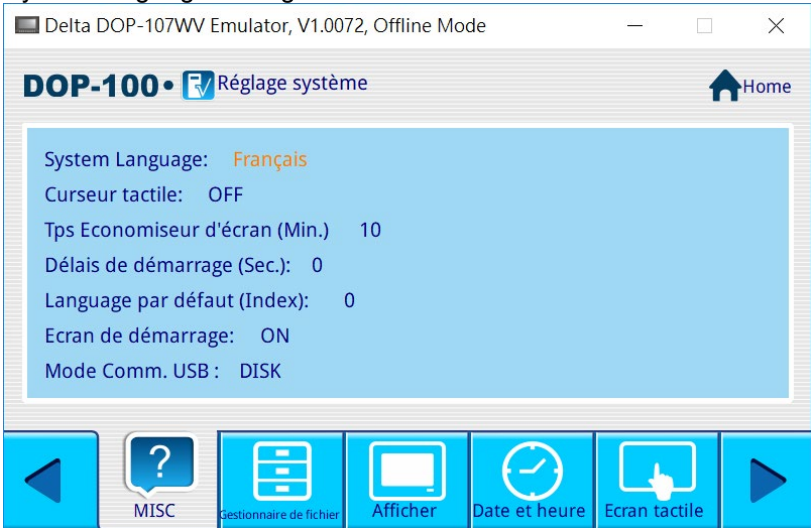


Step3 、 Meanwhile, click [Delete] will get DOPSoft crashed.

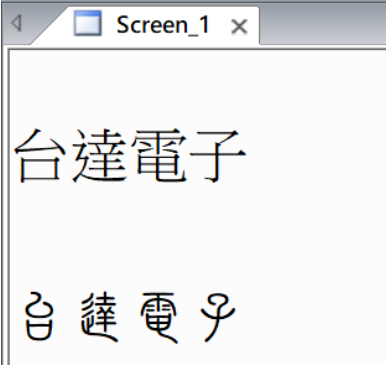
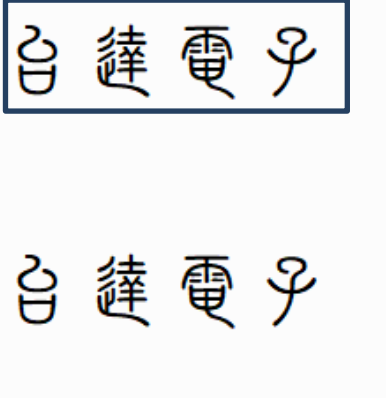
After	
	<p>■ Delete recipe will not get DOPSoft crashed.</p>

2.19. Fixed after change system language via DOPSoft, execute offline simulator cannot show correct system language.

Before	<p>Step1、[Options] → [Configuration] → [Multi-language] → [System language], select one of system language.</p>
	<p>Step2、After compile and execute offline simulator, enter system menu and go to system setting page will see setting is still keep English.</p>

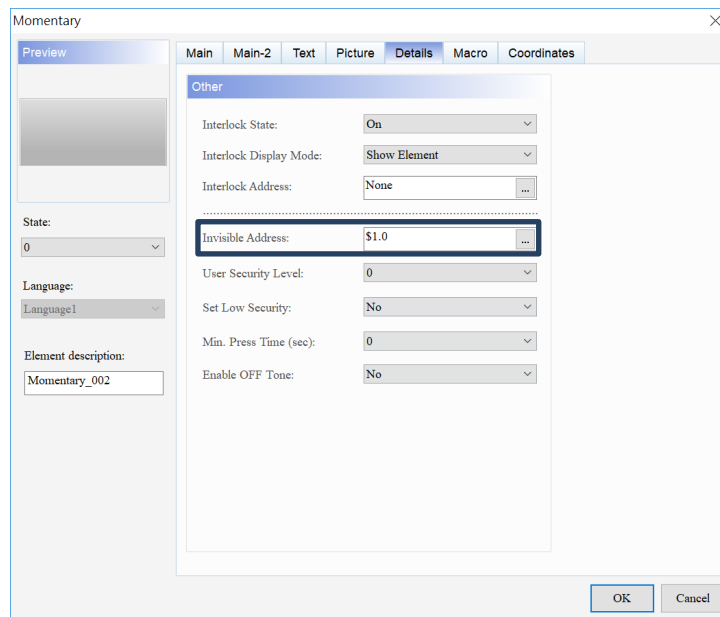
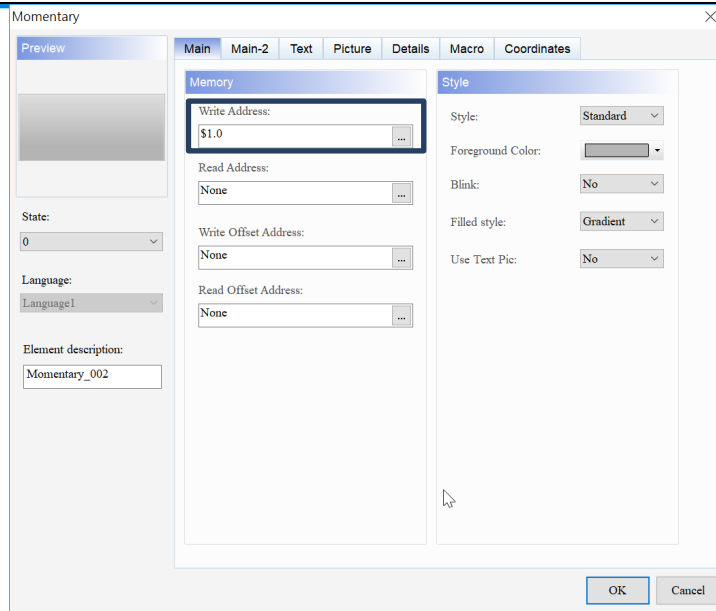
	
<p>After</p>	<p>■ System language setting will correct.</p> 

2.20. Fixed HMI cannot show correct font.

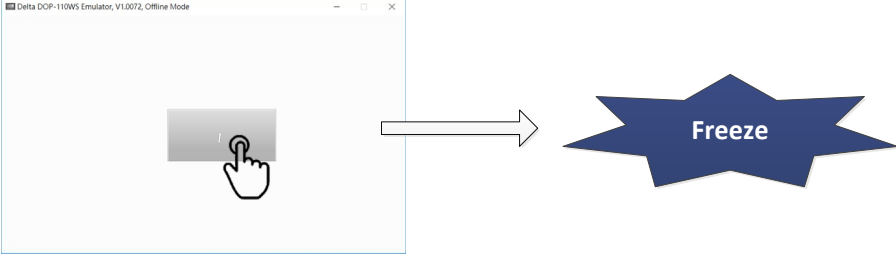
Before	<p>Step1 \ Create two Text elements, set different font at [Text] page.</p> 
	<p>Step2 \ After compile and download to HMI, it cannot display corresponding text font.</p> 
After	<p>■ HMI could display correct font.</p>

2.21. Fixed if momentary button set write address and invisible address as the same, after click button will cause HMI stock.

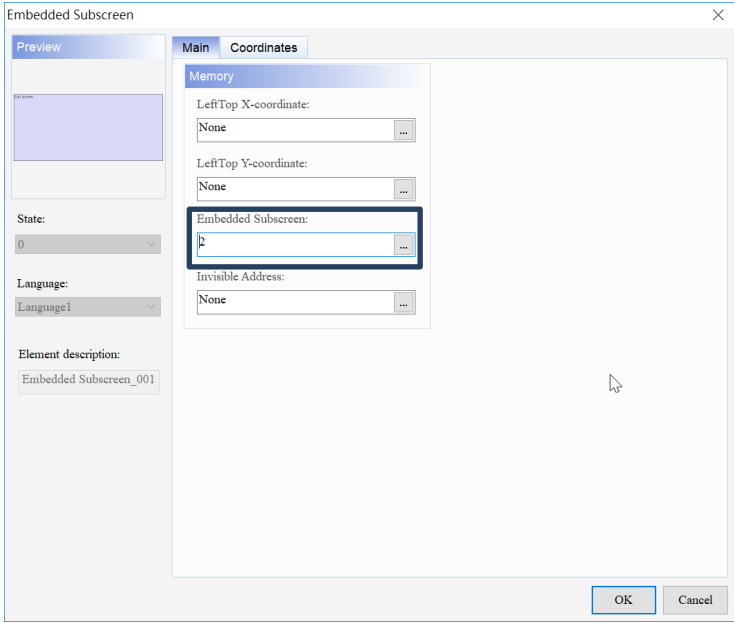
Before	<p>Step1 \ Create Momentart button, set write address as \$1.0 and go to [Details] page to set invisible address as \$1.0.</p>
--------	--



Step2 、 After download to HMI, press Momentary button will let HMI stock and cannot touch other elements.

	
After	<ul style="list-style-type: none"> Press Momentary button will not let HMI get stock.

2.22. Fixed slider element display error at sub screen or embedded screen.

Before	<p>Step1 \ Create Embedded Subscreen, set Embedded Subscreen as 2 at [Main] page.</p>  <p>Step2 \ Create Sub screen, and sub screen number is 2.</p>
--------	---

Screen_2

Screen Name: Screen_2

Screen No.: 2

Screen Type: Screen

OK Cancel

Step3 · Create Slider at sub screen, set write address as \$1.

Slider

Preview:

State: 0

Language: Language1

Element description: Slider_019

Main Main-2 Text Picture Coordinates

Memory

Write Address: \$1 Write Offset Address: None

Read Address: None Read Offset Address: None

Style

Direction: Horizontal

Starting Point: Left

Slider Width: 10

Slider Button Length: 20

Border Color: [Grey]

Foreground Color: [Orange]

Background Color: [Light Blue]

Detail

Data Type: Word

Data Format: Unsigned Decimal

Minimum: 0

Maximum: 100

OK Cancel

Step3 · After setting, download program to HMI, and will see this element display error.

In DOPSoft

In HMI(subscreen)



After

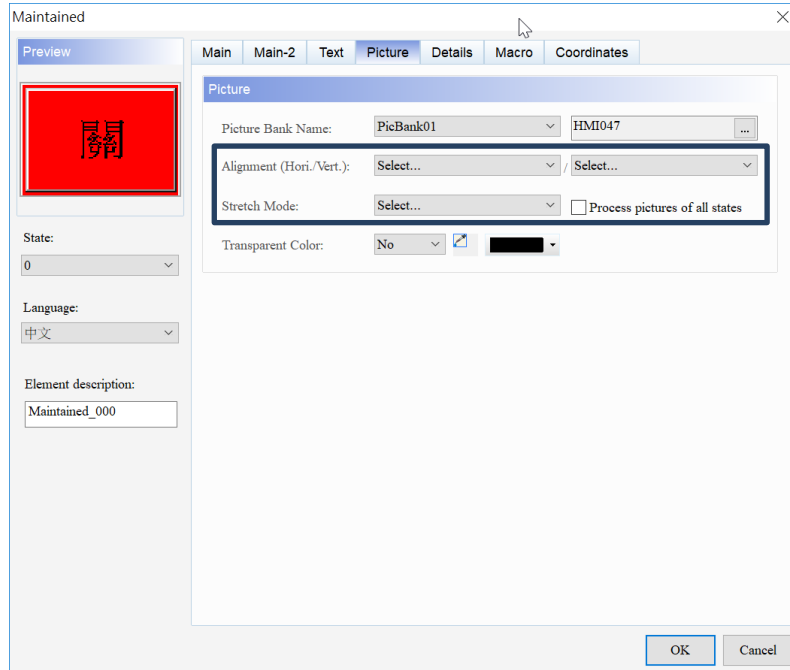
■ Slider display correct at sub screen.

2.23. Fixed picture state if get error setting will cause HMI crash.

Step1 \ Open with error setting as below project, after download to HMI, HMI will crash.

Before

After



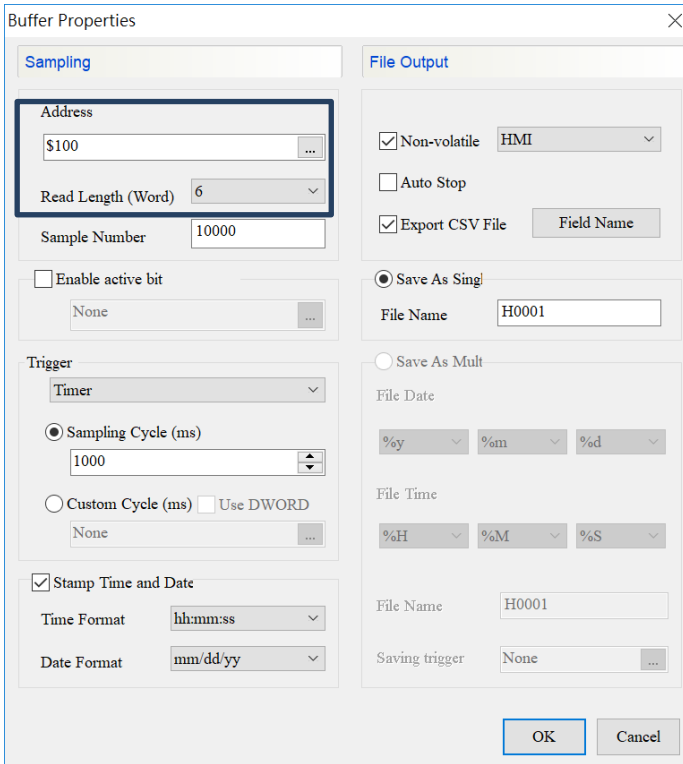
(Note: Root cause is convert from DOP-A to DOP-B.)

- DOPSoft will add rule to check error setting.

2.24. Fixed data format set floating and maximum as variables with History trend graph, HMI cannot display correct curve.

Before

Step1 · [Options] → [History buffer setup], create history buffer and set address as \$100, Read length as 6.



Step2 · Create History trend graph, set number of curves as 3, Length as 2, Data format as Floating, maximum as \$1. Go to [Details], enable three curves and set Start position as 0, 2, and 4.

Historical Trend Graph

Preview

State: 0

Language: Language1

Element description: 歷史趨勢圖_001

Main Main-2 Details Function Buttons Coordinates

Style

Number of Curves: 3

Filling Curve: No

Horiz. Grid Number: 1

Gridline Color: [Color Picker]

Border Color: [Color Picker]

Background Color: [Color Picker]

Detail

History Buffer Setup

Buffer ID: 1

Global range

Scale Settings

Length: 2

Data: Floating

Integer Digits: 5

Fractional: 2

Minimum/Maximum: 0.00 \$1

Display High Value

80 [Color Picker]

Display Low Value

20 [Color Picker]

OK Cancel

Historical Trend Graph

Preview

State: 0

Language: Language1

Element description: 歷史趨勢圖_001

Main Main-2 Details Function Buttons Coordinates

Detail

History Buffer Setup

Buffer ID: 1

Curve	Enable	Length	Start Position	Data Format	Integer Digi	Frac
1	1	2	0	Floating	5	2
2	1	2	2	Floating	5	2
3	1	2	4	Floating	5	2

Time/Date

Time Format: hh:mm:ss

Time Interval: 2

Date Format: mm/dd/yy

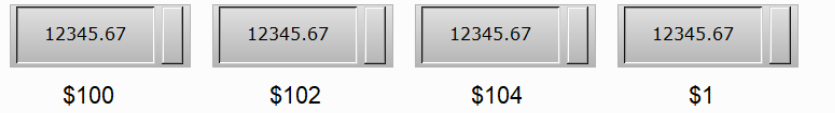
Color: [Color Picker]

Display time/date

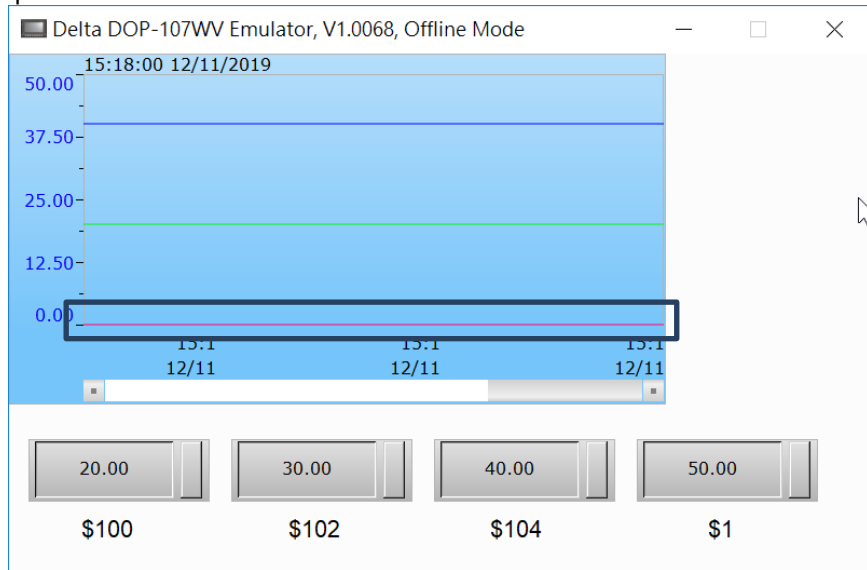
Timeline scaling: 100%

OK Cancel

Step3 · Create four numeric entry, set write address as \$100, \$102, \$104 and \$1, set data type as Double word, data format as Floating.

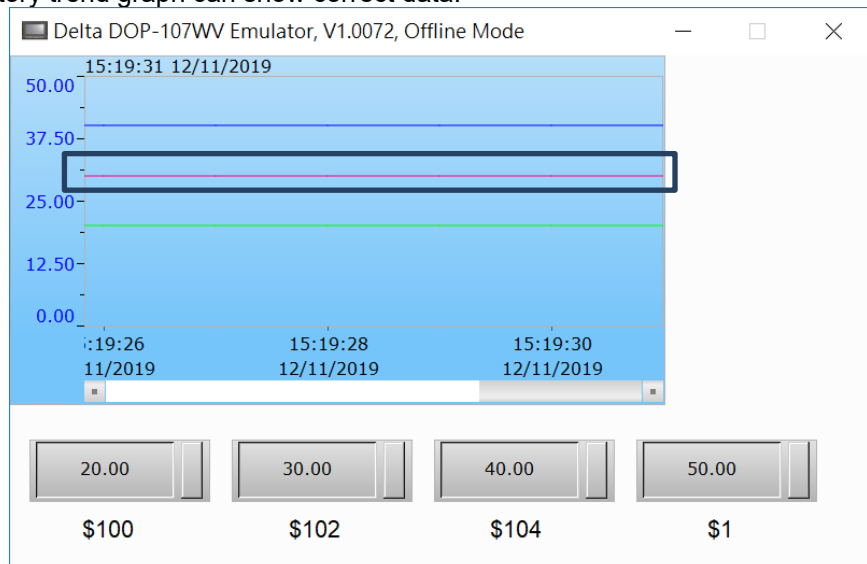


Step4 · After setting and download to HMI, input 50 at \$1, and input 20 at \$100, input 30 at \$102, input 40 at \$104. After input and could find out \$102 data will not show on History trend graph.



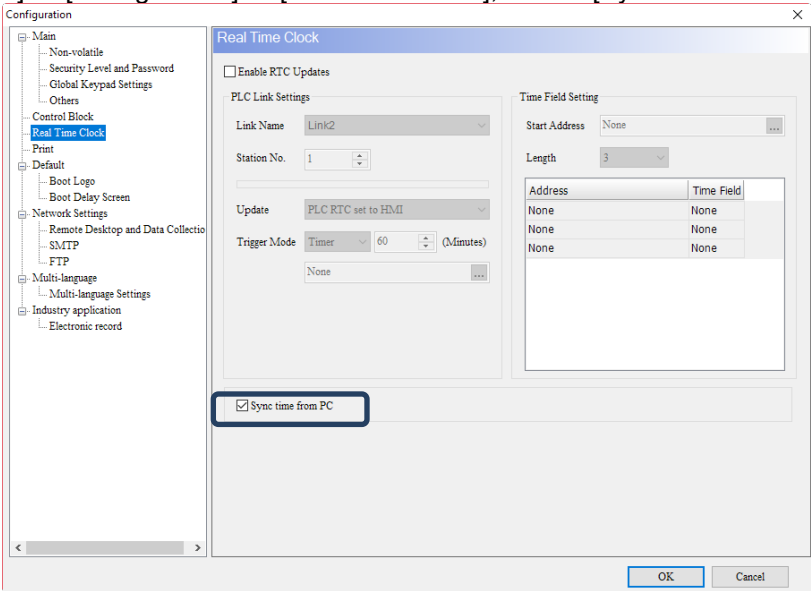
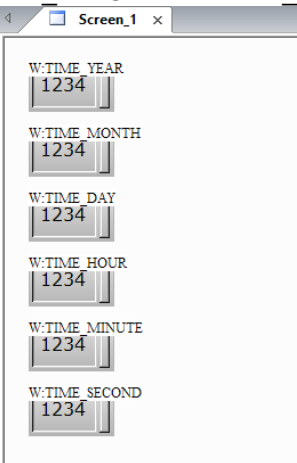
■ History trend graph can show correct data.

After

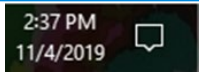


3.1. Add Sync time from PC.

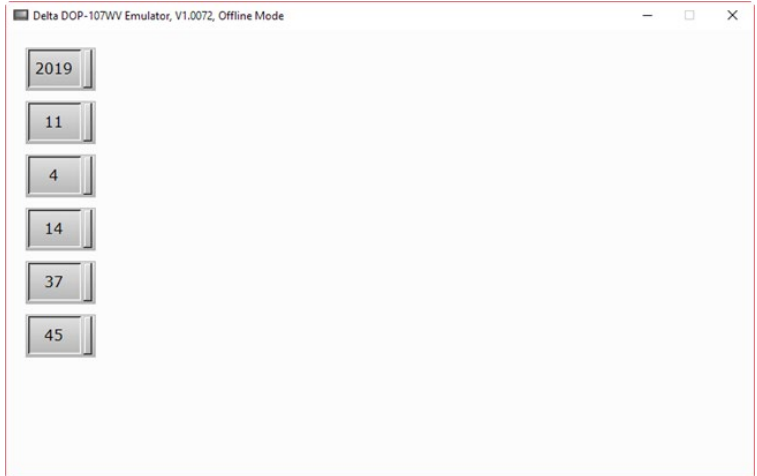
User can use this function to sync PC time to HMI time.

Sync time from PC	
<p>Enable Sync time from PC</p>	<ul style="list-style-type: none"> <p>[Options] → [Configuration] → [Real Time Clock], enable [Sync time from PC].</p> 
<p>Create Numeric entry</p>	<ul style="list-style-type: none"> <p>Create six numeric entry, set write address as TIME_YEAR, TIME_MONTH, TIME_DAY, TIME_HOUR, TIME_MINUTE and TIME_SECOND.</p> 
<p>Result</p>	<ul style="list-style-type: none"> After setting and download to HMI. PC time will sync to HMI time.

PC →



HMI →



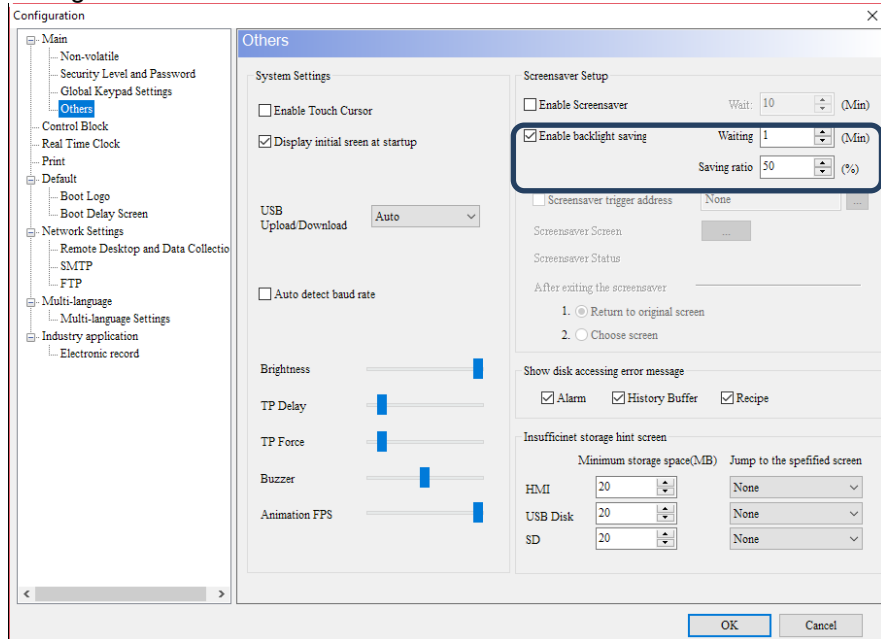
3.2. Add Backlight Saving.

HMI add backlight saving function, it can extend HMI usage.

Backlight Saving

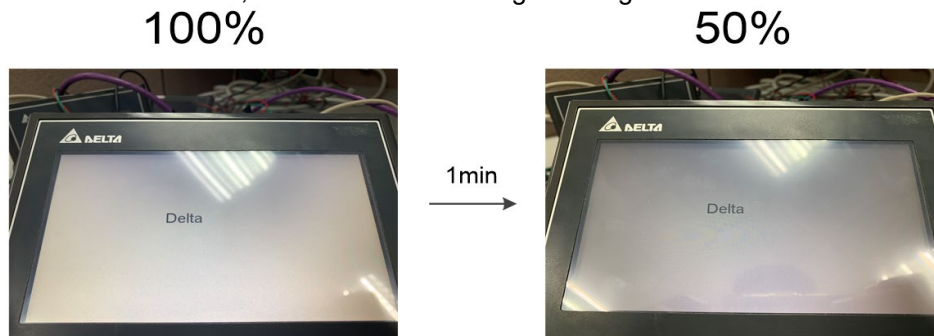
- [Options] → [Configuration] → [Others], enable backlight saving, set waiting one minutes and saving ratio as 50%.

Enable Backlight Saving



- After setting and download to HMI.
- After idle one minutes, HMI will enable backlight saving.

Result



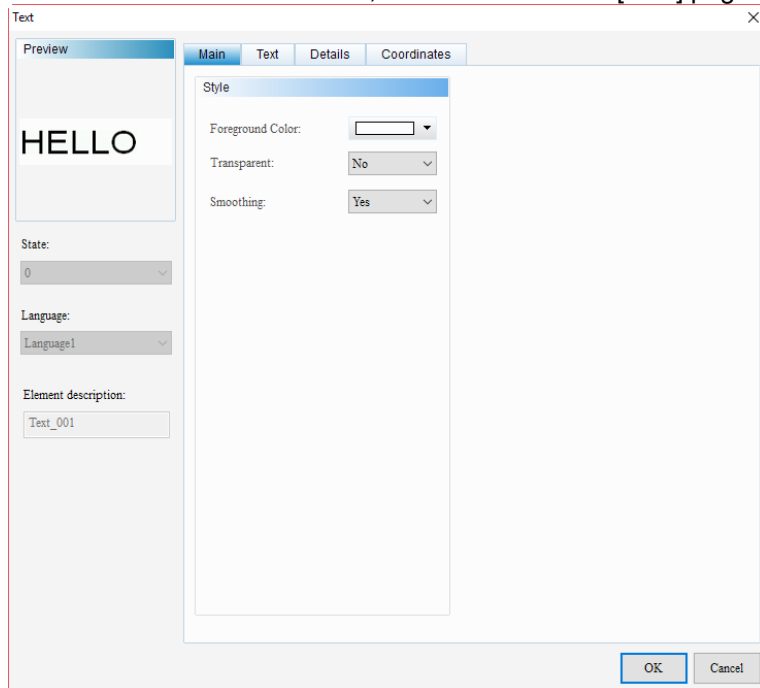
3.3. Add Text picture function at Text, Button, and General message display.

Since DOP-B series HMI uses the picture texts to present the effect while the new DOP-100 series HMI use real fonts to display it. However, this might cause problems when the computers didn't support the fonts in DOP-100 platform. In order to solve the problem, now the static text, buttons, and general message are all added to present in the picture text format.

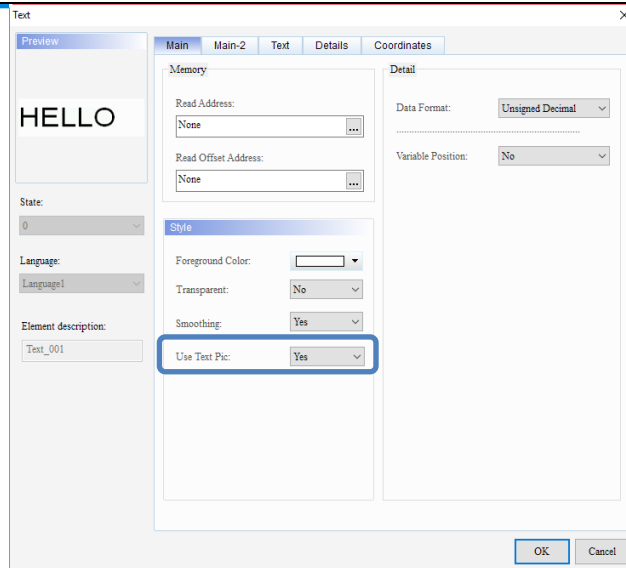
Text Pic function

- Create text element at DOPSoft 2.00.07, write down Hello at [Text] page.

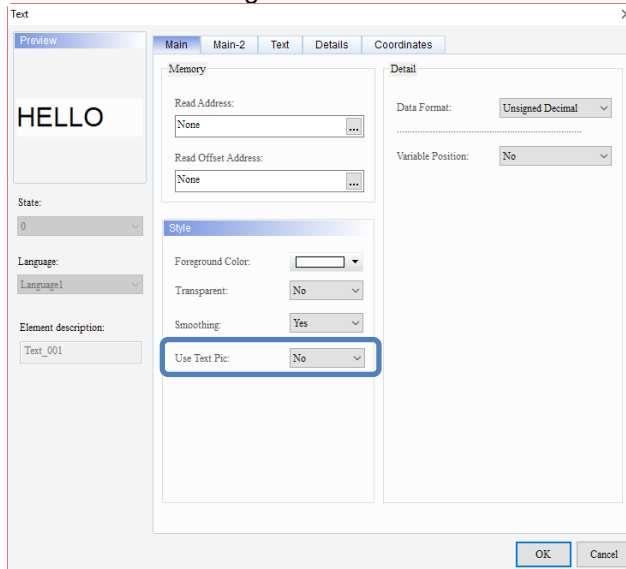
Create Text element



- Open saved as DOP-B project with DOPSoft 4.00.06, in order to compatible with DOP-B, you can find out Use text pic function is set to Yes.



- If create project with 4.00.06, and use text, buttons, general message display elements, Use text pics function default setting is No.



- After setting and download to HMI.完成元件的建立後，請下載至人機
- As below is use text pics and do not use text pics.

Result

Text pic is Yes	Text pic is No
HELLO	HELLO

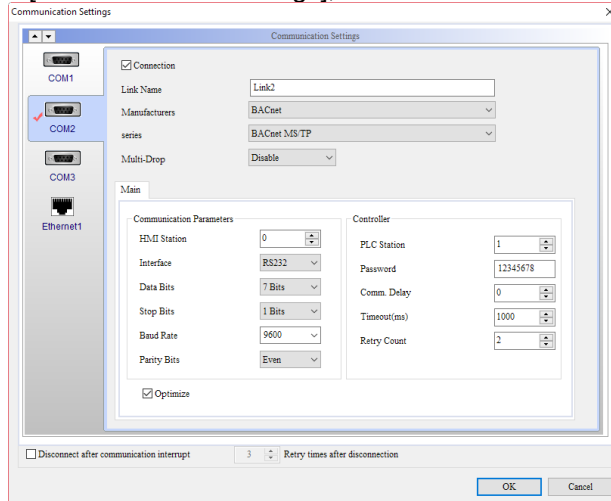
3.4. Add MI, MO and MV address of BACnet driver.

BACnet driver add register MI, MO, and MV

Add register for BACnet

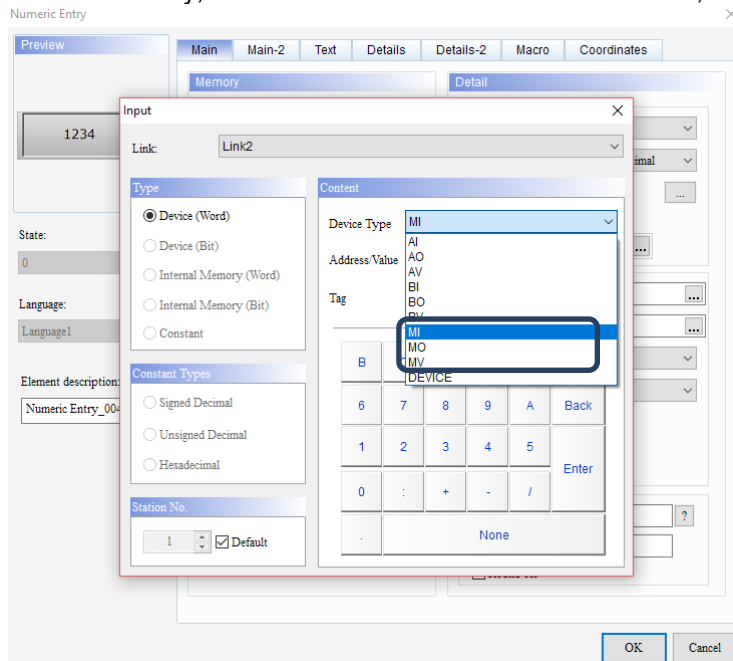
Communication settings

- [Options] → [Communication settings], select BACnet MS/TP.



Result

- Create Numeric entry, select BACnet driver and can see add MI, MO and MV.



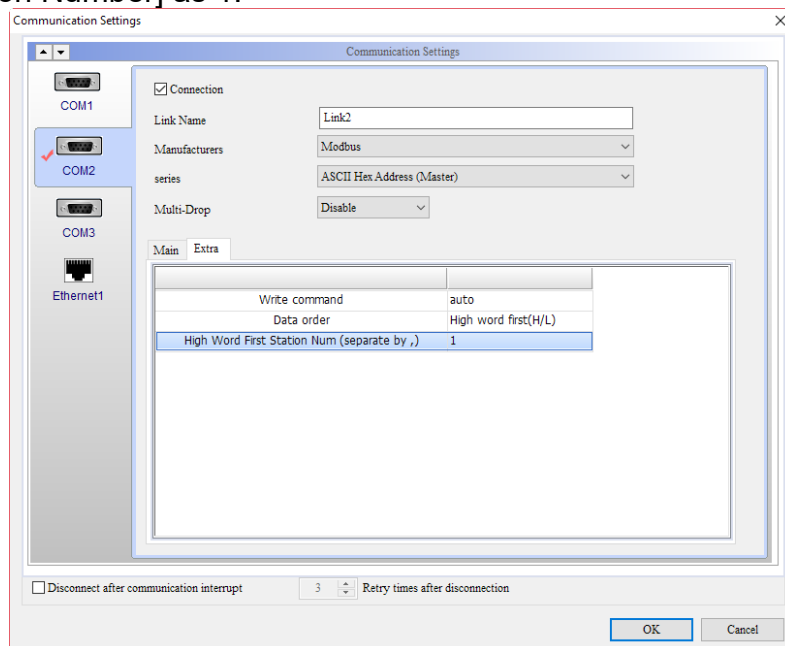
3.5. Add High Word First Station Number function with Modbus ASCII/RTU Hex Address (Master) driver.

Modbus is a standard communication protocol. Most PLCs support this protocol, but when different PLCs transmit character data, high or low bits may start to transmit. In order to comply with PLC, Modbus ASCII / RTU Hex Address (Master) added the function of swapping high and low bits through the specified station number.

High Word First Station Number function

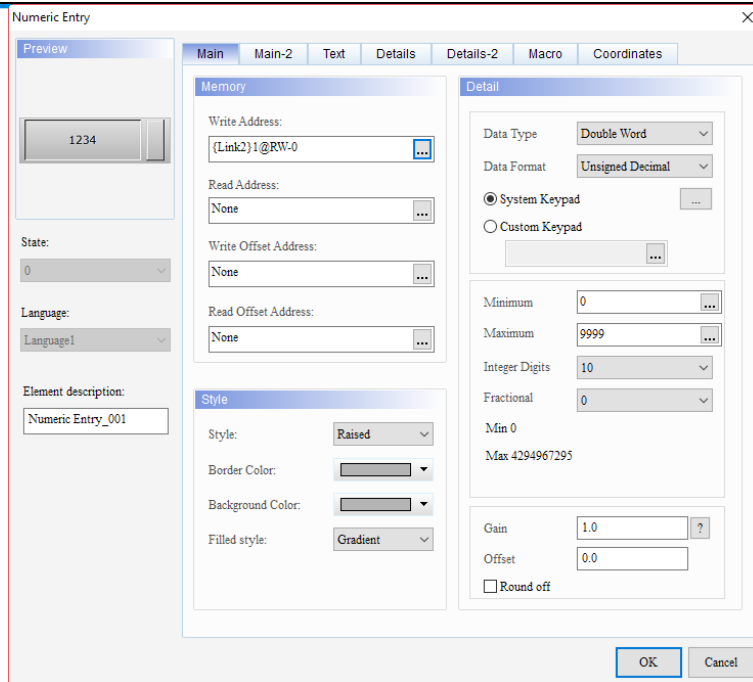
- [Options] → [Communication settings], select Modbus ASCII Hex Address (Master), change page bar to [Extra], set [High Word First Station Number] as 1.

Communication settings



Create Numeric entry

- Create Numeric entry, set write address as RW-0, data type as Double Word

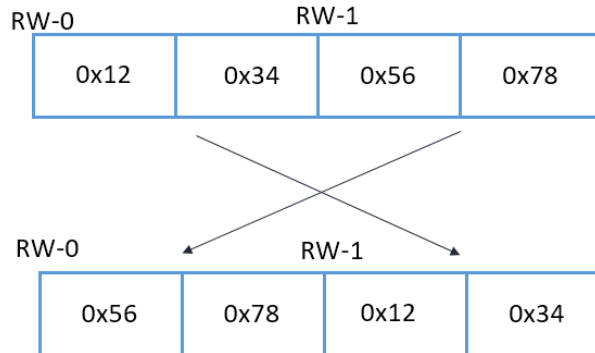


Note 1 : Only support Numeric entry and Numeric display, and data type is Double Word.

Note 2 : This function unit is Word.

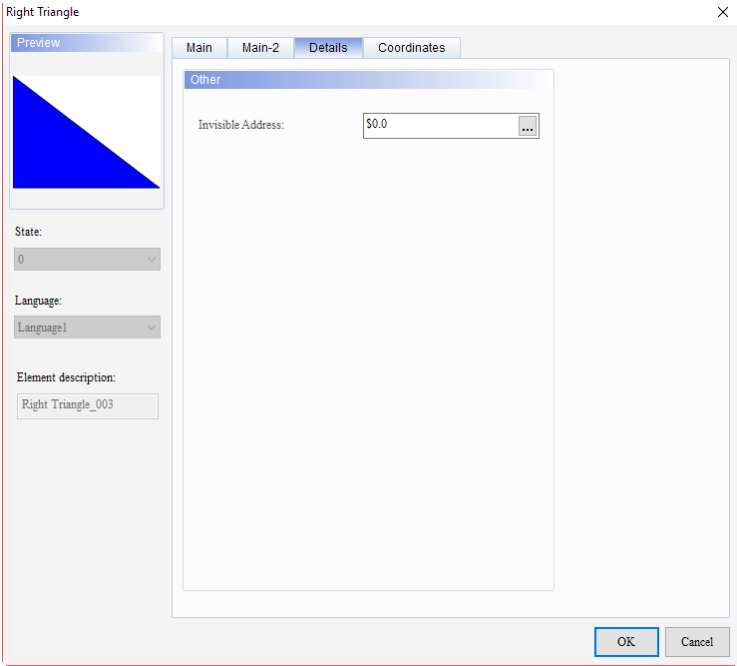
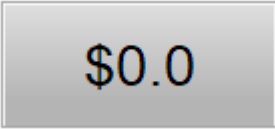
- After setting and download to HMI.
- Station 1 of PLC will execute high and low word swap.

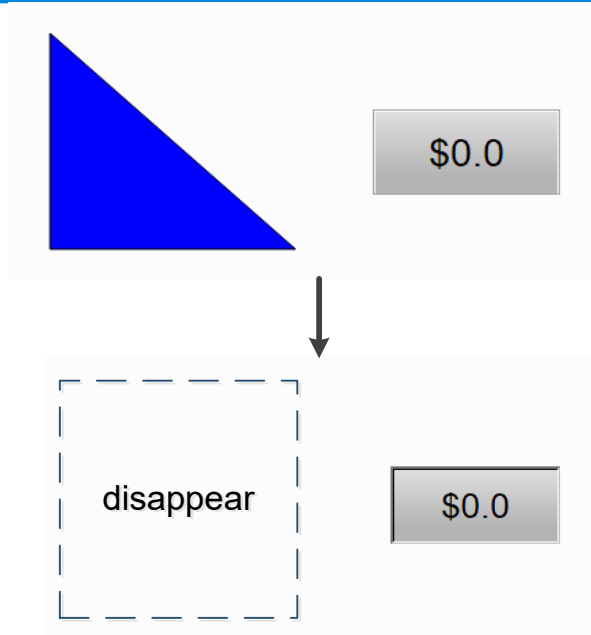
Result



3.6. Add invisible address of Triangle, Polygon and Circle.

Triangle, Polygon and Circle add invisible address.

Invisible address	
Create Triangle	<ul style="list-style-type: none"> ■ Create Triangle and set invisible address as \$0.0. 
Create Maintained button	<ul style="list-style-type: none"> ■ Create Maintained button and set write address as \$0.0. 
Result	<ul style="list-style-type: none"> ■ After setting and download to HMI. ■ When trigger \$0.0 to on status, the triangle element will hide.



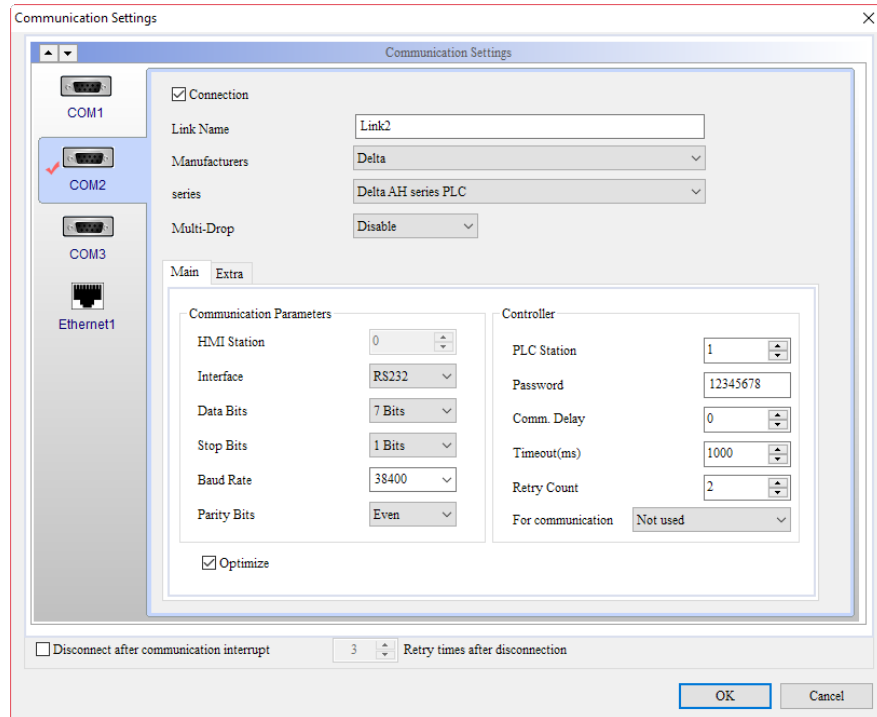
3.7. Add Qword data type support Delta AH series PLC and Delta AH series PLC TCP.

Add Delta AH series PLC and Delta AH series PLC TCP support Quad Word data type.

Quad Word

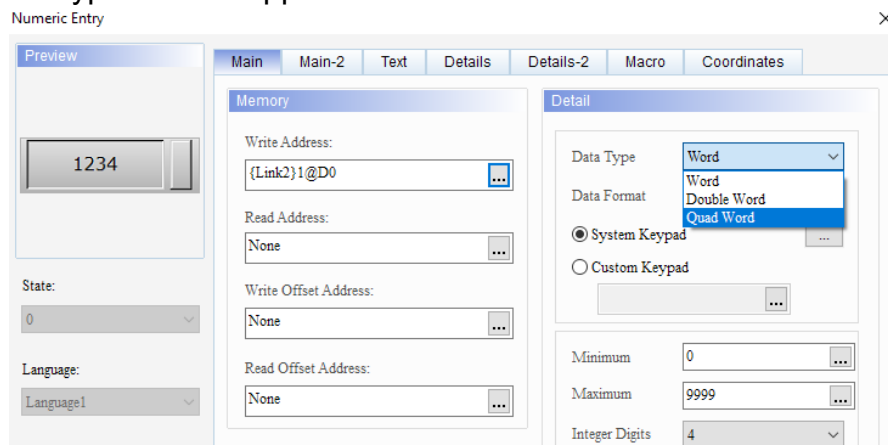
Communication settings

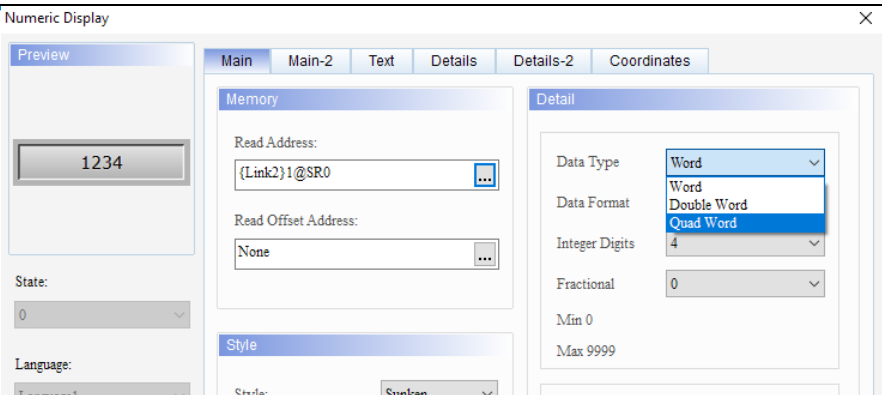
- [Options] → [Communication settings], select Delta AH series PLC or Delta AH series PLC TCP.



Create Numeric entry and Numeric display

- Create Numeric entry and Numeric display, set PLC address and data type will be support Quad word.



	
Result	<ul style="list-style-type: none">■ After download program to HMI, the numeric entry and numeric display will show Quad word data.

3.8. Add mail.Status, mail.SendFile and mail.SendAlarm Lua command.

Lua function add mail.Status, mail.SendFile, and mail.SendAlarm command. It can let user check SMTP status and send zipped file that storage at USB or SD card via e-mail.

Lua mail function

```
■ [Project tree] → [main], create lua command (mail.SendFile).
if mem.inter.ReadBit(1000,0)==1 then
    disk_id = 2
    file_name = "posheng.txt"
    ret, fileHandle = file.Open(disk_id, file_name)
    sys.Sleep(1000)
    result, error = mail.SendFile("smell8362983@yahoo.com.tw", "mail
subject", "mail content", 2, "posheng.txt", "1234")
    mem.inter.Write(10,result)
    if result ~=1 then
        mem.inter.WriteAscii(20,error,string.len(error))
    end
    mem.inter.WriteBit(1000,0,0)
    status = mail.Status()
    mem.inter.Write(1,status)
end
```

Write
down
lua
comma
nd

■ Description for Lua command

When \$ 1000.0 is triggered, create a file with the name "posheng.txt" and wait for 1000ms. After the file is created, encrypt the file with a password of 1234, and then compress it into a zip file. The mail subject is "mail subject", the mail content is sent to smell8362983@yahoo.com.tw in the format of "mail content", and the result of the return value is written into \$ 10. If the return value (0 means that the transmission has not started, 1 means that the mail transmission has started) is equal to 1 (1 means failure), write the error code (the specified file path does not exist, the specified file cannot be opened, or the disk is not ready, etc.) is written into \$ 20, finally \$ 1000.0 is set to off, and viewed through mail.Status SMTP connection status information (such as whether the connection to the SMTP server is successful, the authentication is successful, etc.) and return the data to \$ 1.

■ Parameter description

```
result, error = mail.SendFile("smell8362983@yahoo.com.tw", "mail s  
result, error = mail.SendFile(receiver, subject, content, disk_id, file_path, password)  
Parameters  
  receiver: string; mail receiver  
  subject: string; mail subject. specify nil if no subject needed  
  content: string; mail content. specify nil if no content needed  
  disk_id: integer; 0: HMI, 2: USB, 3: SD  
  file_path: string; file path related to disk_id  
  password: string; password for the file. specify nil if no password required  
Returns  
result: integer;  
  0: mail procedure is not started  
  1: mail procedure started  
error: integer;  
  0: no error  
  -1: invalid argument  
  -106: disk is not ready  
  -107: unable to open file  
  -110: file does not exist  
  -121: SMTP not configured  
  -122: fail to compress file
```

```
status = mail.Status()  
status = mail.Status()  
Returns  
status: integer;  
  0: initial value. no mail procedure or a mail procedure is just  
  1: mail is successfully delivered  
-100: unable to connect to host  
-101: disconnected  
-102: authentication is required  
-103: authentication fail  
-999: unknown error
```

- [Project tree] → [main], create lua command (mail.SendAlarm).

```
if mem.inter.ReadBit(1000,1)==1 then  
    result, error = mail.SendAlarm("smell8362983@yahoo.com.tw", "mail  
subject", "mail content", "1234")  
    mem.inter.Write(10,result)  
    if result ~=1 then  
        mem.inter.WriteAscii(20,error,string.len(error))  
    end  
    status = mail.Status()  
    mem.inter.Write(1,status)  
    mem.inter.WriteBit(1000,1,0)  
end
```

- Description for Lua command

When \$ 1000.1 is triggered, the alarm data (.CSV) is encrypted, and the file is encrypted with a password of 1234. The file is then compressed into a zip file with the message subject as "mail subject" and the message content as "mail content" send to smell8362983@yahoo.com.tw, and write the result of the return value to \$ 10. If the return value (0 means that the transmission has not started, 1 means that the mail transmission has started) is not equal to 1 (that is, failure), an error

code will be sent. (Alarm not enabled, failure to output alarm CSV, etc.) Write \$ 20, finally set \$ 1000.1 to off, and check the SMTP connection status information (such as whether the connection to the SMTP server is successful, authentication is successful, etc.) via mail.Status and return Pass the data to \$ 1.

■ Parameter description

```
result, error = mail.SendAlarm("smell18362983@yahoo.com.tw", "mail s
```

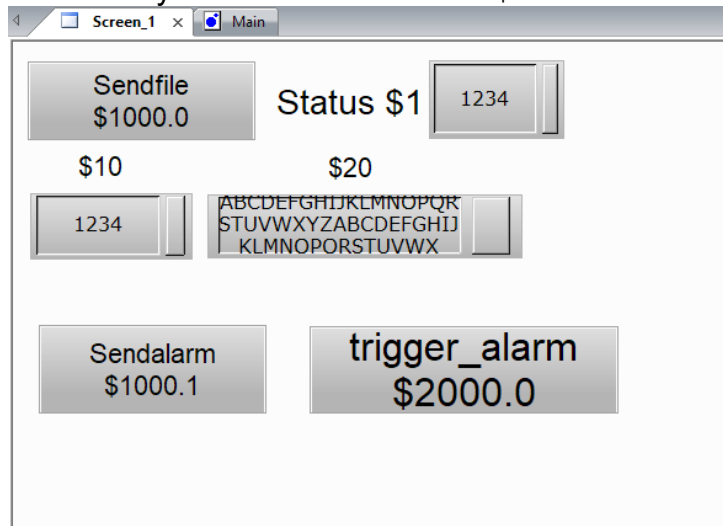
```
result, error = mail.SendAlarm(receiver, subject, content, password)
Parameters
  receiver: string; mail receiver
  subject: string; mail subject. specify nil if no subject needed
  content: string; mail content. specify nil if no content needed
  password: string; password for the file. specify nil if no password required
Returns
  result: integer;
    0: mail procedure is not started
    1: mail procedure started
  error: integer;
    0: no error
    -1: invalid argument
    -107: unable to open file
    -121: SMTP not configured
    -122: fail to compress file
    -126: no alarm enabled
    -127: fail to output alarm CSV
```

```
status = mail.Status()
```

```
status = mail.Status()
Returns
  status: integer;
    0: initial value. no mail procedure or a mail procedure is just initialized
    1: mail is successfully delivered
    -100: unable to connect to host
    -101: disconnected
    -102: authentication is required
    -103: authentication fail
    -999: unknown error
```

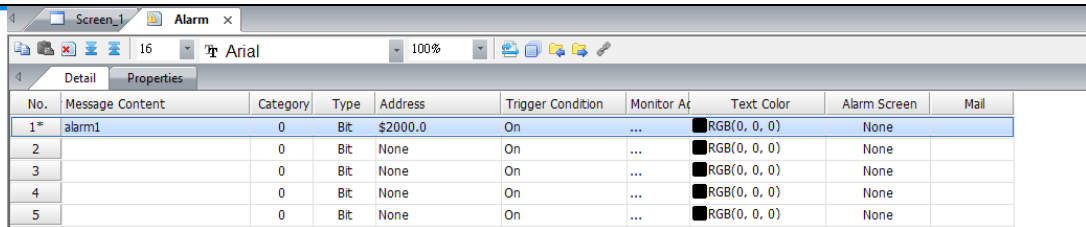
■ Create three Maintained button, set write address as \$1000.0, \$1000.1 and \$2000.0. Create two Numeric entry and set write address as \$1 and \$100, create Character Entry and set write address \$20.

Create element



Set alarm

■ [Options] → [Alarm setting], set alarm message and address as \$2000.0.



No.	Message Content	Category	Type	Address	Trigger Condition	Monitor A	Text Color	Alarm Screen	Mail
1*	alarm1	0	Bit	\$2000.0	On	...	RGB(0, 0, 0)	None	
2		0	Bit	None	On	...	RGB(0, 0, 0)	None	
3		0	Bit	None	On	...	RGB(0, 0, 0)	None	
4		0	Bit	None	On	...	RGB(0, 0, 0)	None	
5		0	Bit	None	On	...	RGB(0, 0, 0)	None	

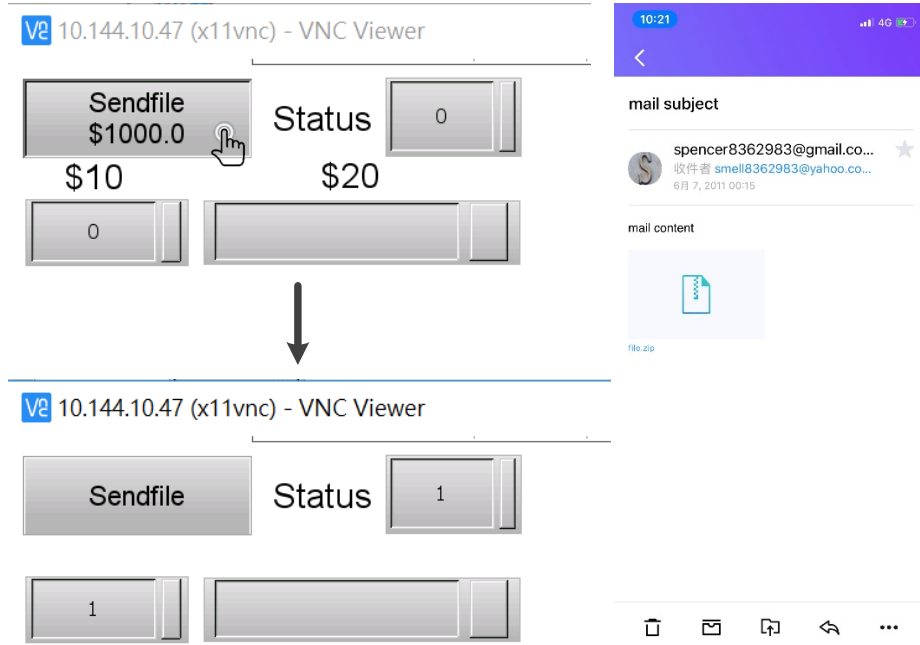
(Note: When \$2000.0 is triggered, will show alarm 1.)

Set SMTP

- Set SMTP function and please refer to CH27 of DOP-100 manual.

Result

- After setting and download program to HMI.
- Click Sendfile, and will receive e-mail with the file.



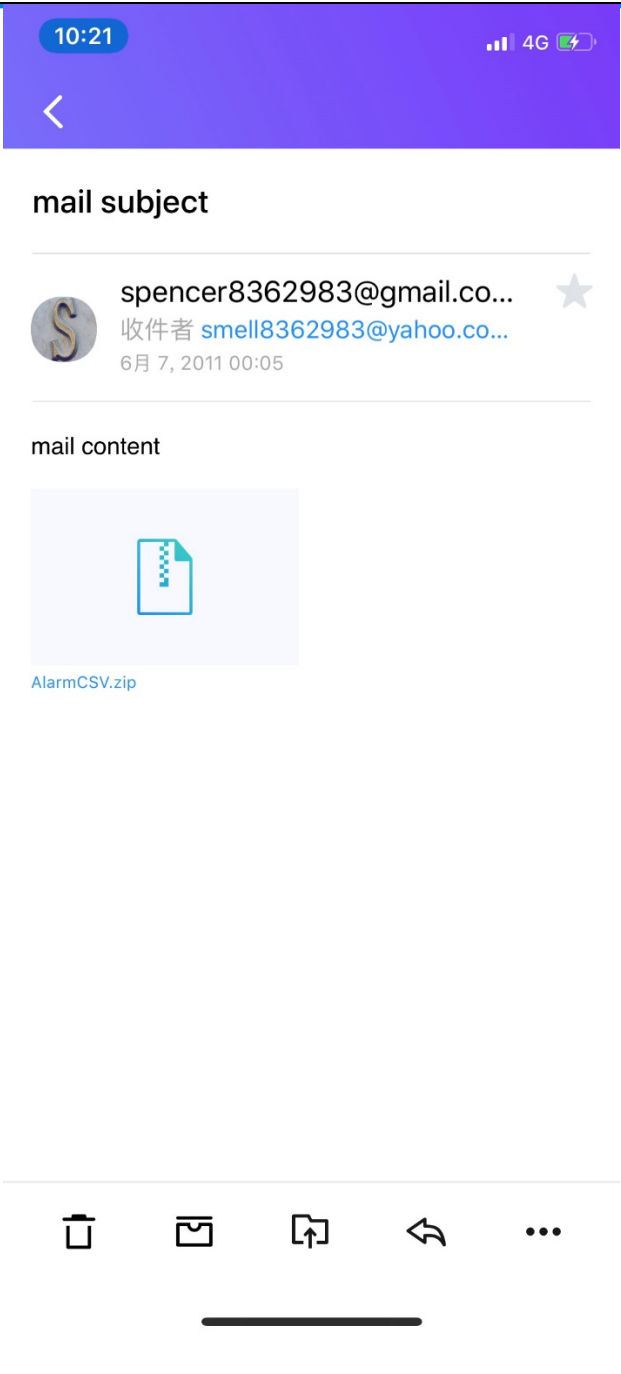
The screenshot shows the HMI interface with a 'Sendfile' button and a 'Status' indicator. The status indicator changes from 0 to 1 after clicking the button. An email notification is shown on the right side of the screen.

- Click \$2000.0 to trigger alarm, and then click Sendalarm, after that will receive e-mail with alarm data.

v2 10.144.10.47 (x11vnc) - VNC Viewer

Sendfile \$1000.0 \$10	Status \$20 1
------------------------------	---------------------

Sendalarm \$1000.1	trigger_alarm \$2000.0
-----------------------	---------------------------



4.1 Add controller of Delta DXMC series Controller TCP, YUDIAN AIBUS, IDEC MicroSmart FC6A Series PLC(Serial and Ethernet).

Table 4.1.1 Add PLC model

Factory	Connection	PLC Model
Delta	Ethernet	■ DXMC series Controller TCP
YUDIAN	COM	■ YUDIAN AIBUS
IDEC	COM	■ MicroSmart FC6A Series
	Ethernet	■ MicroSmart FC6A Series TCP