

Real Time Clock Setting

This chapter mainly describes the updating function of real time clock provided by DOPSoft. Some PLC controller has no built-in Real-time clock (RTC), thus, it cannot be applied to the operation which is related to time setting, such as machine with daily timer setting, door access management and etc. If PLC controller has built-in RTC, the synchronous function provided by HMI enables users to synchronize the RTC of HMI with PLC or vice versa.

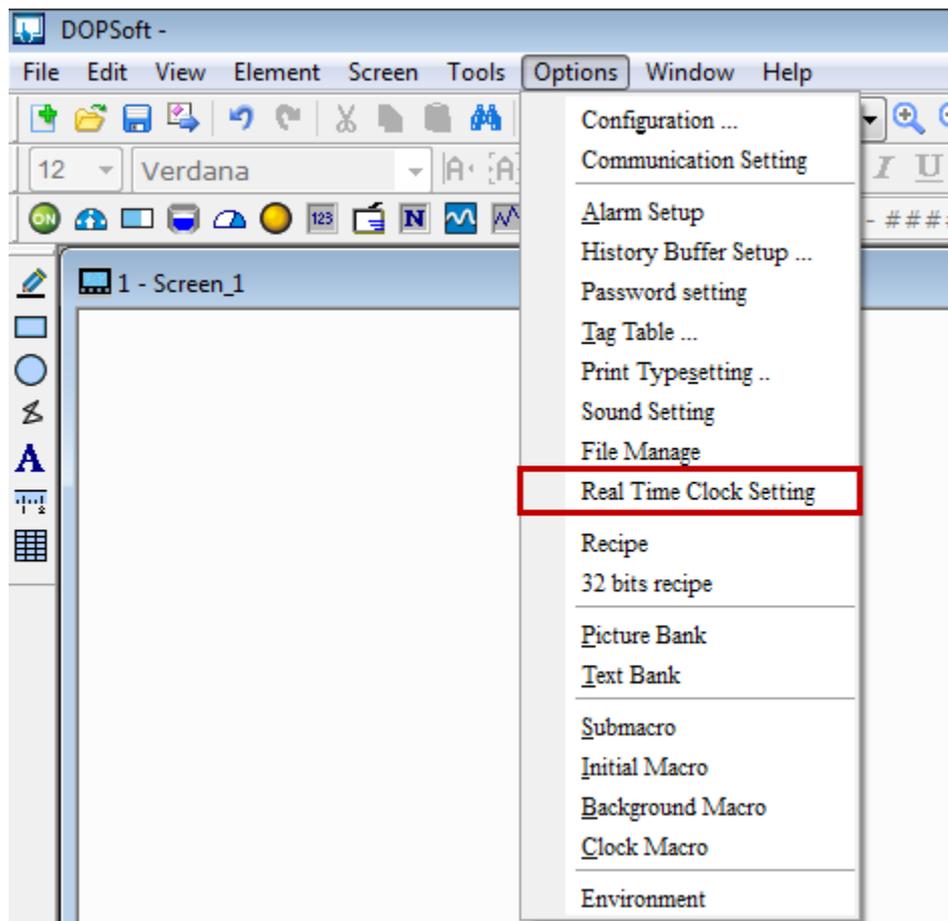


Figure 2-2-8-13 Update the Real Time Clock Setting

Users have to check【Enable RTC Updates】before update the calendar setting, which includes PLC connection setting and time setting.

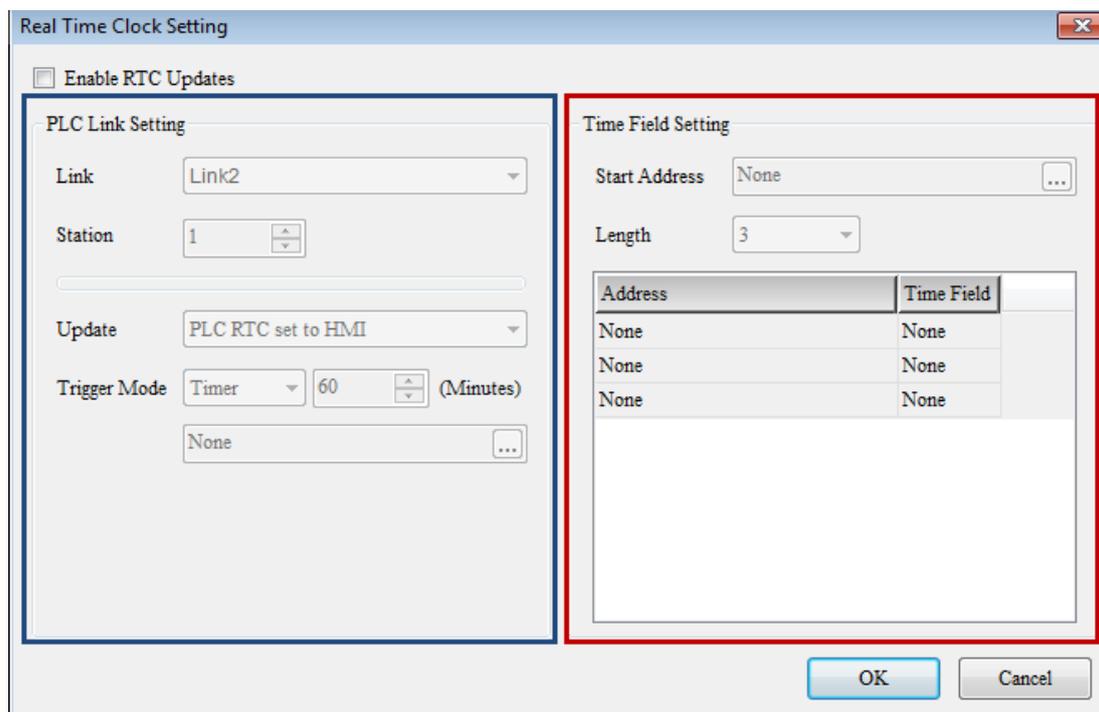
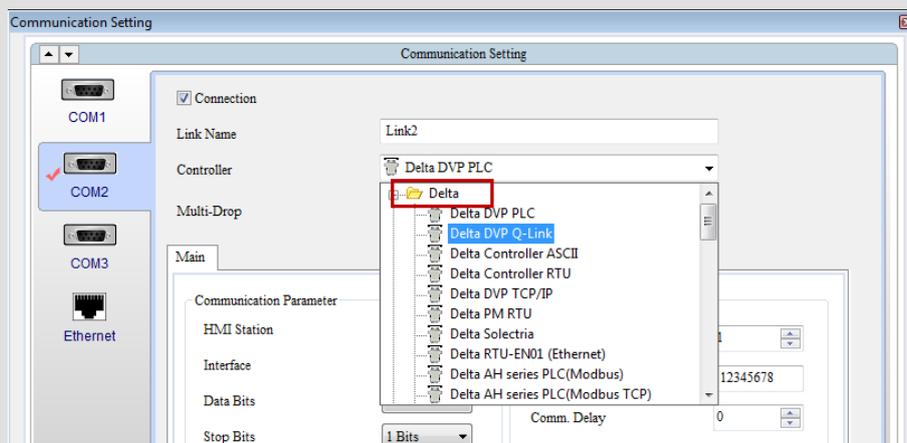


Figure 2-2-8-14 Interface of RTC update

NOTE:

- ✓ When users choose Delta's PLC as the controller, time setting is no need. DOPSoft will automatically disable the function of time setting and HMI will automatically set the time field to the perpetual calendar (D1319~D1313) from Delta's PLC.



- ✓ Some old models of Delta's PLC (ES/SS/EC) do not support the function of RTC Update.

Property Description of RTC Update

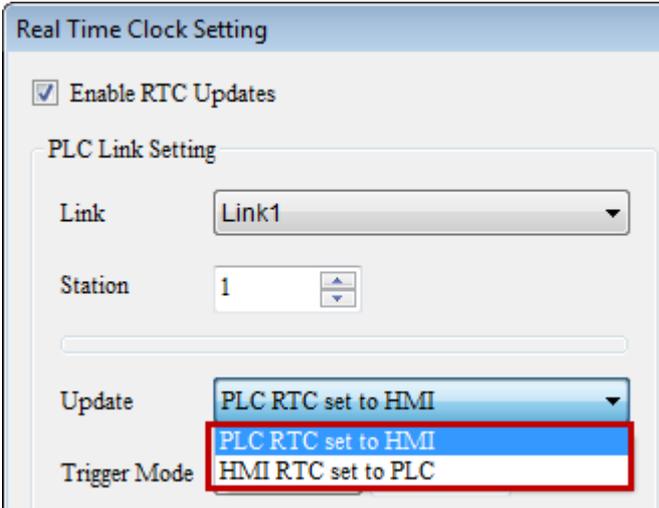
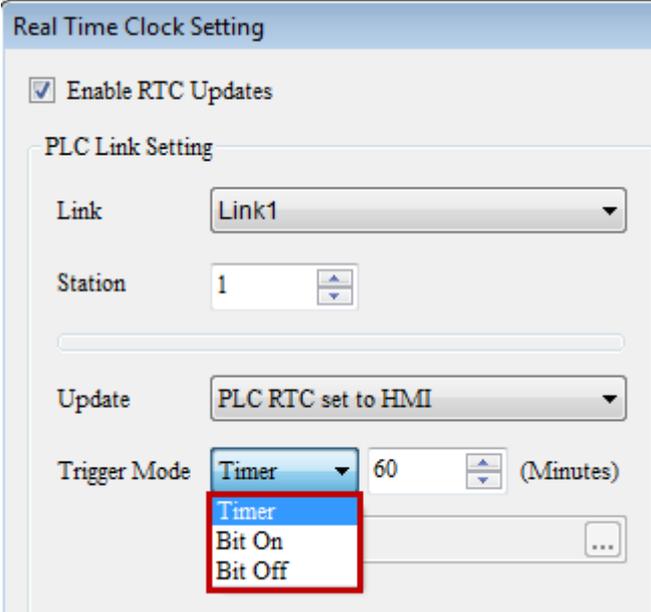
《Table 2-2-8-15》

➤ PLC connection setting

Enable RTC Updates	<ul style="list-style-type: none"> ➤ Check to enable RTC updates
Connection Name	<ul style="list-style-type: none"> ➤ Choose one connection name, no matter the controller is COM1/COM2/COM3 or Ethernet.
Station Number	<ul style="list-style-type: none"> ➤ Setup the controller station number to update the time. ➤ If the chosen controller does not support the setting, this selection

Property Description of RTC Update

《Table 2-2-8-15》

	will be disabled.
Update Setting	<p>➤ There are two modes for users: 【Synchronize the HMI RTC time to PLC】 or 【Synchronize PLC RTC time to HMI】 .</p> 
Triggering Method	<p>➤ Three triggering methods are provided: 【Timer】, 【Bit On】 and 【Bit Off】 .</p>  <p>➤ If select 【Timer】 , users can setup the cycle that system updates the setting, the minimum is 1 minute and the maximum is 1440 minutes (1 day). The default value is 60 minutes.</p> <p>➤ If select 【Bit On】 , it means it updates the setting when Bit is ON.</p> <p>➤ If select 【Bit Off】 , it means it updates the setting when Bit is OFF.</p> <p>➤ If select 【Bit On】 or 【Bit Off】 , users have to select the triggering</p>

Property Description of RTC Update

《Table 2-2-8-15》

address, which is the internal memory or register address.

➤ Time Field Setting

Start Address

- Setup the register address of RTC synchronization.

Time Field Setting

Start Address

Length

- If the controller is Delta's PLC, then there is no need to setup the start address.

Length

- Users can select the length according to the number of synchronous time field setting.
- The minimum value is 1 and maximum is 7.

Time Field Setting

Start Address

Length

Address	Time Field
{Link1}0@D80	None

- If the controller is Delta's PLC, then there is no need to setup the length.

The following introduces the example of **【RTC Update Setting】**

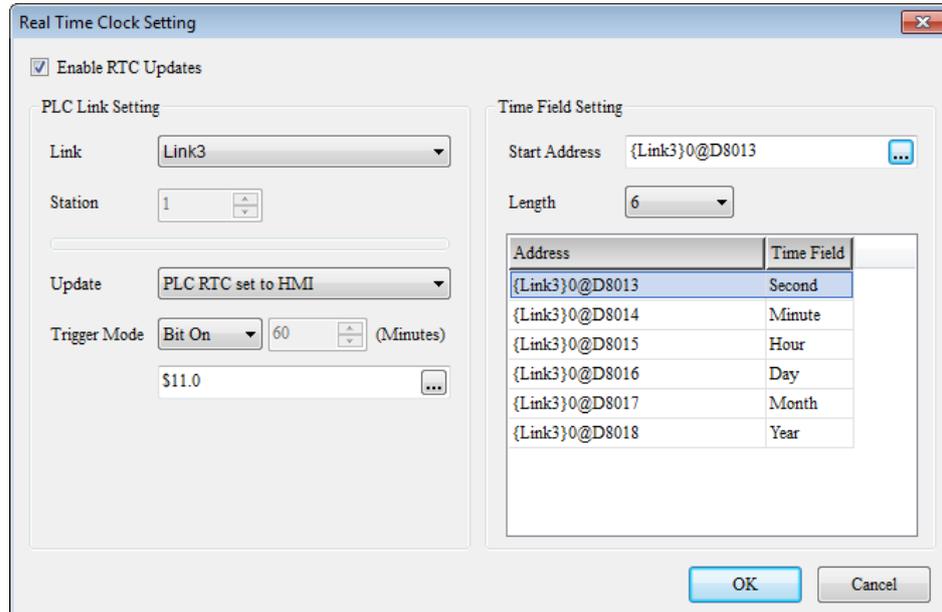
Example of RTC Update

《Table 2-2-8-16》

Setting Steps of RTC update	<ul style="list-style-type: none">➤ Step 1: Enter 【Option】 → 【RTC Update Setting】➤ Step 2: Setup the related properties of updating the RTC:<ul style="list-style-type: none">● Enable Time Auto Update● Select the connection name as Link3 (Mitsubishi – FX3U and FX3G CPU Port)● Select the updating setting 【Synchronize PLC RTC with HMI】● Triggering method: 【Bit On】● Set the triggering address as \$11.0● The start address is set to {Link3}1@D8013.● Select 6 as the length.● Select “Second” as the corresponding time field of {Link3}1@D8013.● Select “Minute” as the corresponding time field of {Link3}1@D8014.● Select “Hour” as the corresponding time field of {Link3}1@D8015.● Select “Day” as the corresponding time field of {Link3}1@D8016.● Select “Month” as the corresponding time field of {Link3}1@D8017.● Select “Year” as the corresponding time field of {Link3}1@D8018.➤ Please click OK to complete the setting. See the figure below.➤ Mitsubishi – FX3U and FX3G CPU Port Controller does not need to setup station number, thus, there is no need to set it up in RTC Update Settin
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Example of RTC Update

《Table 2-2-8-16》



Real Time Clock Setting

Enable RTC Updates

PLC Link Setting

Link: Link3

Station: 1

Update: PLC RTC set to HMI

Trigger Mode: Bit On 60 (Minutes)

\$11.0

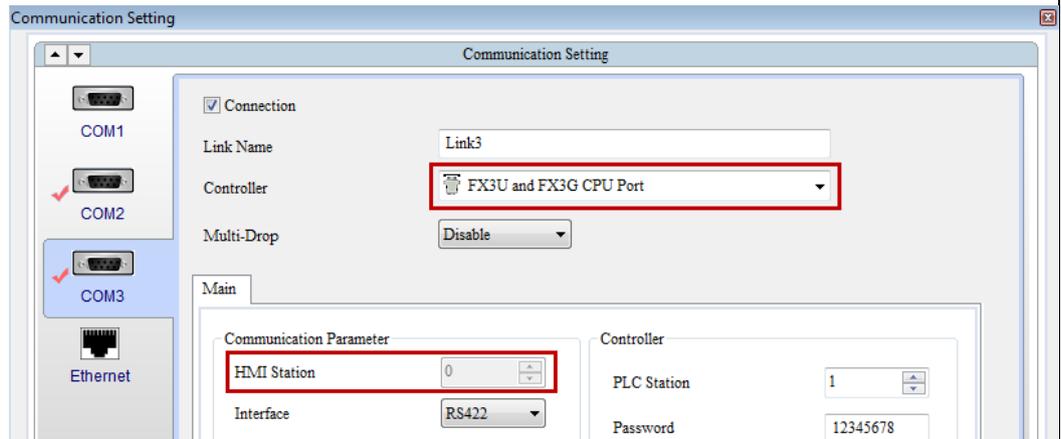
Time Field Setting

Start Address: {Link3}0@D8013

Length: 6

Address	Time Field
{Link3}0@D8013	Second
{Link3}0@D8014	Minute
{Link3}0@D8015	Hour
{Link3}0@D8016	Day
{Link3}0@D8017	Month
{Link3}0@D8018	Year

OK Cancel



Communication Setting

COM1

COM2

COM3

Ethernet

Connection

Link Name: Link3

Controller: FX3U and FX3G CPU Port

Multi-Drop: Disable

Main

Communication Parameter

HMI Station: 0

Interface: RS422

Controller

PLC Station: 1

Password: 12345678

Example of RTC Update

《Table 2-2-8-16》

- Please compile the elements and download them into HMI after all are created. When triggering maintained button (BIT ON) of RTC, the system will set RTC time of PLC to HMI. Thus, the system parameter inside HMI, TIME_YEAR, TIME_MONTH, TIME_DAY, TIME_HOUR, TIME_MINUTE and TIME_SECOND will be synchronized with PLC RTC.

Result

BIT OFF

RTC TO HMI
BIT OFF

Mitsubishi PLC
[COM3]

Year	Month	Day	Hour	Minute	Second
2013	10	30	15	4	20

HMI RTC

Year	Month	Day	Hour	Minute	Second
2099	9	9	9	9	9

BIT ON

RTC TO HMI
BIT ON

Mitsubishi PLC
[COM3]

Year	Month	Day	Hour	Minute	Second
2013	10	30	15	4	30

HMI RTC

Year	Month	Day	Hour	Minute	Second
2013	10	30	15	4	30