GW-7552 (Modbus RTU Slave) Example for SIMATIC STEP 7

- Before Connecting
- Example 1: Receives DO data from Modbus master
- Example 2: Refreshes DI data from Modbus master
- Example 3: Receives AO data from Modbus master
- Example 4: Refreshes AI data from Modbus master

Before connecting

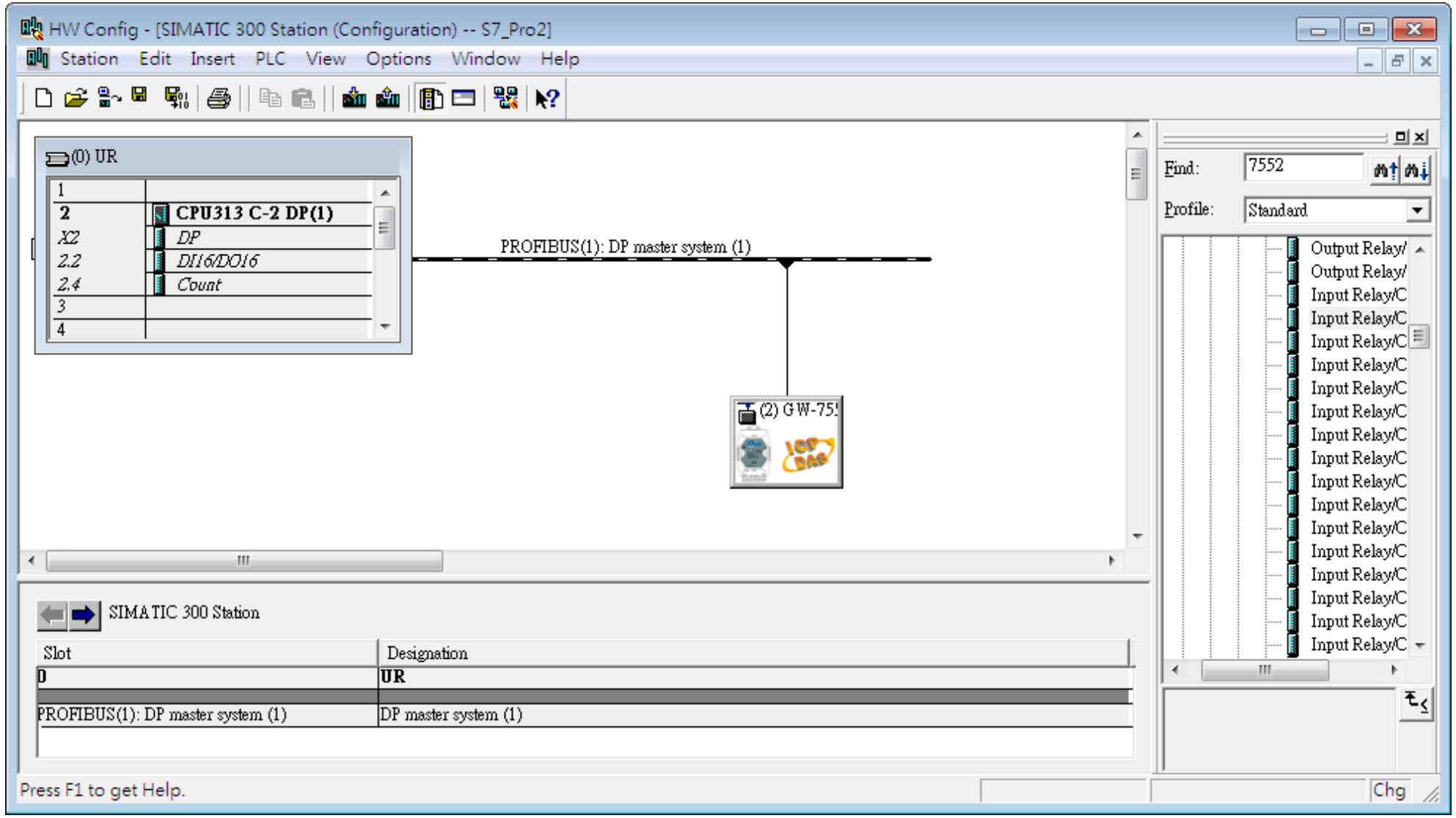
Set the parameters of device as shown as below

SIMATIC PLC
* PROFIBUS Device **2**(Master)

GW-7552
- PROFIBUS Device **6** (Slave)
- Modbus Device **99** (RTU Slave)

Comport Settings:
- Baud rate:115200
- Data bit: 8
- Stop bit : 1
- Parity: None
- Byte order: Big Endian

Add a profibus master system and a profibus slave (GW-7552)

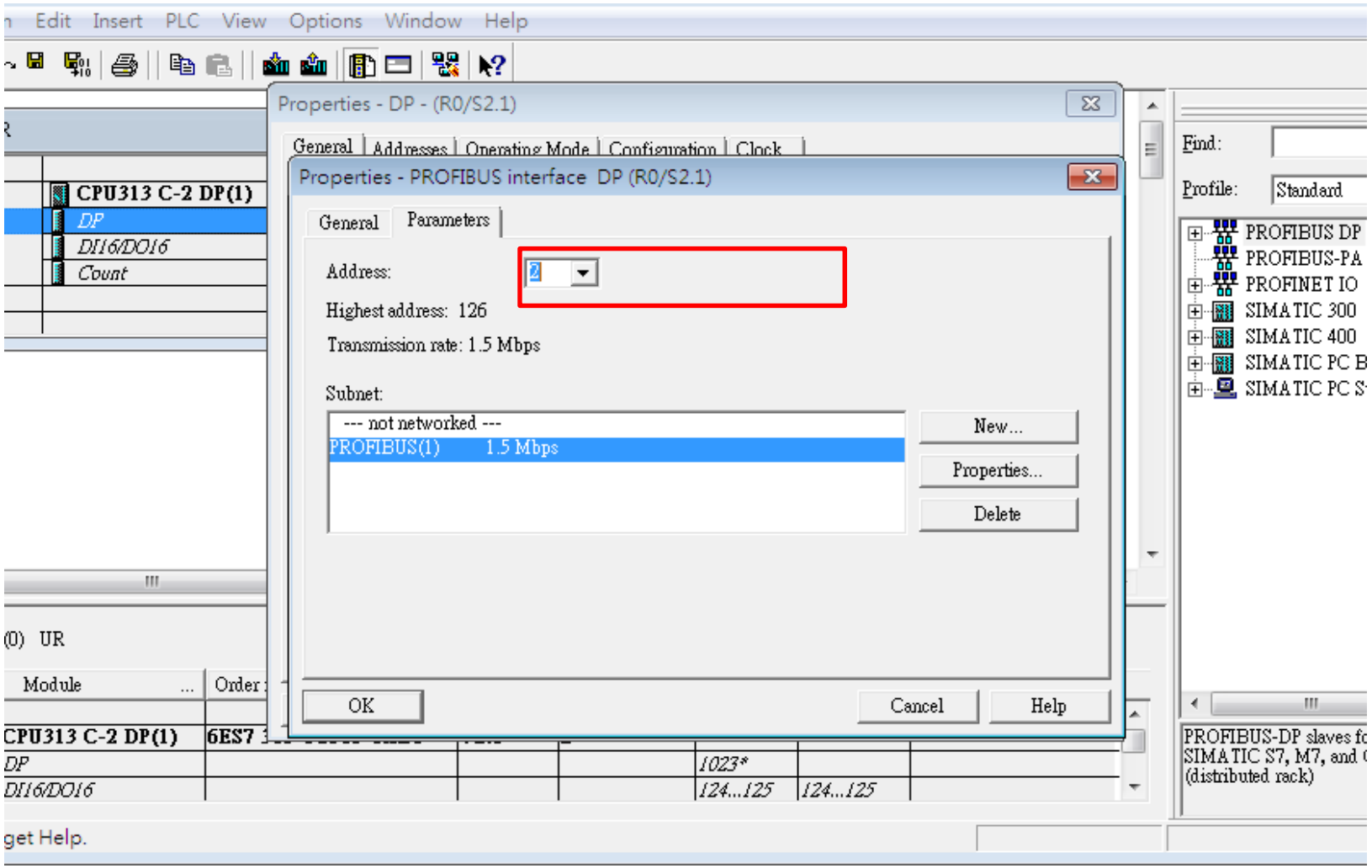


Before connecting

Set the address of PLC in profibus as below

SIMATIC PLC
* PROFIBUS Device **2** (Master)

1.Double Click DP icon
2.Click “Properties”
3.Change address
4. Click OK



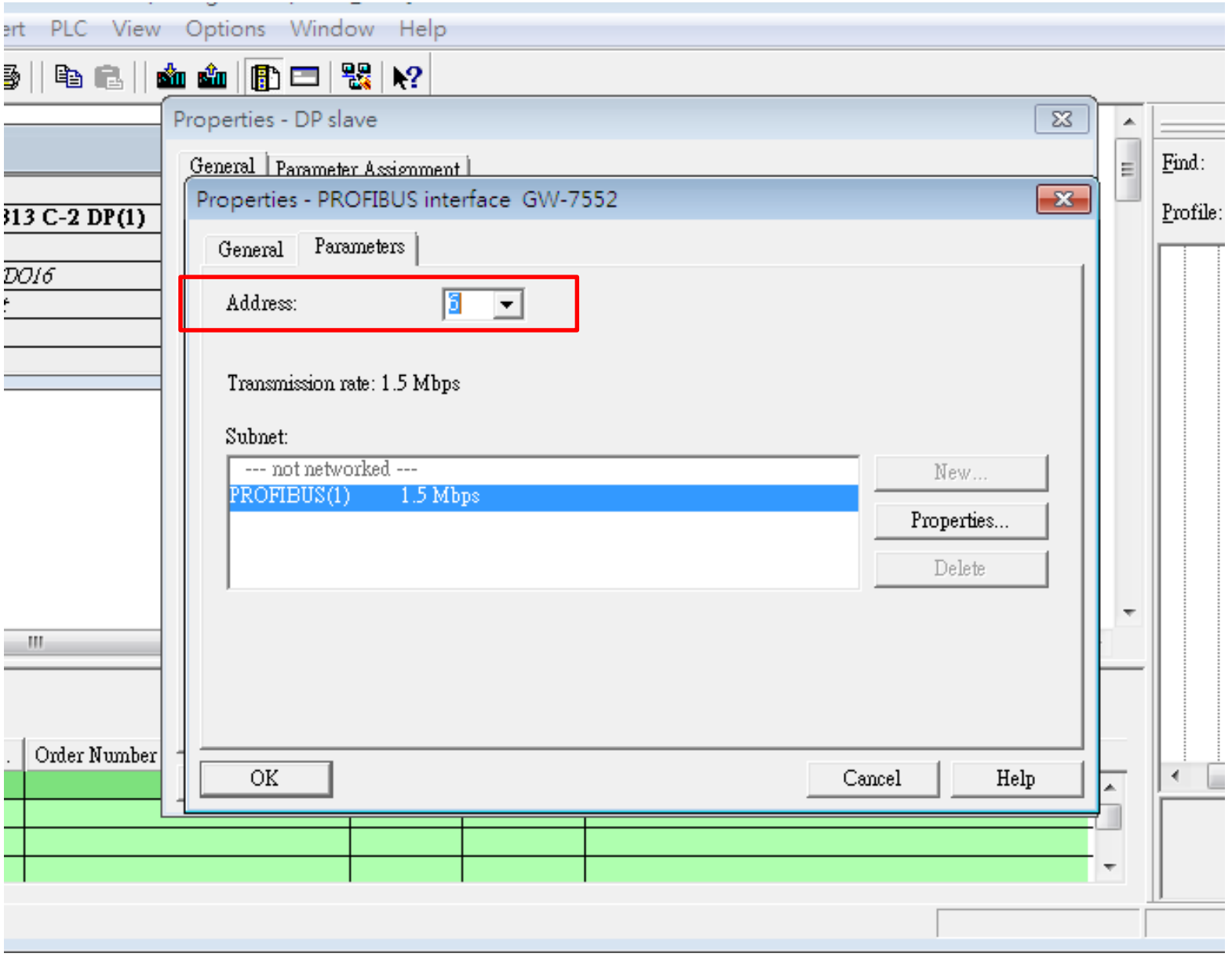
Before connecting

Set the address of GW-7552 as below

GW-7552

- PROFIBUS Device **6** (Slave)
- Modbus Device **99** (RTU Master)

1.Double click GW7552 icon
2.Click PROFIBUS
3. Change the address
4.Click OK



Before connecting

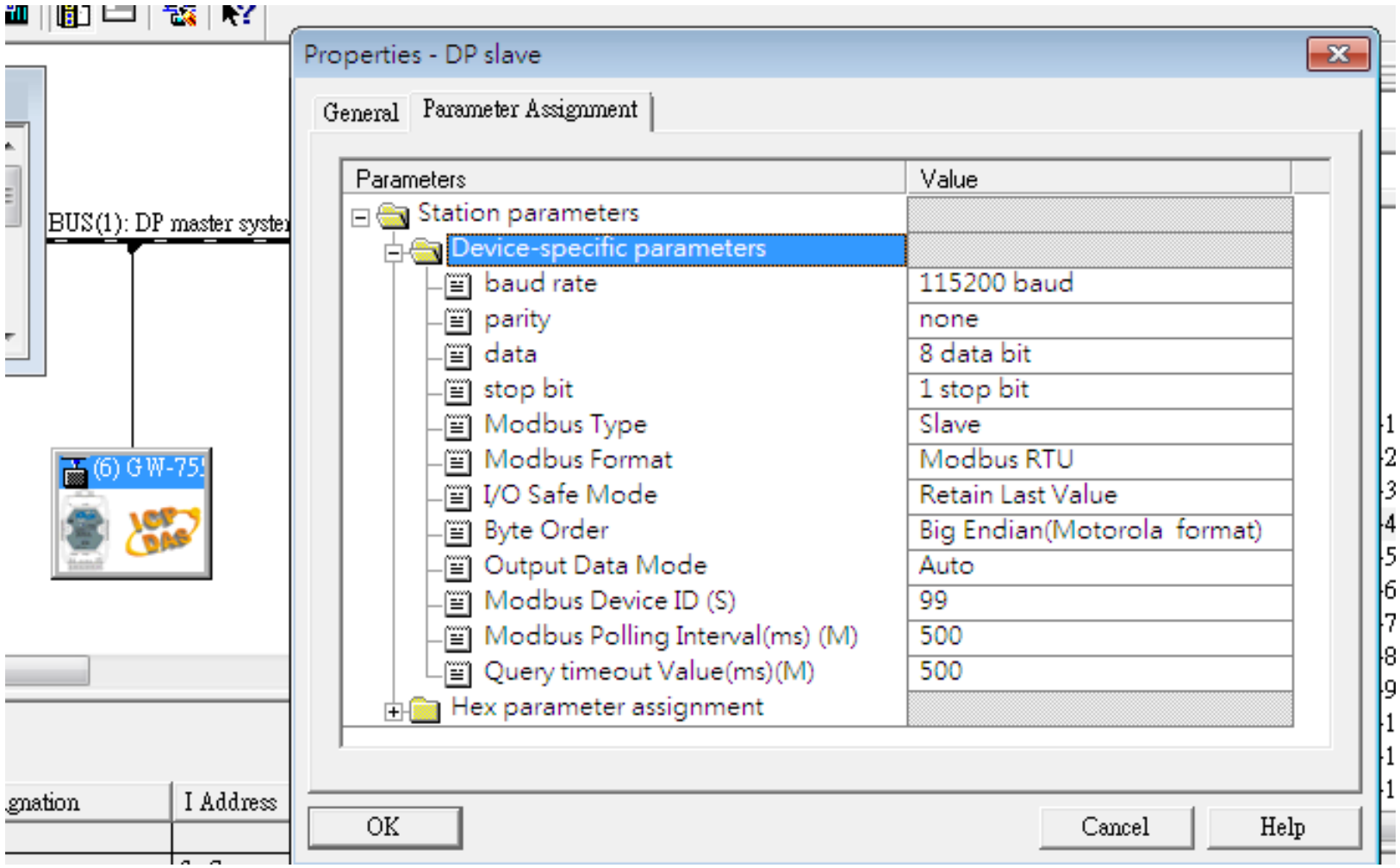
Set Gw-7552 comport setting as below

Comport Settings:

- Baudrate:115200
- Data bit: 8
- Stop bit : 1
- Parity: None
- Byte order: Big Endian
- Output Data Mode : Auto
- Modbus Device ID (S) :**99**

1.Double click GW7552 icon
2.Click Parameter Assignment
3.Change
  Modbus Type : Slave
  Byte order: big Endian
  Output Data Mode : Auto
  Modbus Device ID: 99
4.Click “OK”

You can change parameters here



Before connecting

Make sure the switch of the GW-7552 is at Normal mode.

Refer to GW-7552 user manual 2.6

Before connecting

Setup the address by the DIP switch to set GW-7552's address as **6** in PROFIBUS

Refer to GW-7552 user manual 2.4

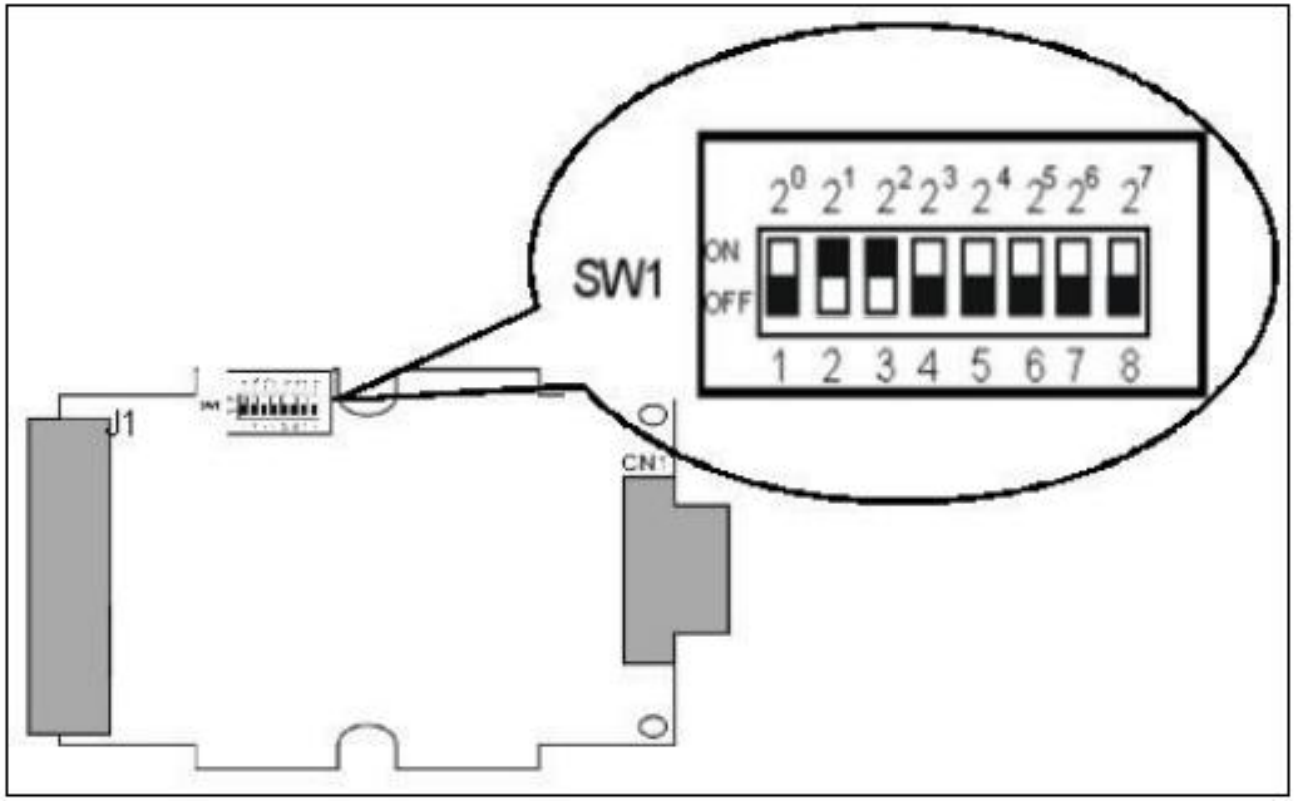
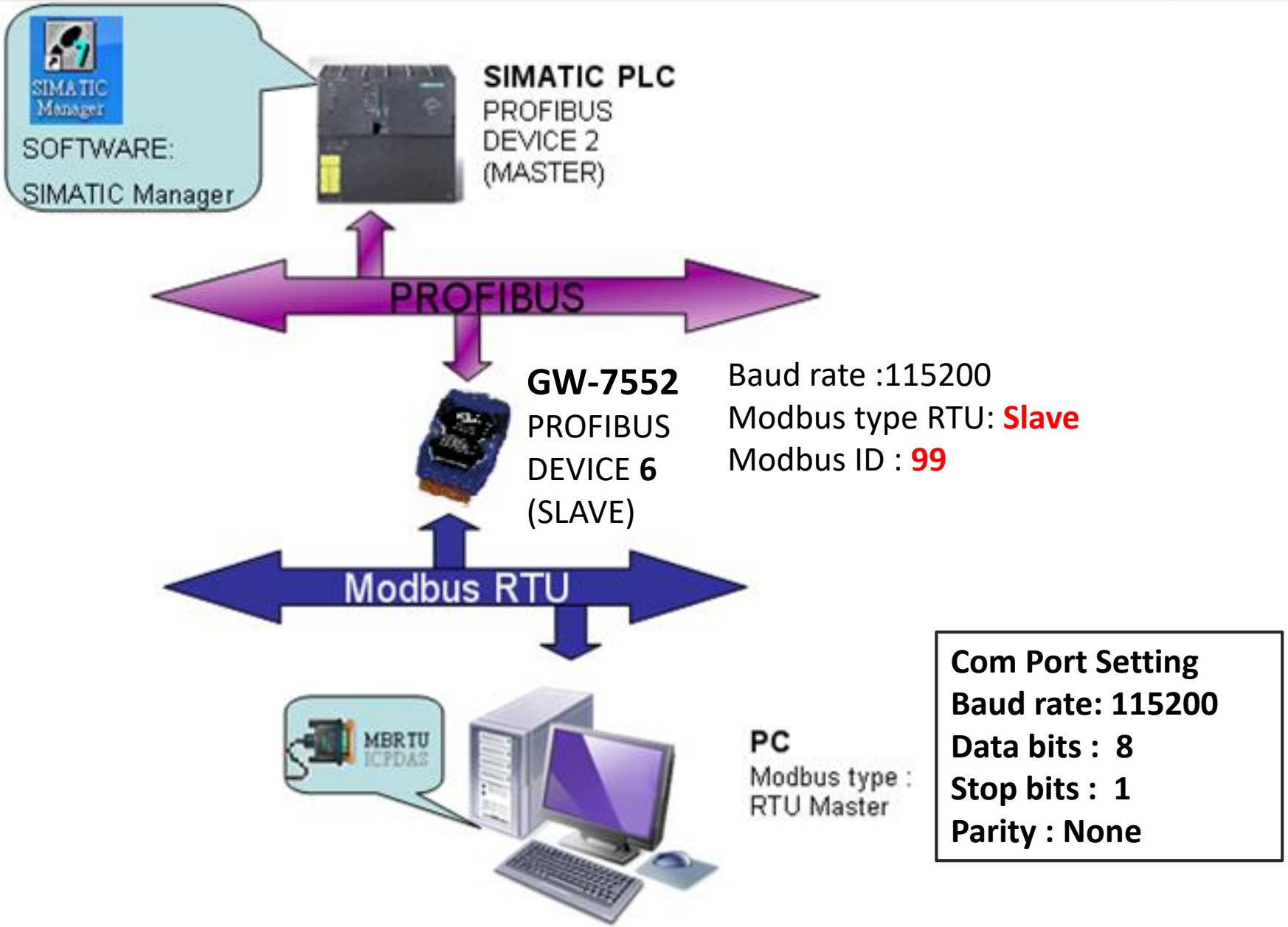
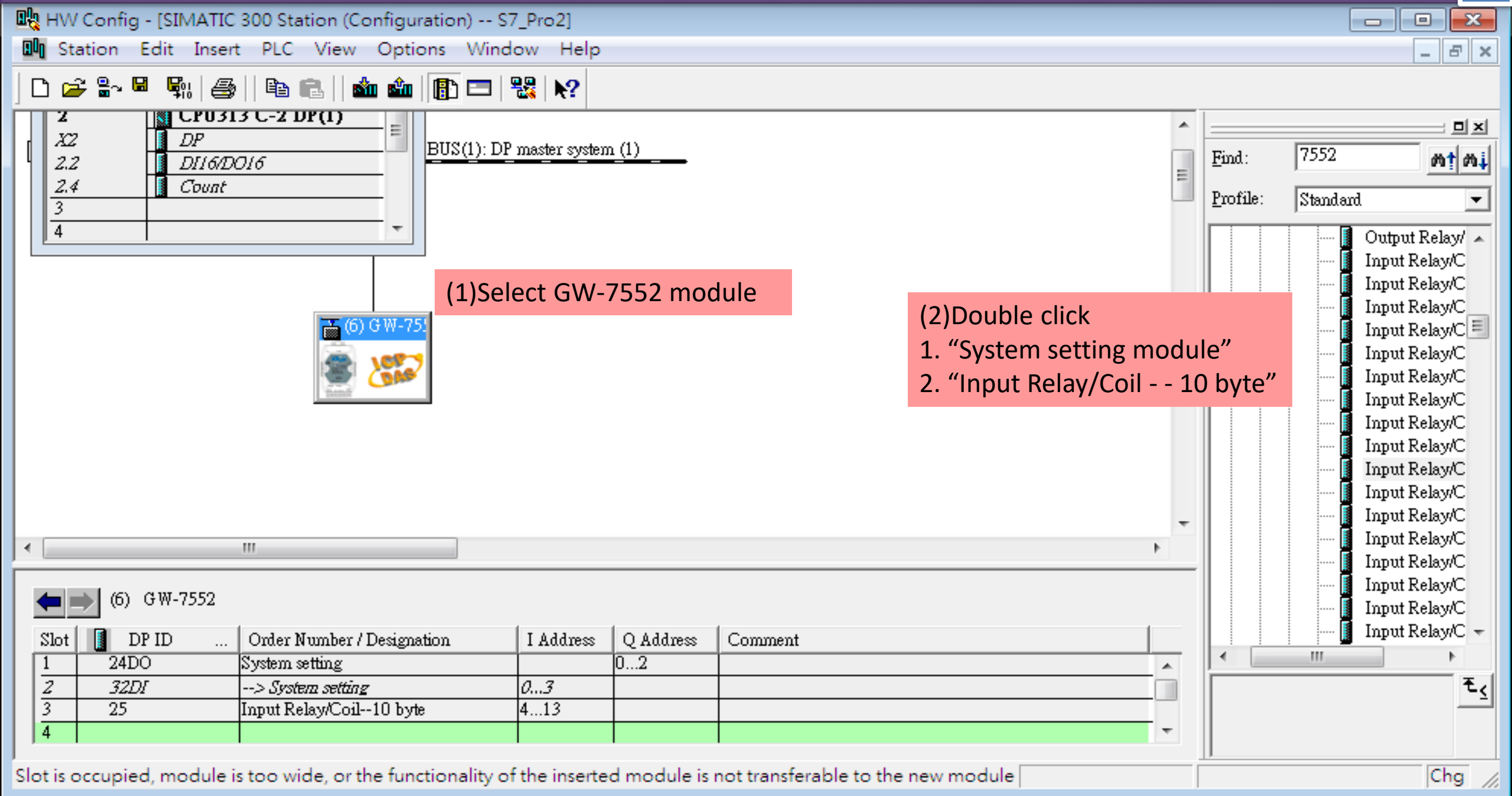


Figure 12: DIP switch

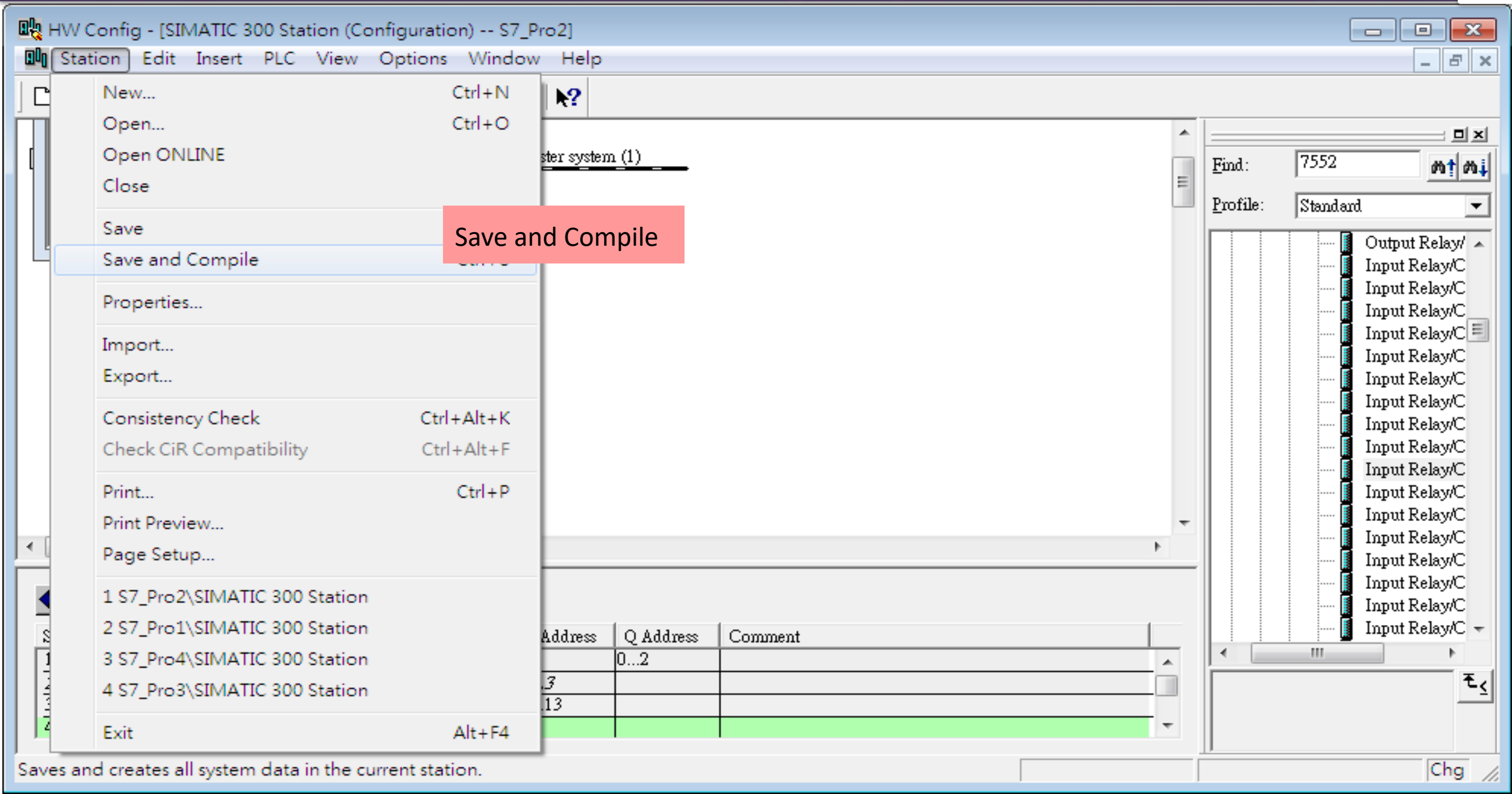
PLC Receives DO from Modbus master



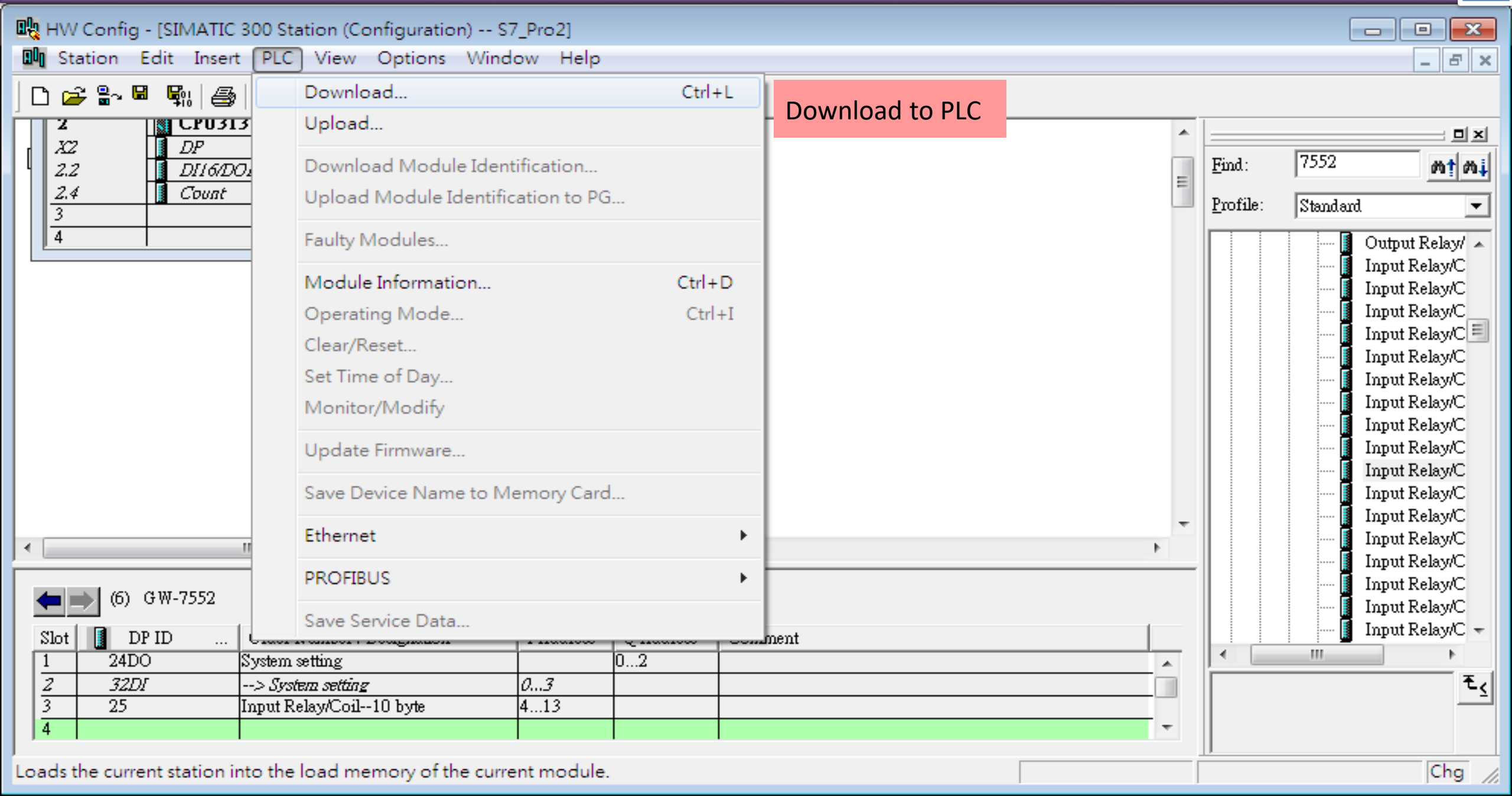
PLC Receives DO from Modbus master



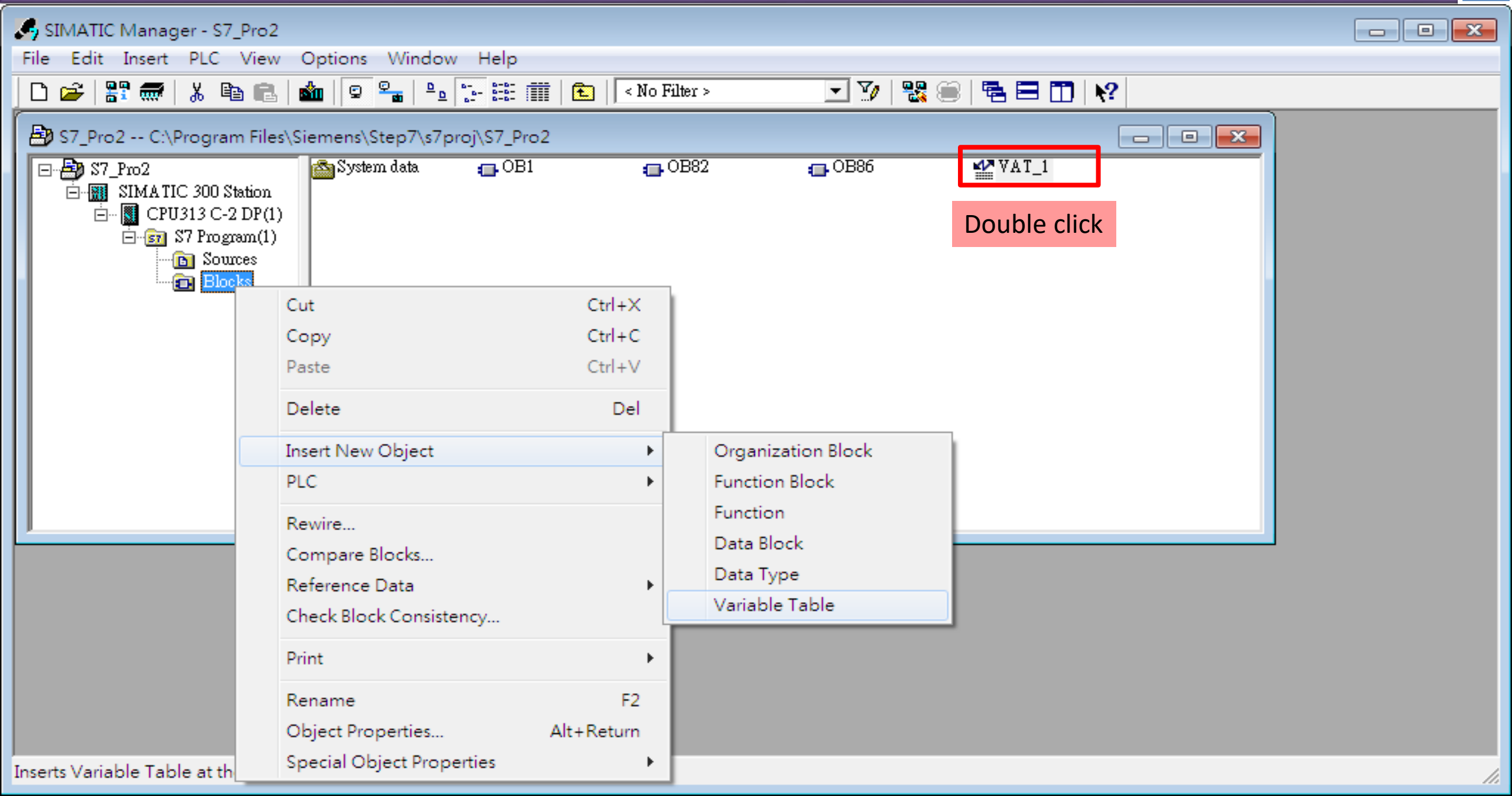
PLC Receives DO from Modbus master



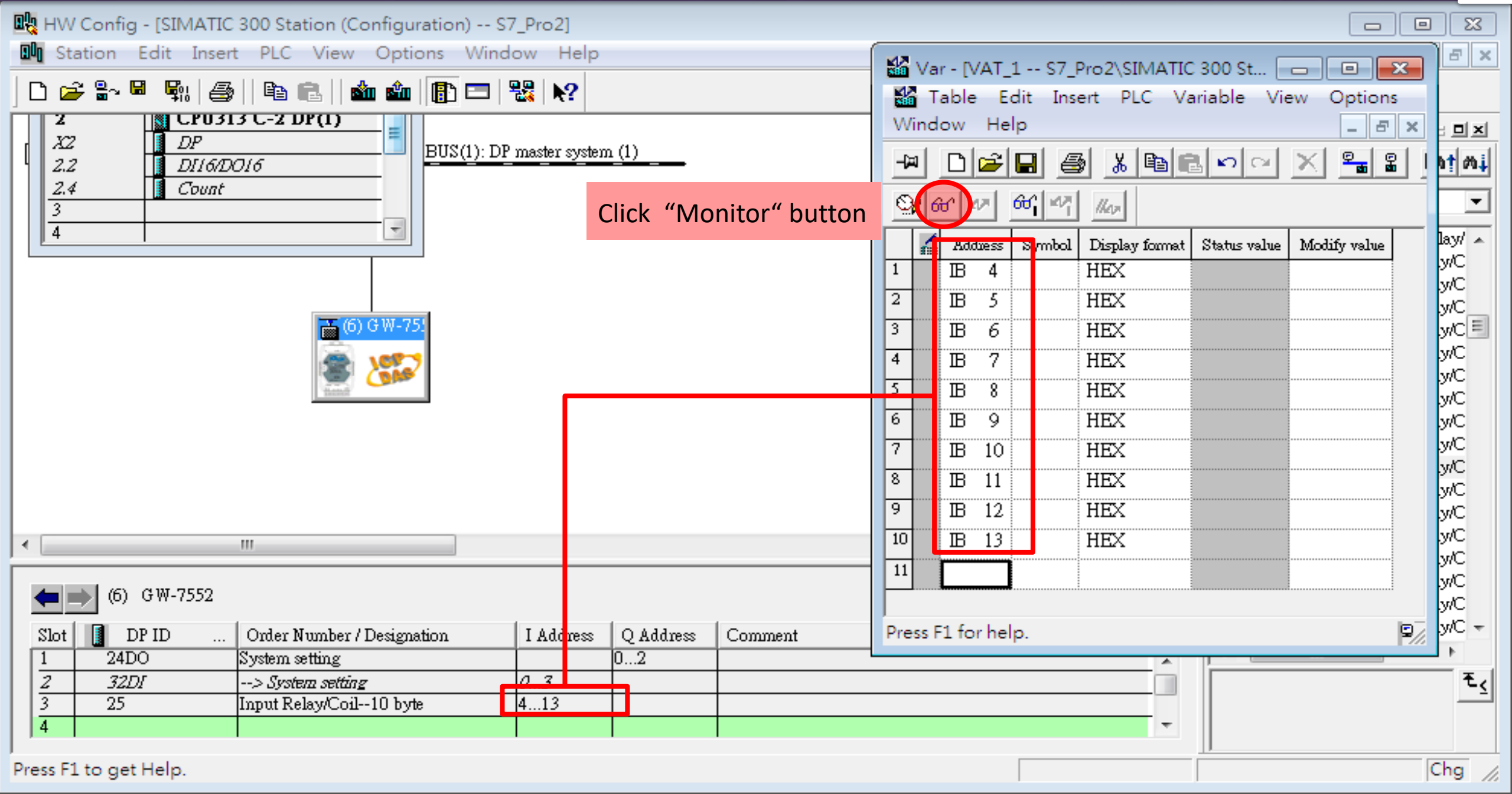
PLC Receives DO from Modbus master



PLC Receives DO from Modbus master



PLC Receives DO from Modbus master



PLC Receives DO from Modbus master

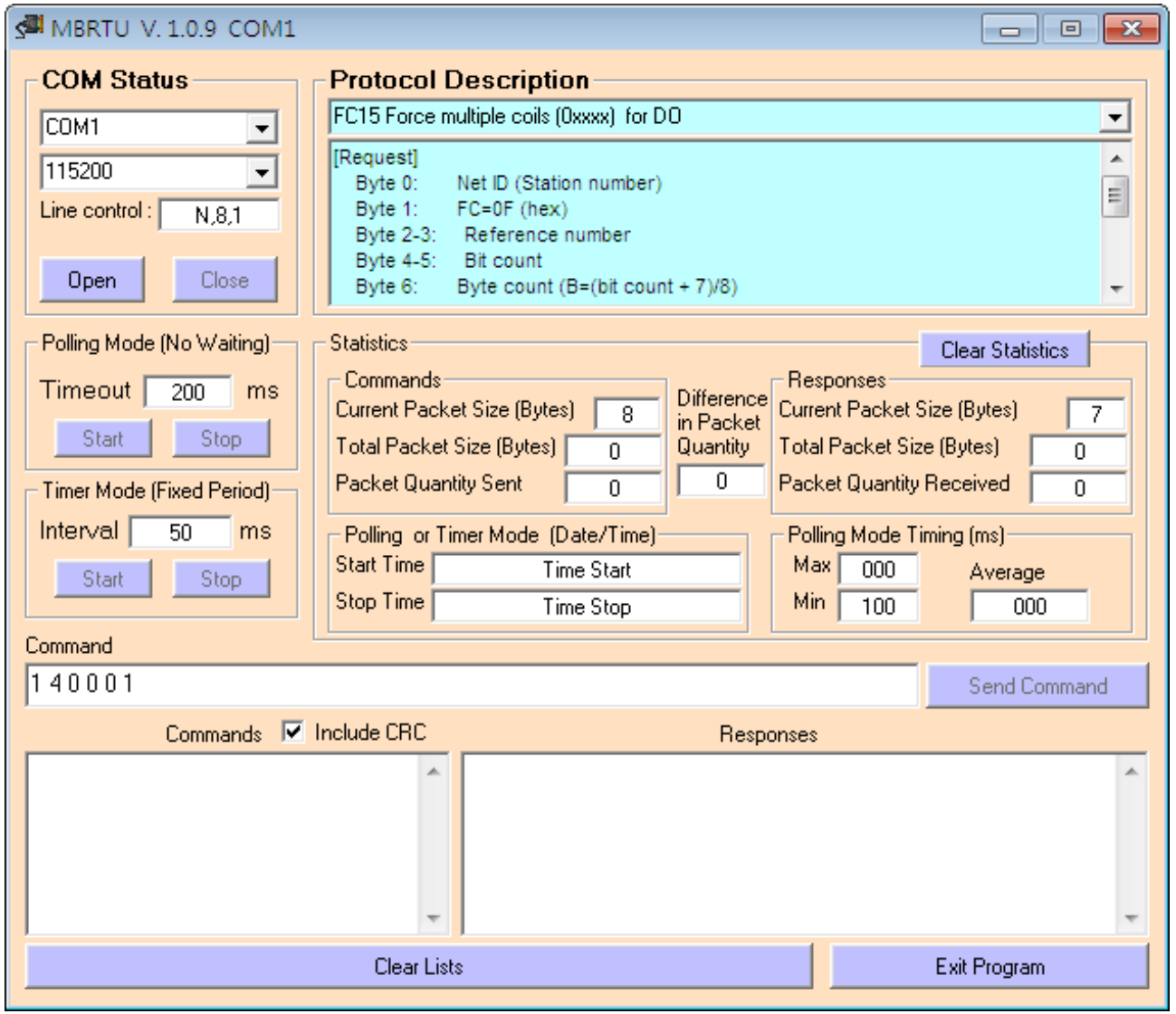
Communication test

Confirm the GW-7552's Com Port setting is the same with Modbus Master tool

(ex: MBRTU, you can download MBRTU from http://ftp.icpdas.com.tw/pub/cd/8000cd/napdos/modbus/modbus_utility/)

Com Port Settings:
baud rate-115200,
data bits-8, stop bits-1,
parity-none

Confirm the setting of MBRTU is the same with GW-7552's setting



PLC Receives DO from Modbus master

MBRTU V. 1.0.9 COM1

COM Status

COM1

115200

Line control: N,8,1

Open | Close

Protocol Description

FC15 Force multiple coils (0xxxx) for DO

[Request]
Byte 0: Net ID (Station number)
Byte 1: FC=0F (hex)
Byte 2-3: Reference number
Byte 4-5: Bit count
Byte 6: Byte count (B=(bit count + 7)/8)

Polling Mode (No Waiting)

Timeout 200 ms

Start | Stop

Timer Mode (Fixed Period)

Interval 50 ms

Start | Stop

Statistics

Clear Statistics

Commands
Current Packet Size (Bytes) 8
Total Packet Size (Bytes) 19
Packet Quantity Sent 1

Difference in Packet Quantity 0

Responses
Current Packet Size (Bytes) 8
Total Packet Size (Bytes) 8
Packet Quantity Received 1

Modbus FC0F

Polling or Timer Mode (Date/Time)

Start Time: Time Start
Stop Time: Time Stop

Data

Polling Mode Timing (ms)

Min 100 Average 000

Command

63 0f 00 00 00 50 0A 11 22 33 44 55 66 77 88 99 AA

1.Send Command

Send Command

Commands ☑ Include CRC

63 0F 00 00 00 50 0A 11 22 33 44 55 66 77 88 99 AA EE 3A

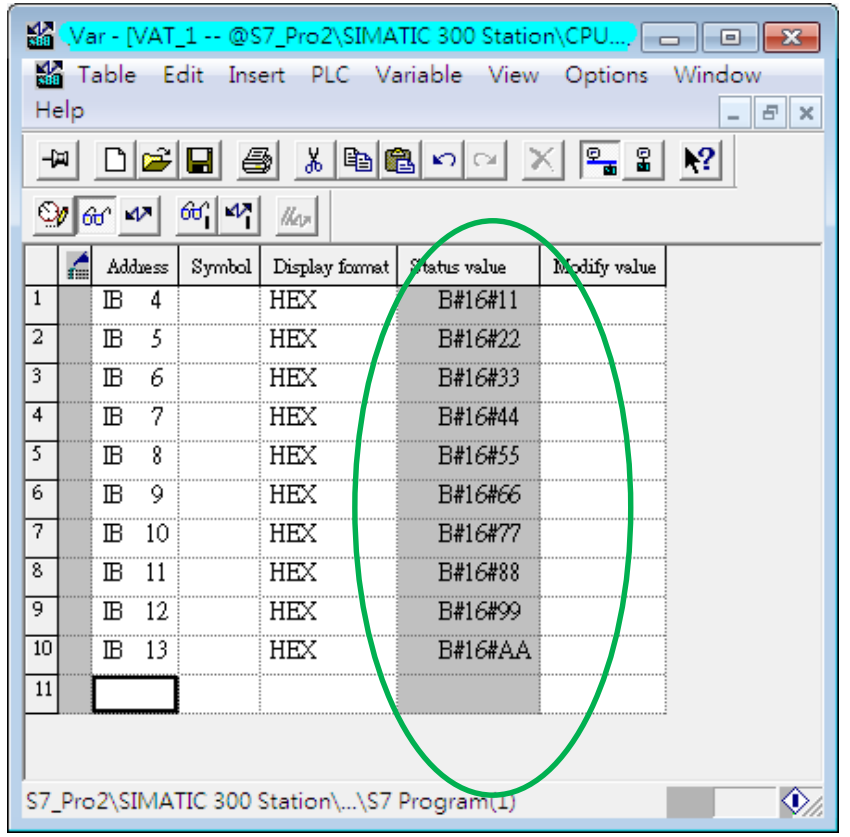
Responses

63 0F 00 00 00 50 5D B5

2.Recived Response

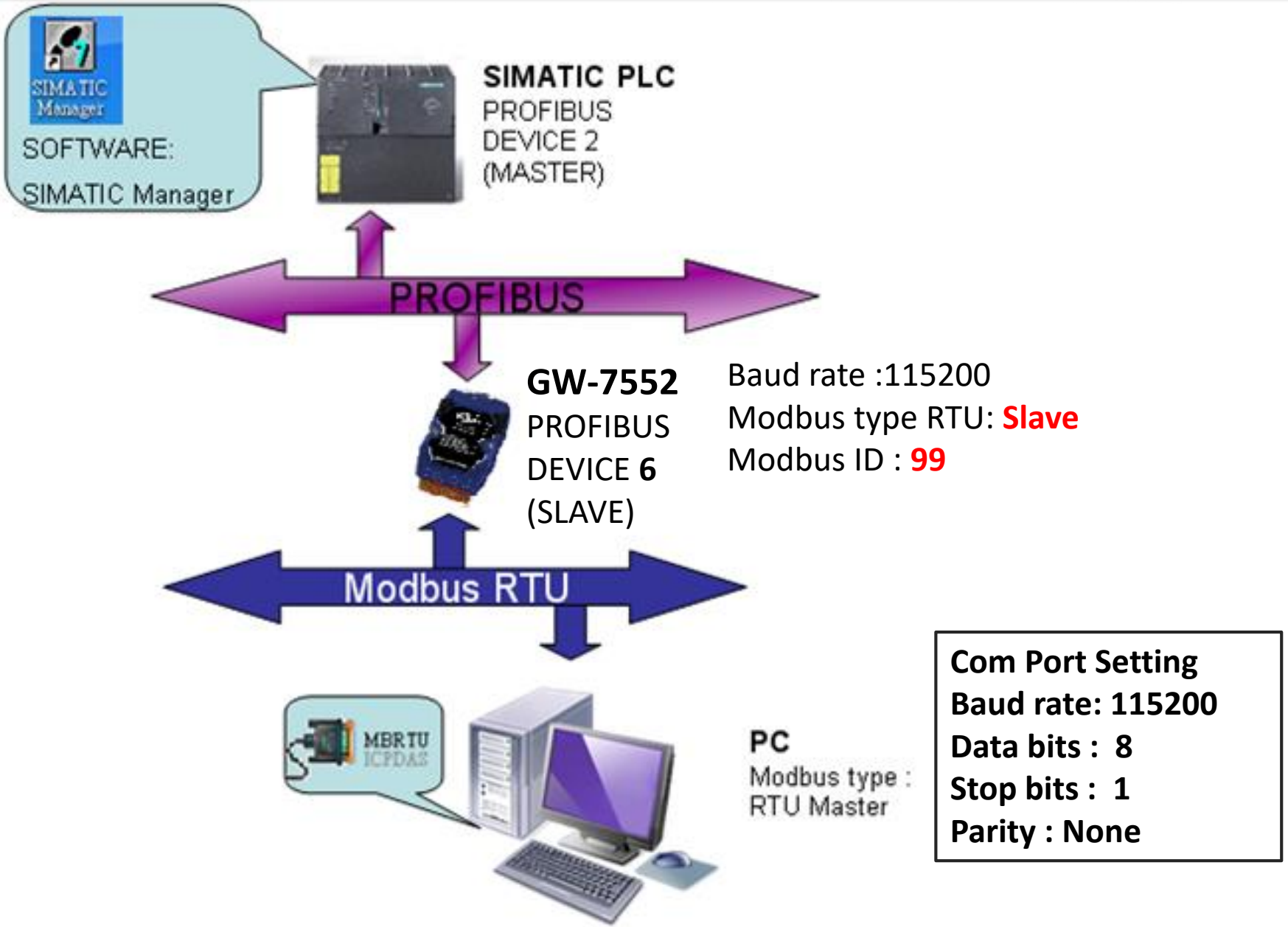
Gw-7552 Modbus Address :15

Clear Lists | Exit Program

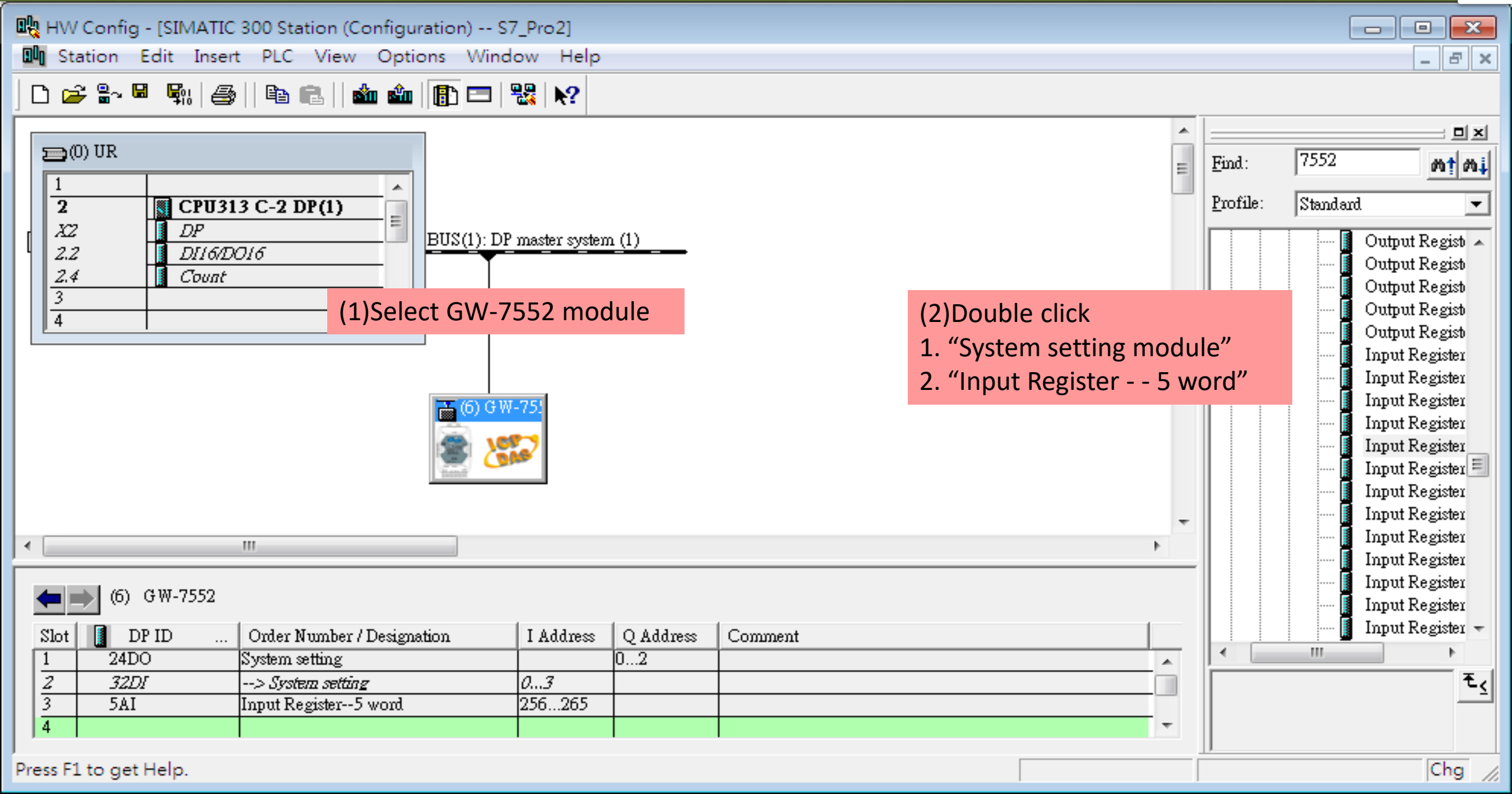


User can receive DO data in IB4~IB13

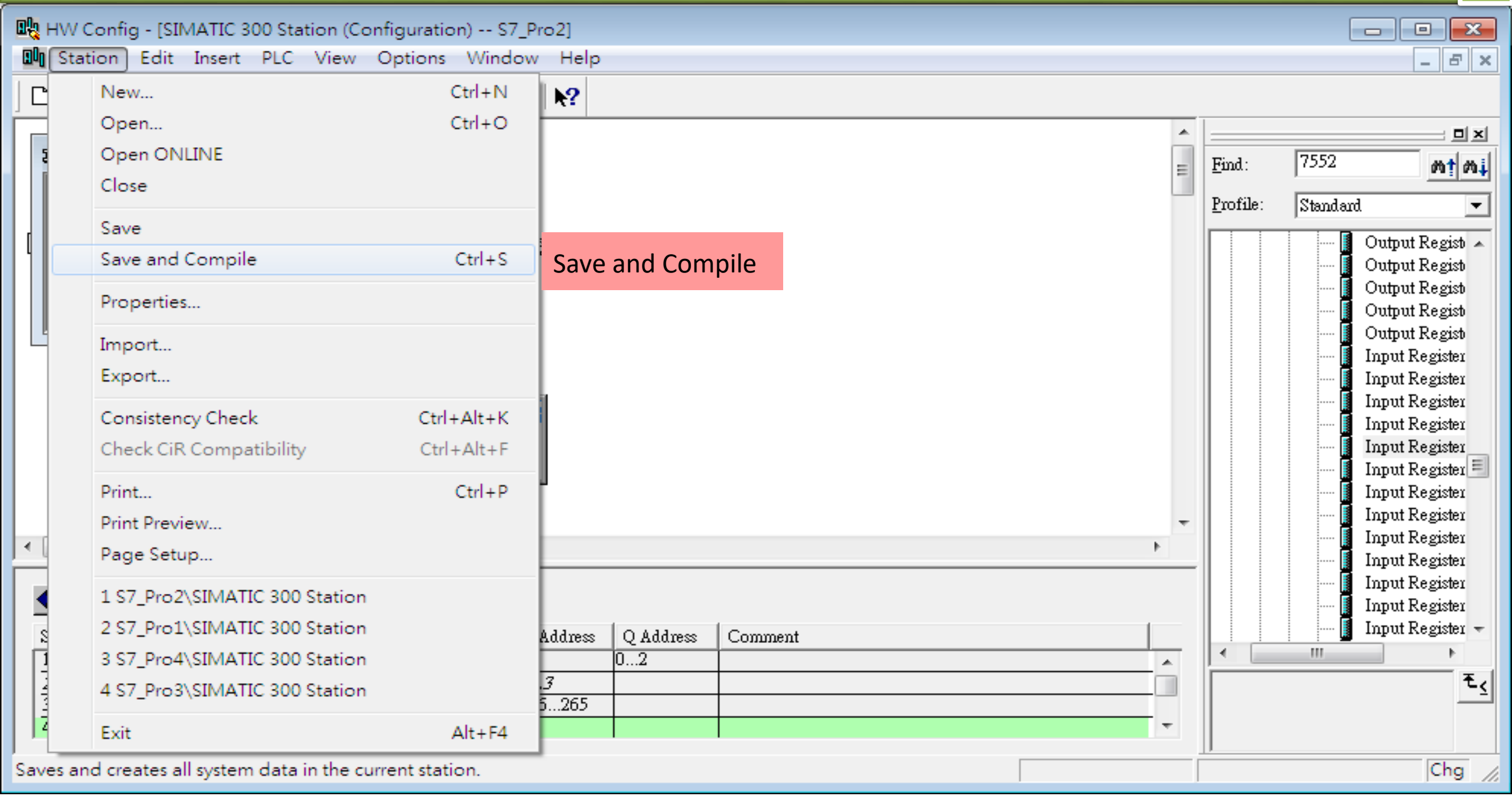
PLC Receives AO from Modbus master



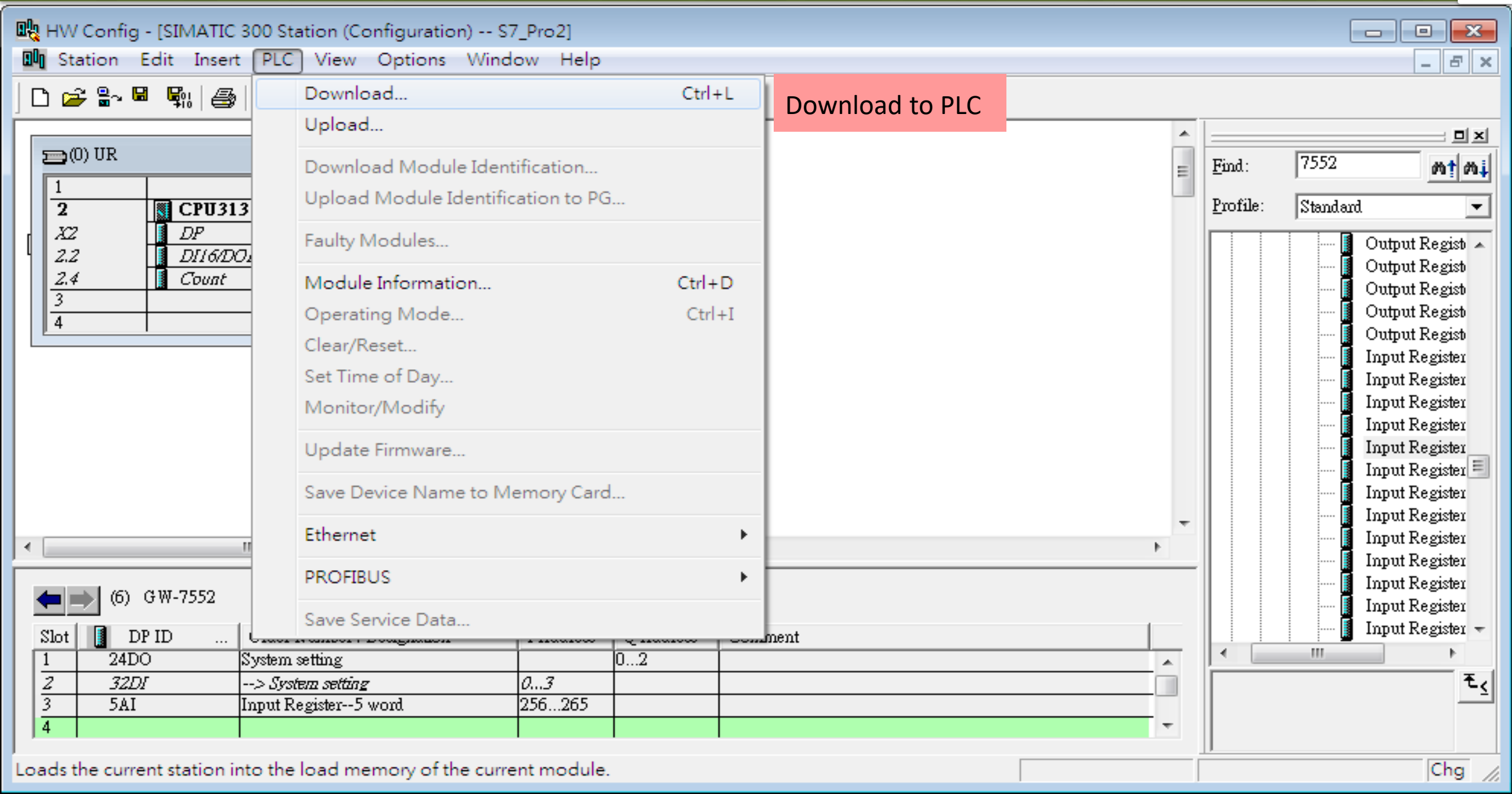
PLC Receives AO from Modbus master



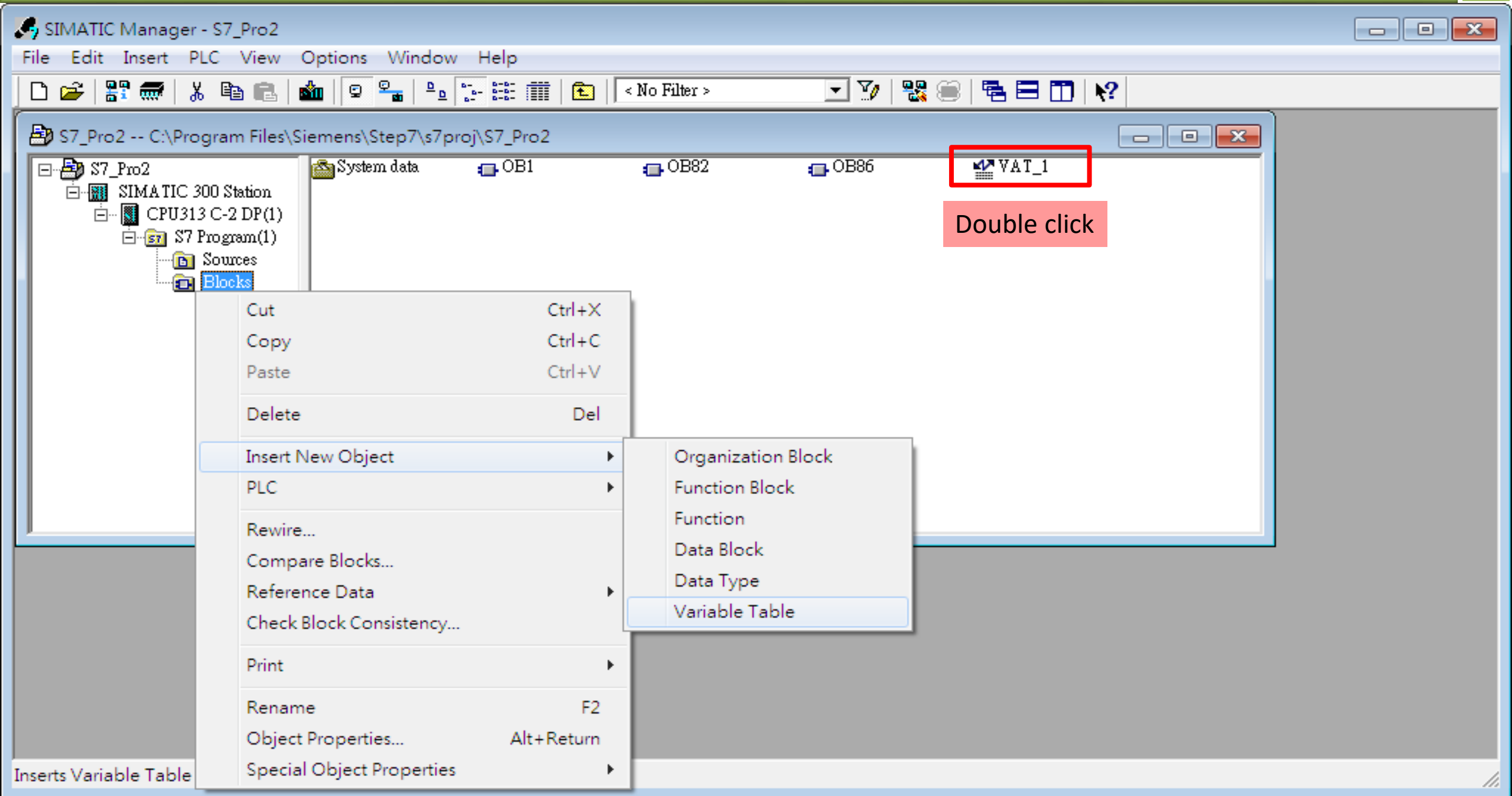
PLC Receives AO from Modbus master



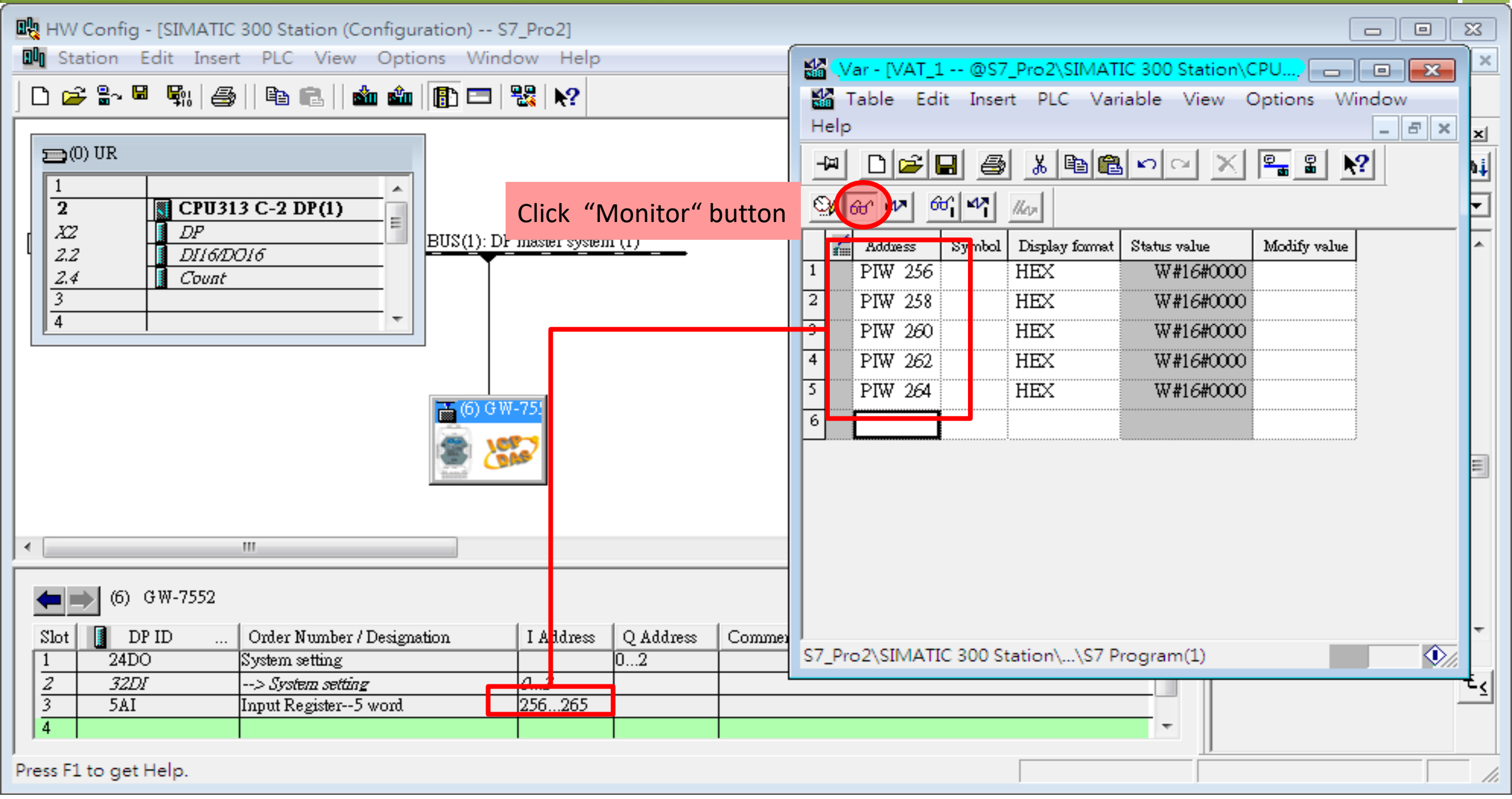
PLC Receives AO from Modbus master



PLC Receives AO from Modbus master



PLC Receives AO from Modbus master



PLC Receives AO from Modbus master

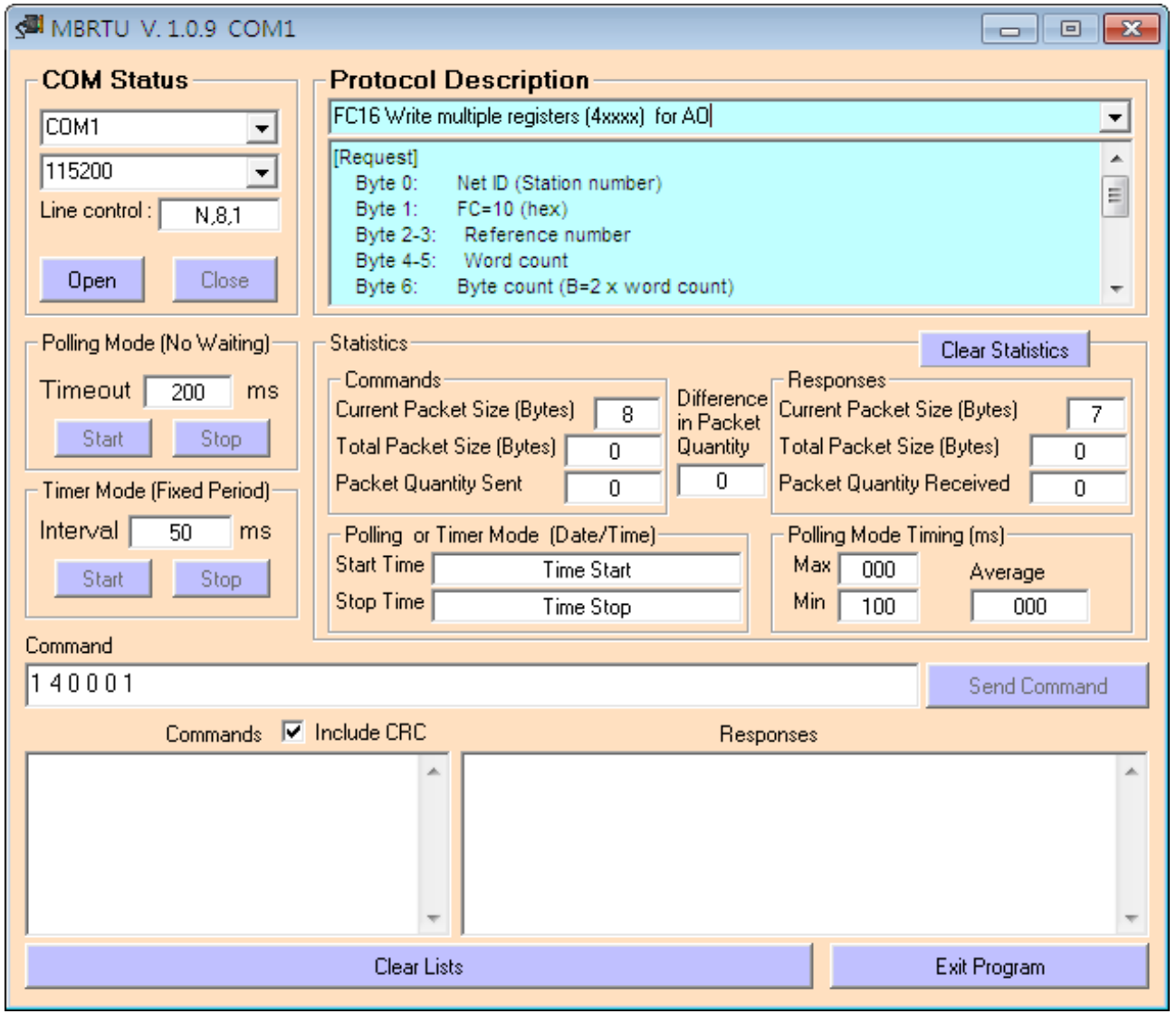
Communication test

Confirm the GW-7552's Com Port setting is the same with Modbus Master tool

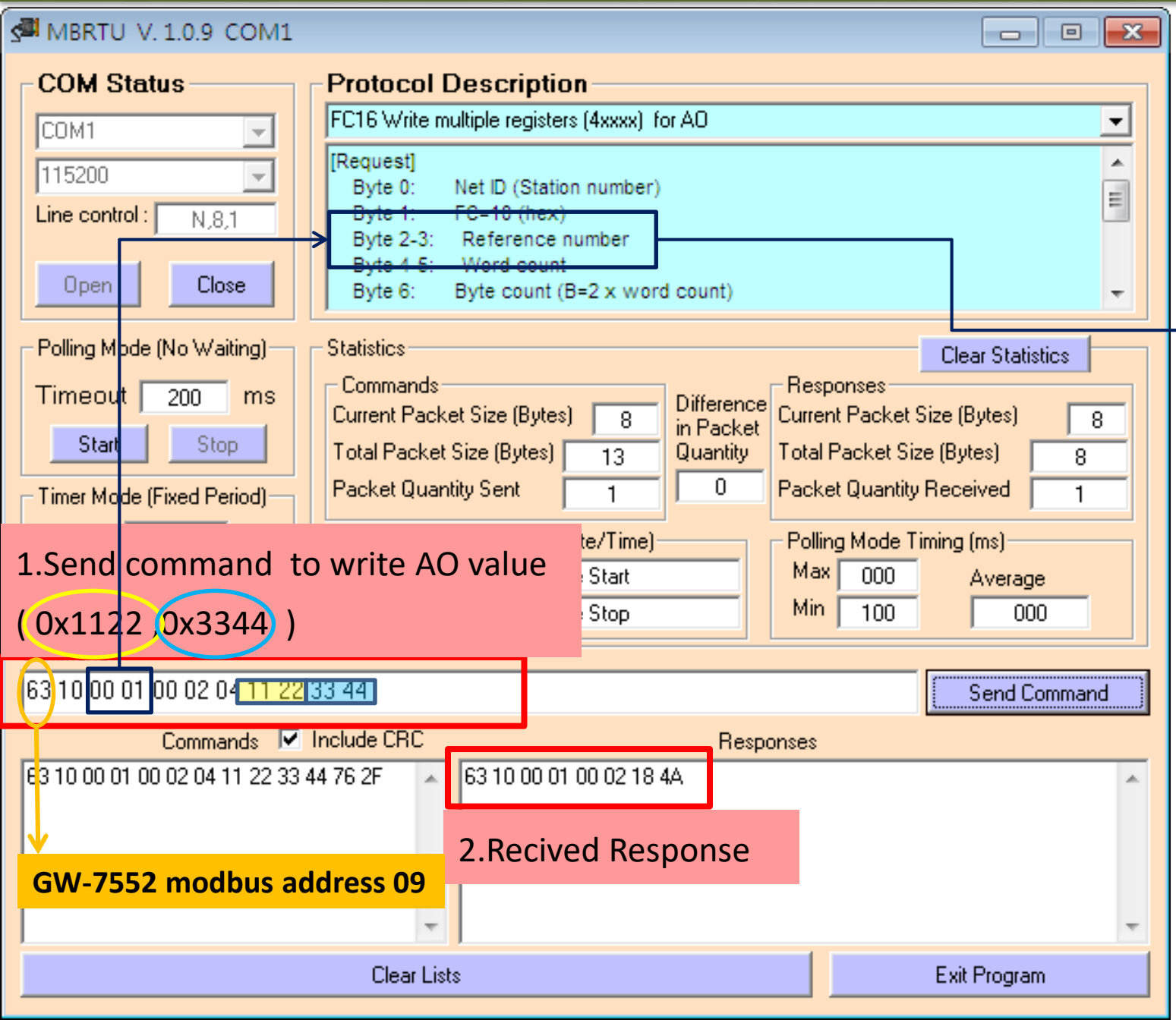
(ex: MBRTU, you can download MBRTU from http://ftp.icpdas.com.tw/pub/cd/8000cd/napdos/modbus/modbus_utility/)

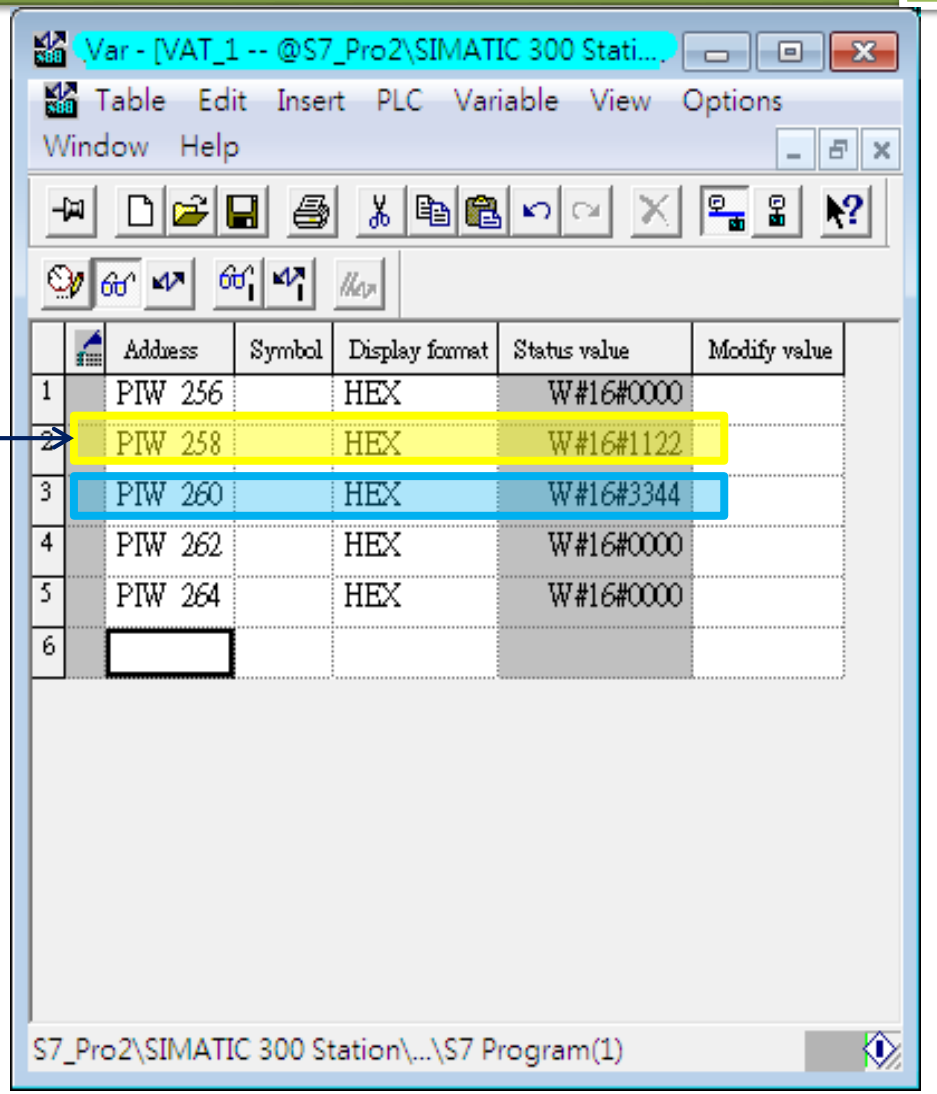
Com Port Settings:
baud rate-115200,
data bits-8, stop bits-1,
parity-none

Confirm the setting of MBRTU is the same with GW-7552's setting



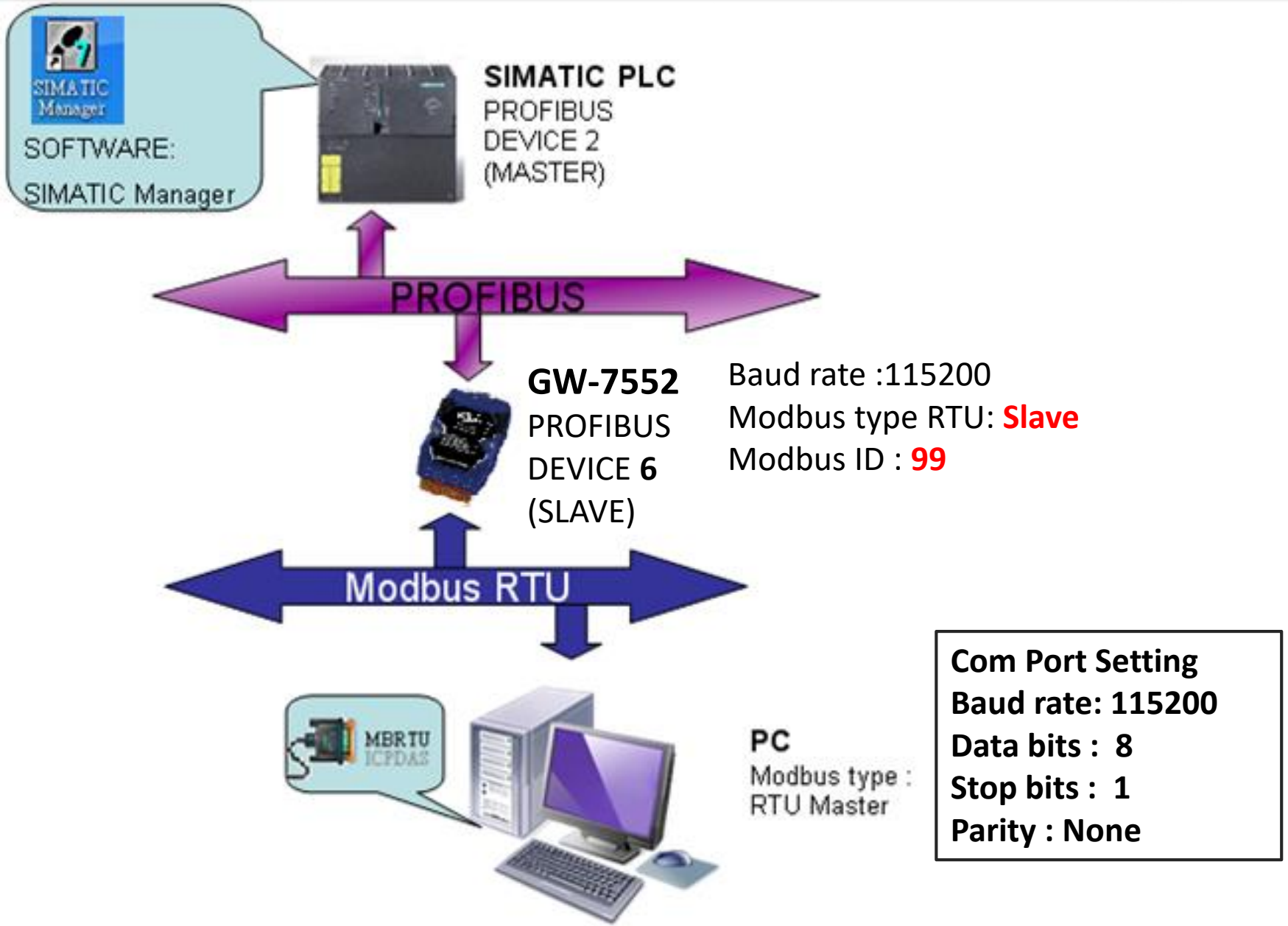
PLC Receives AO from Modbus master



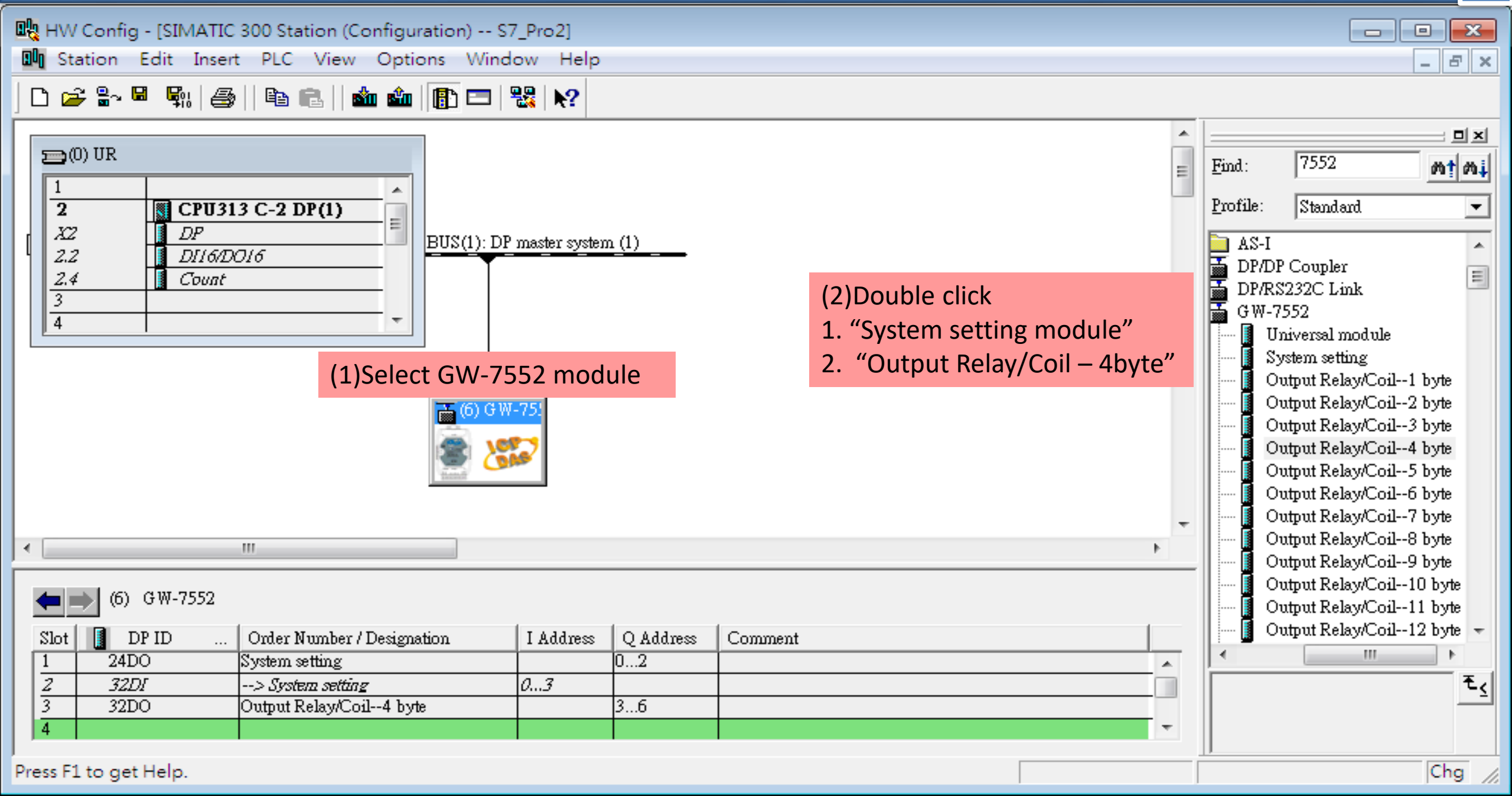


User can receive AO data in
PIW 256~ PIW 264

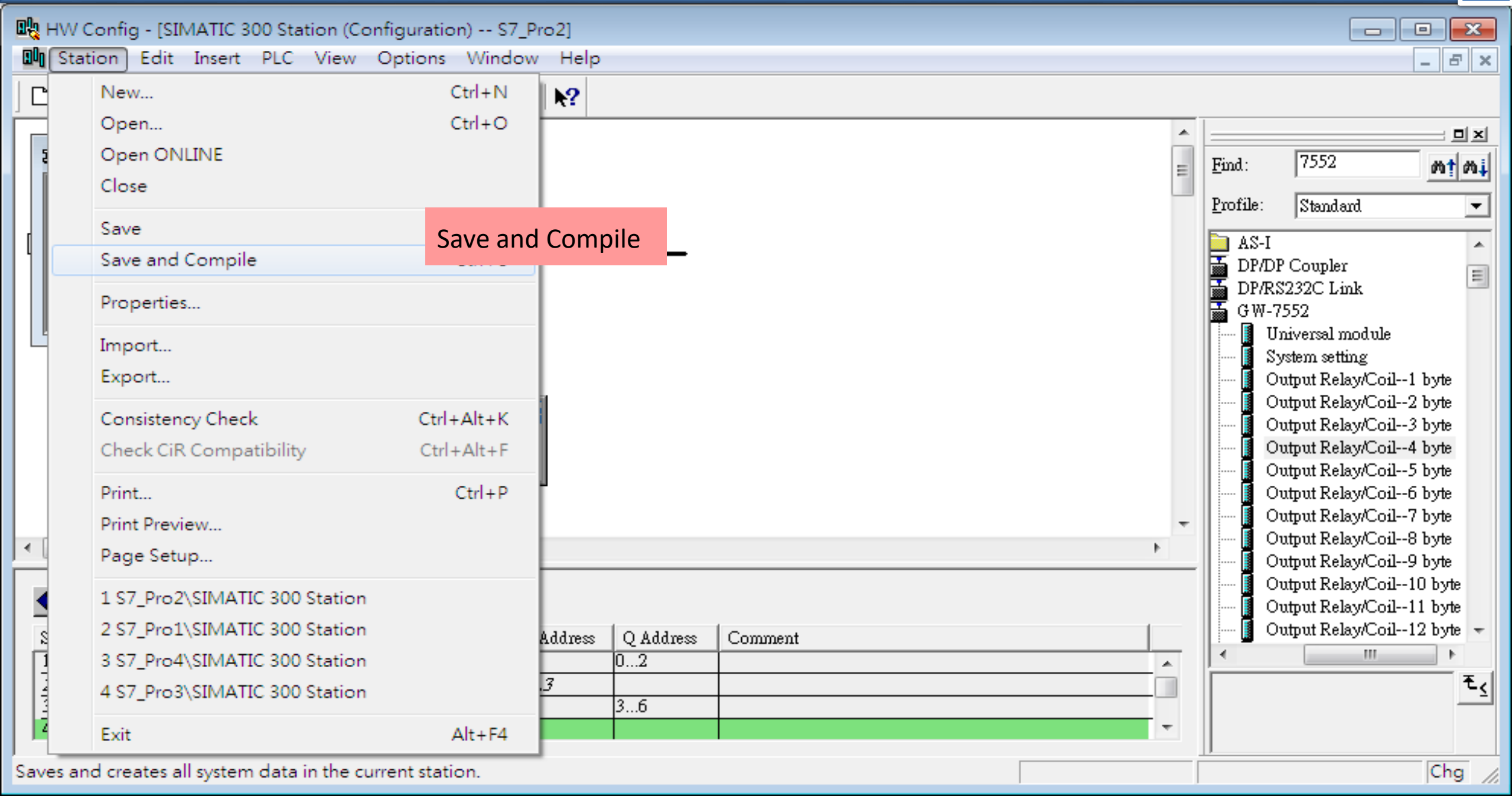
PLC Refreshes DI from Modbus master



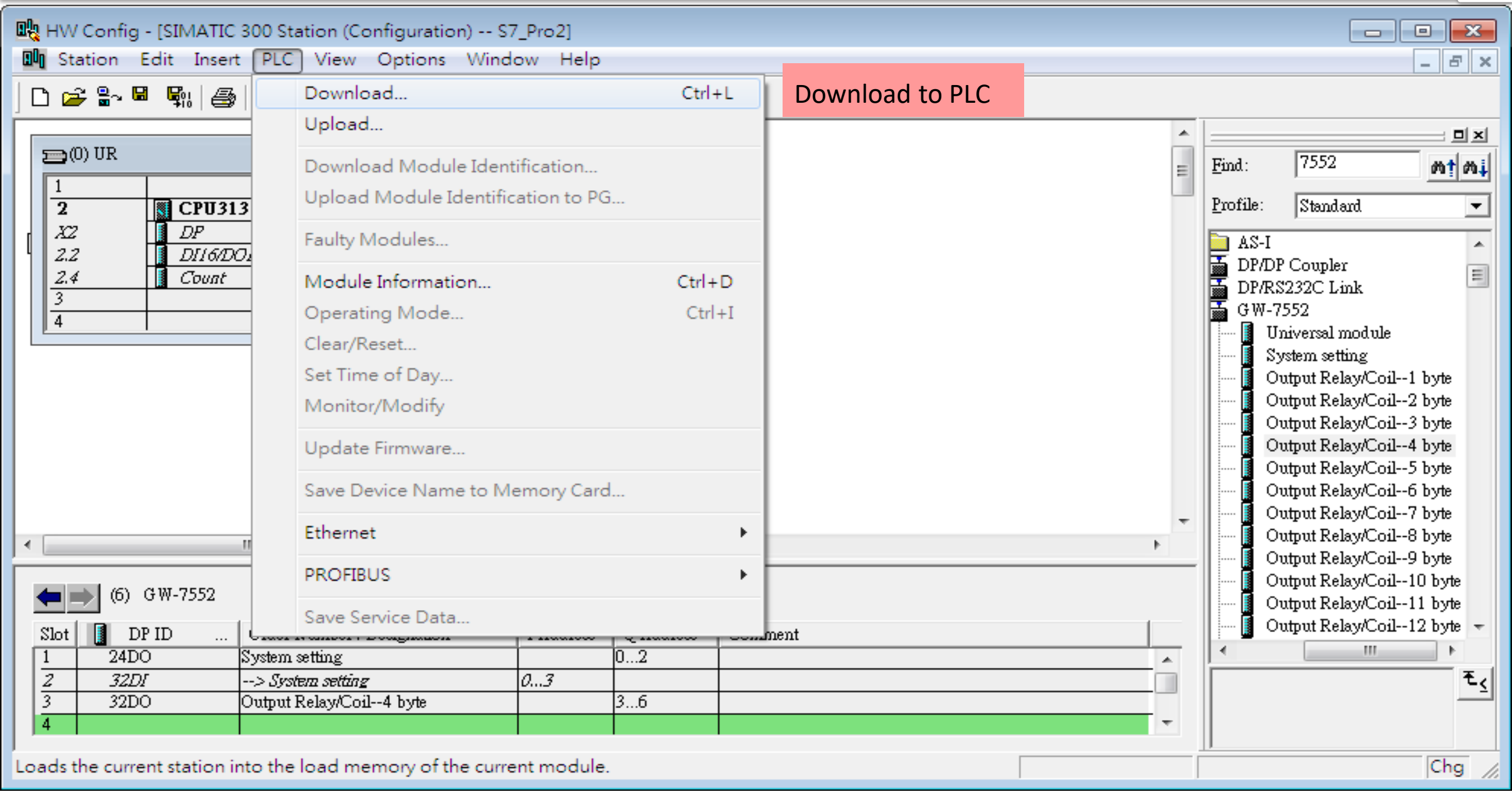
PLC Refreshes DI from Modbus master



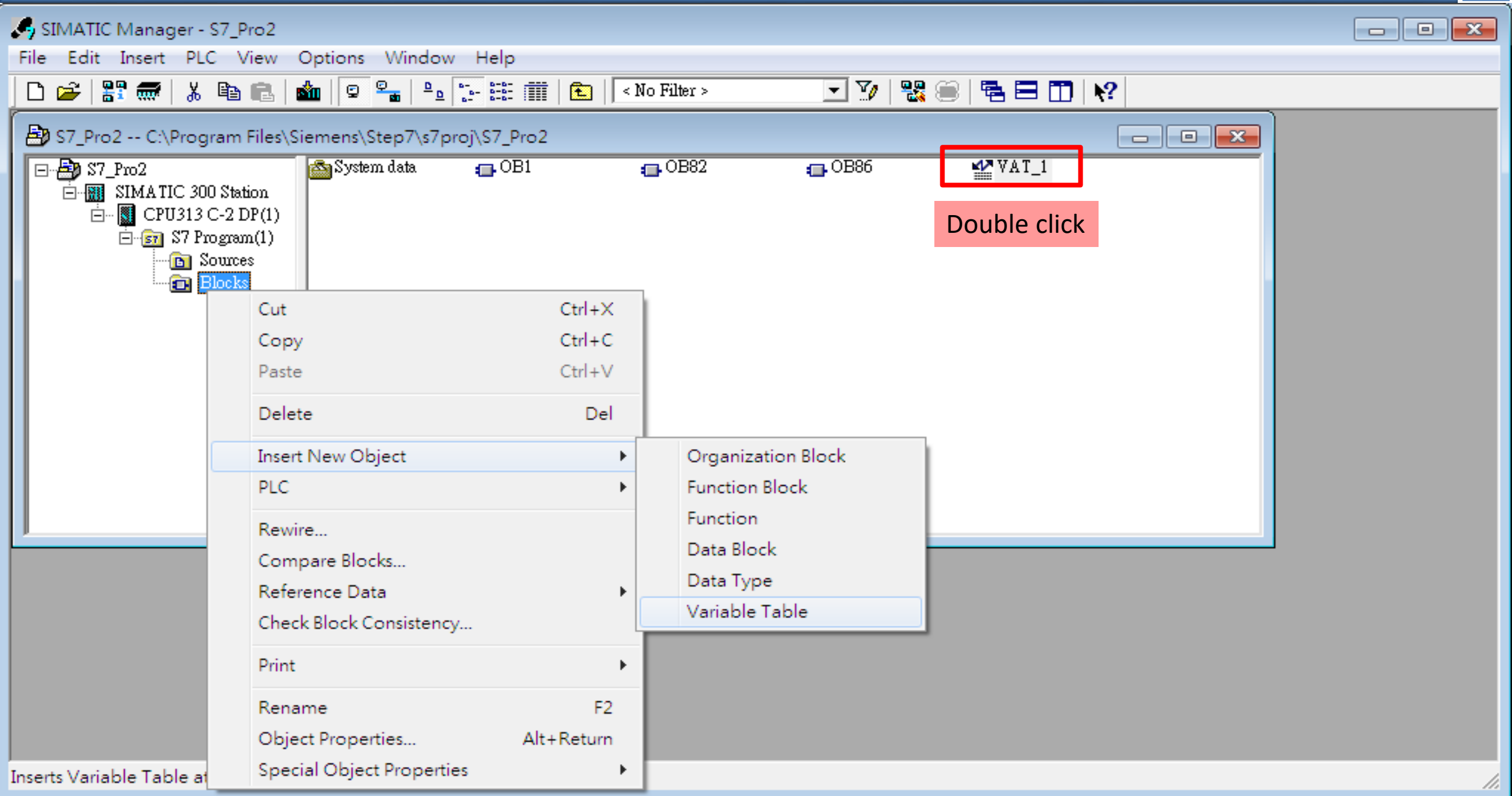
PLC Refreshes DI from Modbus master



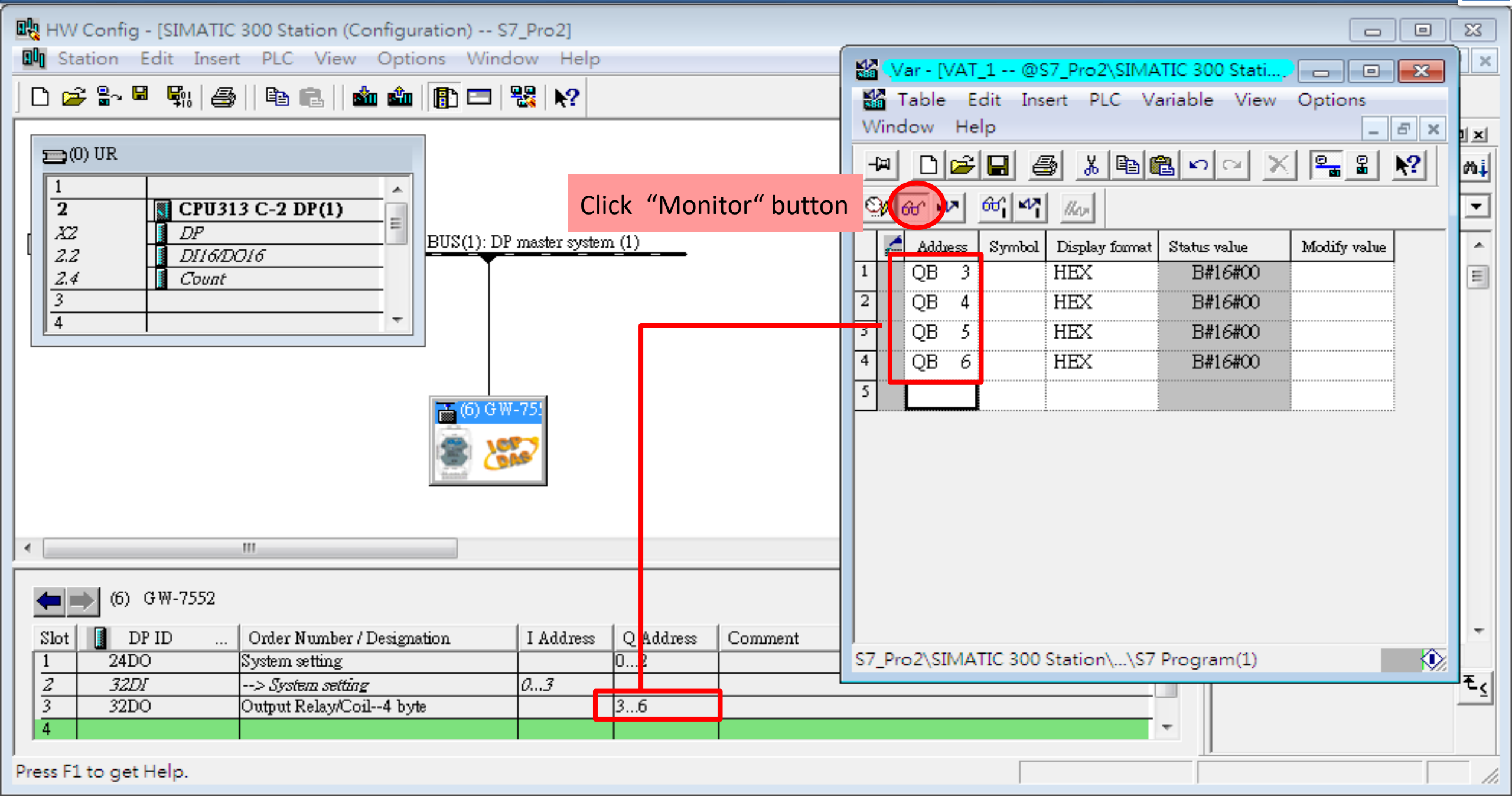
PLC Refreshes DI from Modbus master



PLC Refreshes DI from Modbus master



PLC Refreshes DI from Modbus master



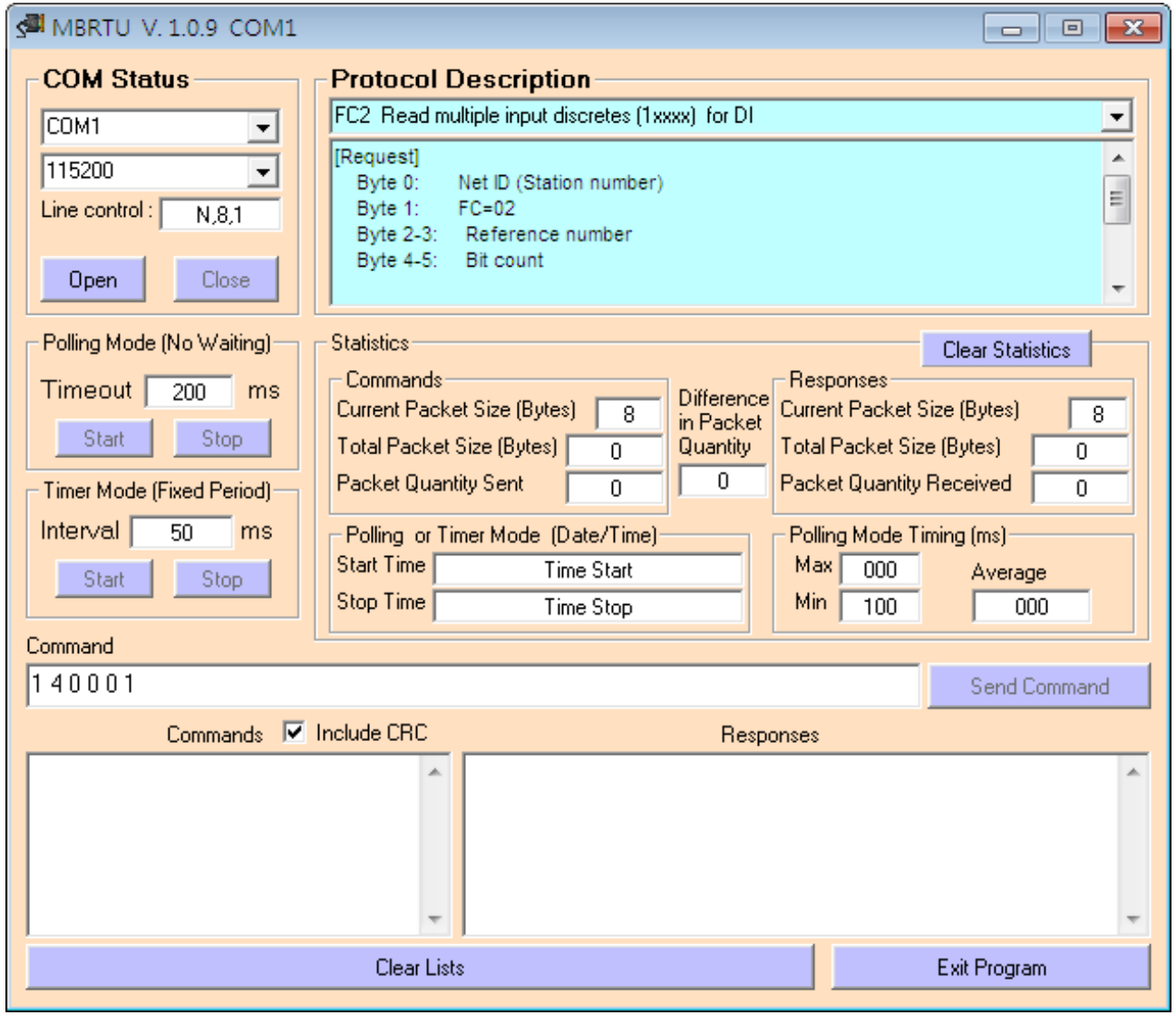
PLC Refreshes DI from Modbus master

Communication test 1

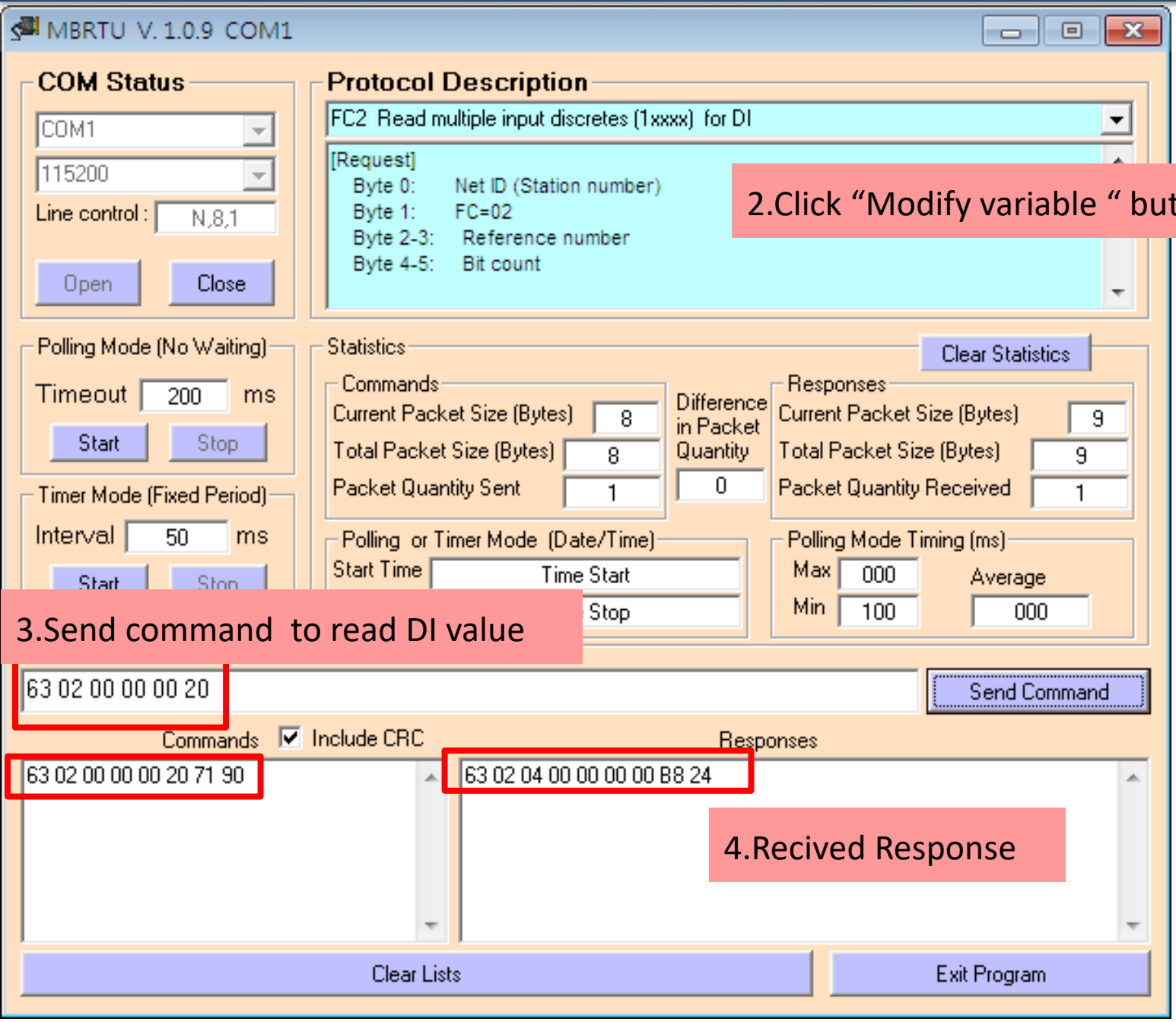
Confirm the GW-7552's Com Port setting is the same with Modbus Master tool

(ex: MBRTU, you can download MBRTU from http://ftp.icpdas.com.tw/pub/cd/8000cd/napdos/modbus/modbus_utility/)

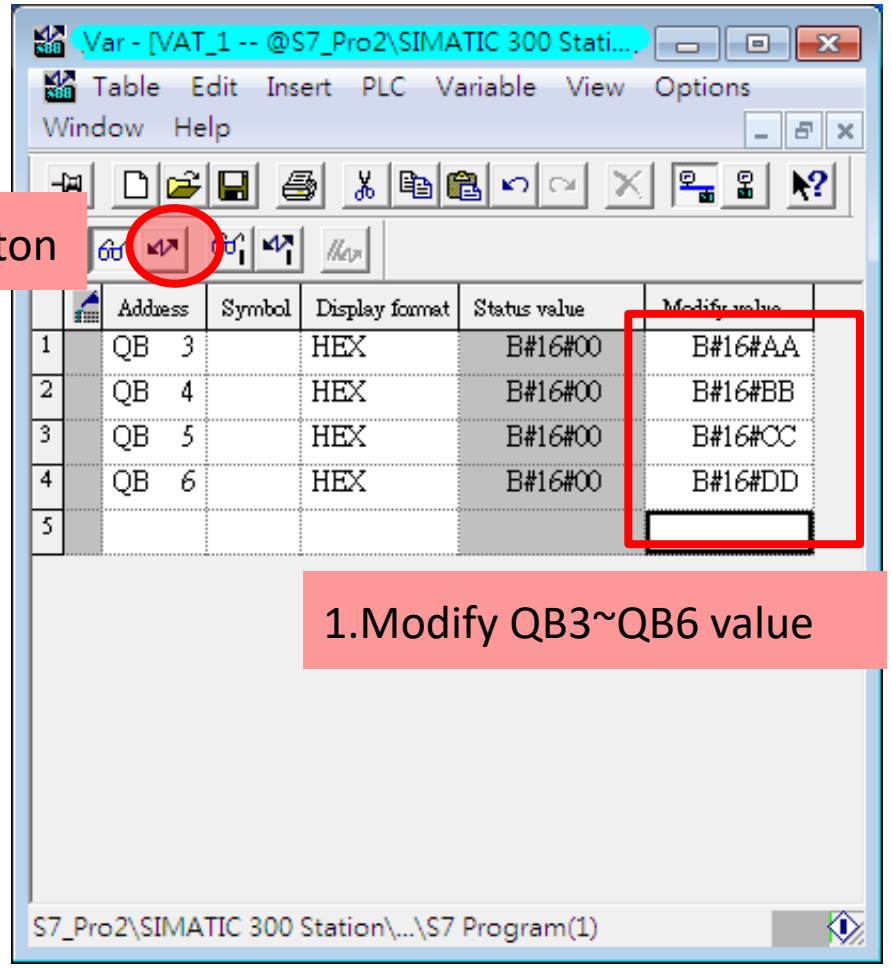
Com Port Settings:
baud rate-2400,
data bits-8, stop bits-1,
parity-none



PLC Refreshes DI from Modbus master



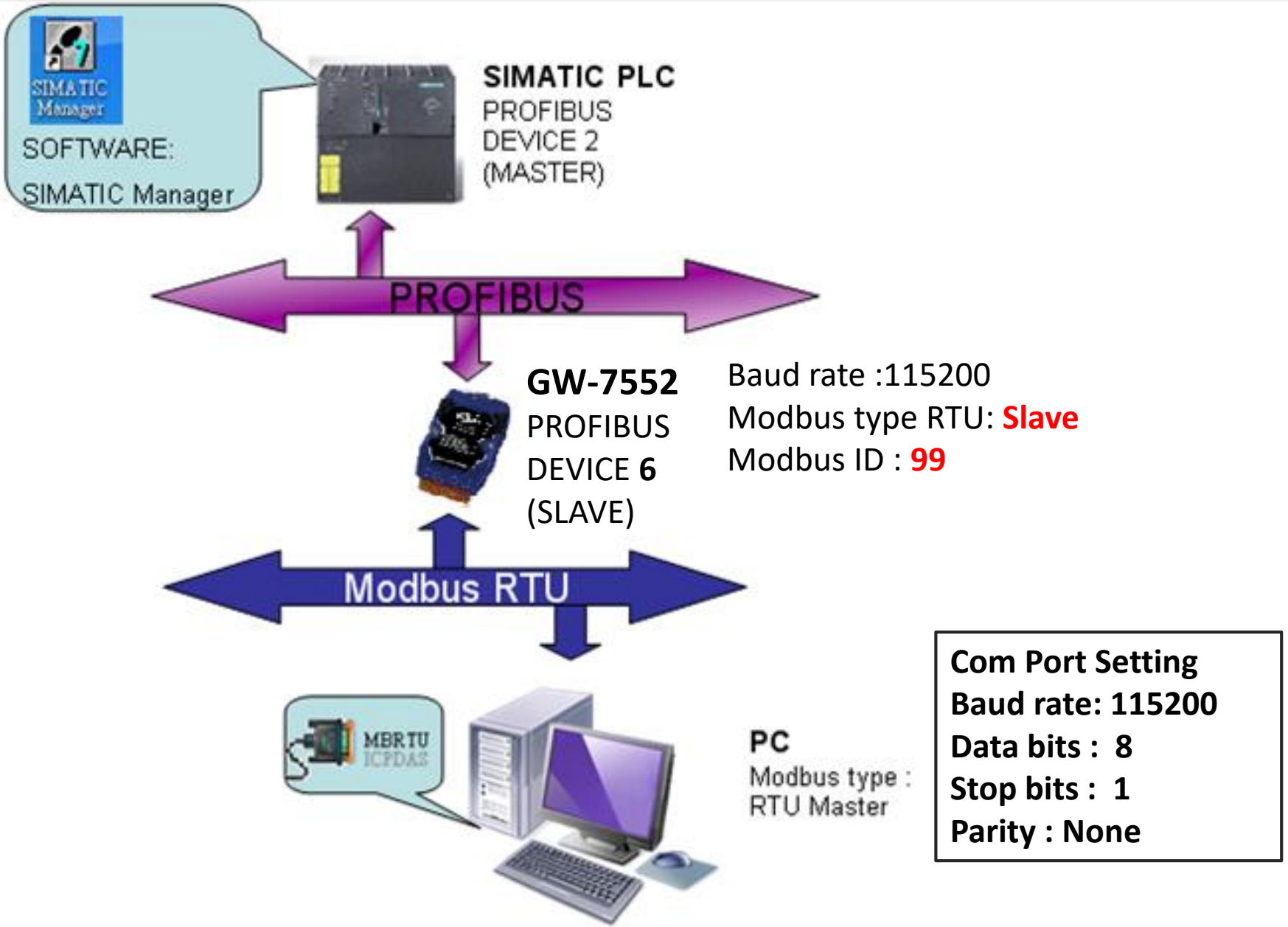
2.Click “Modify variable “ button



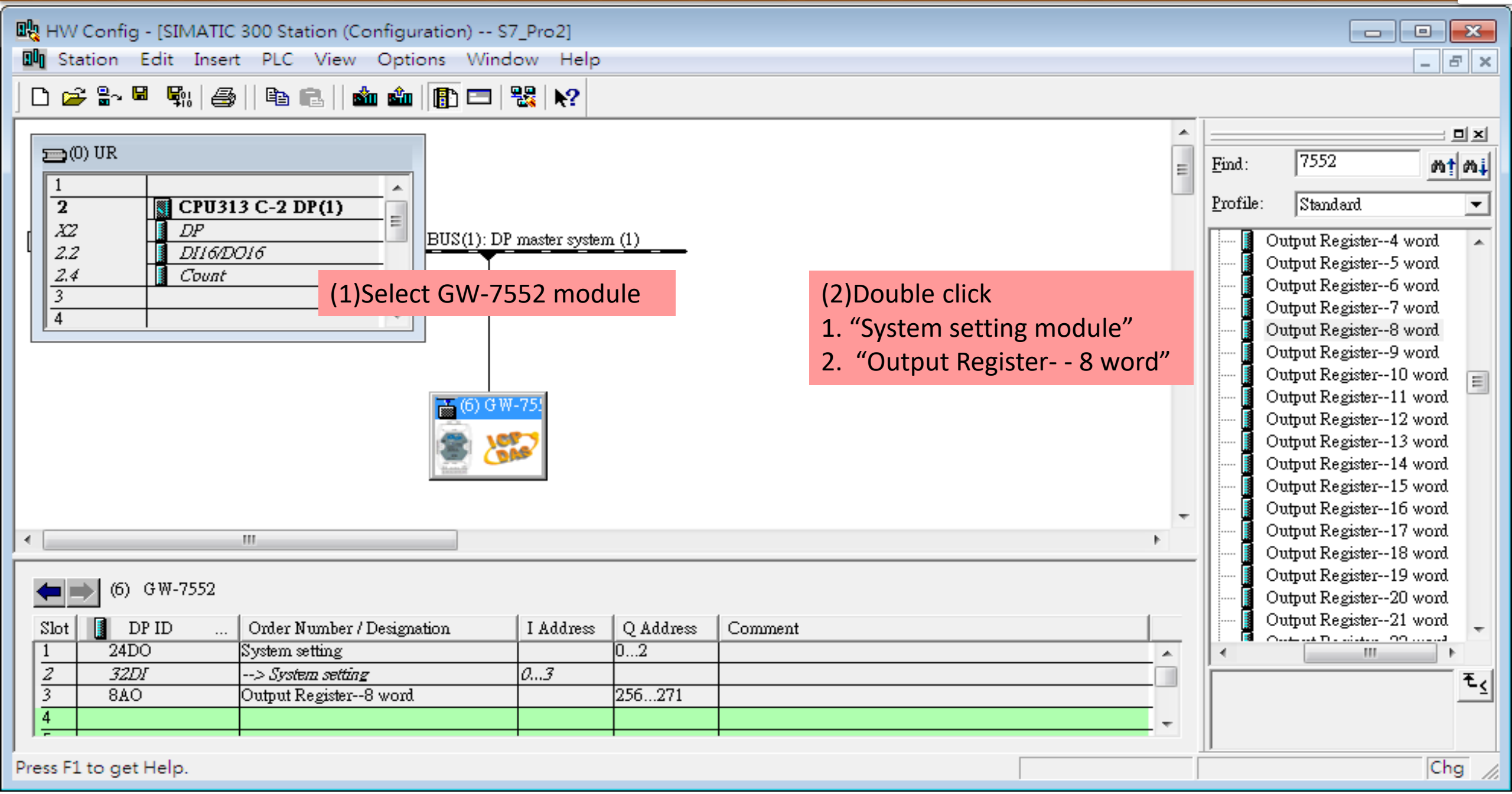
1.Modify QB3~QB6 value

User can refresh DI value in QB 3~ QB 6

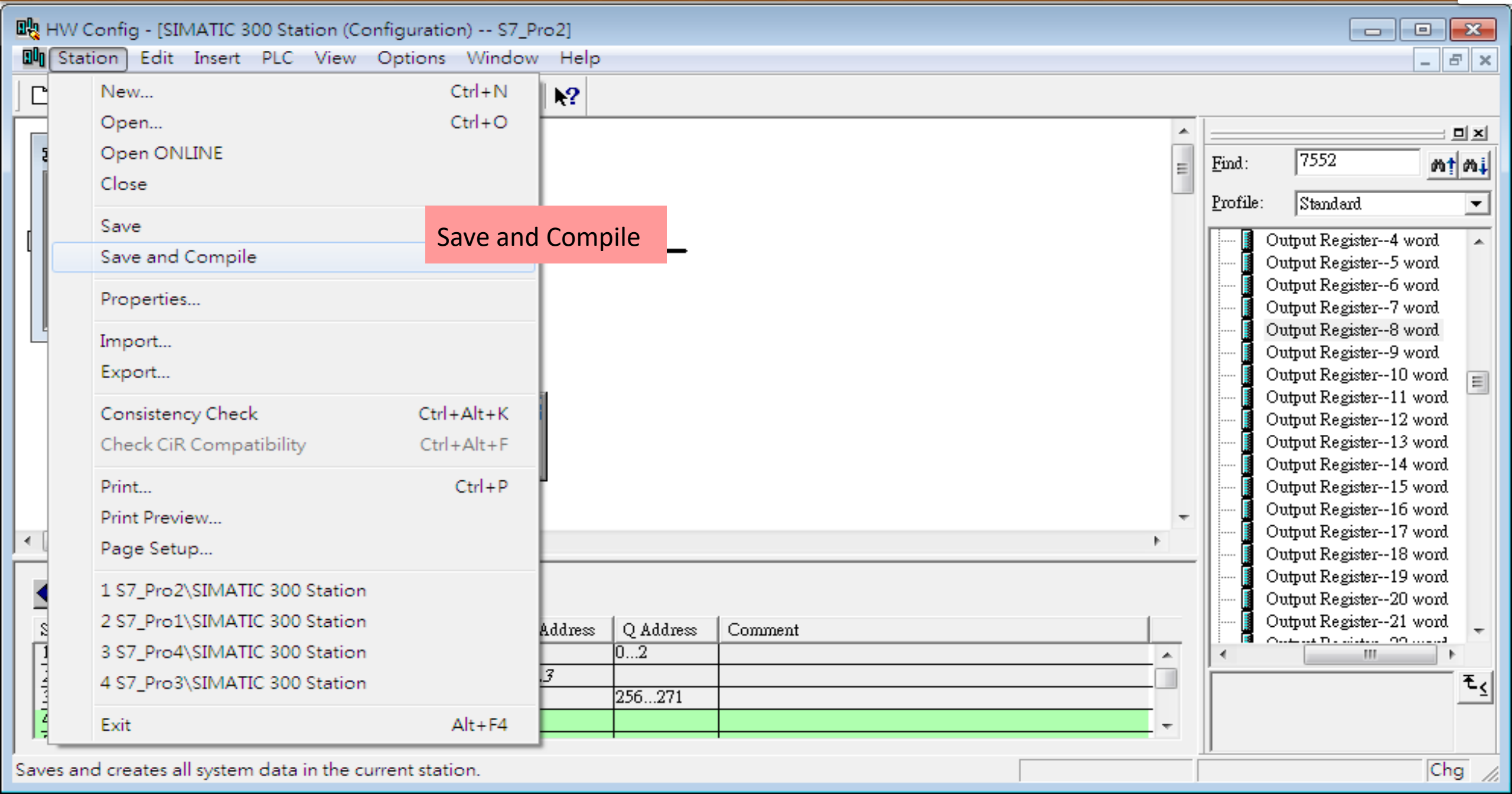
PLC Refreshes AI from Modbus master



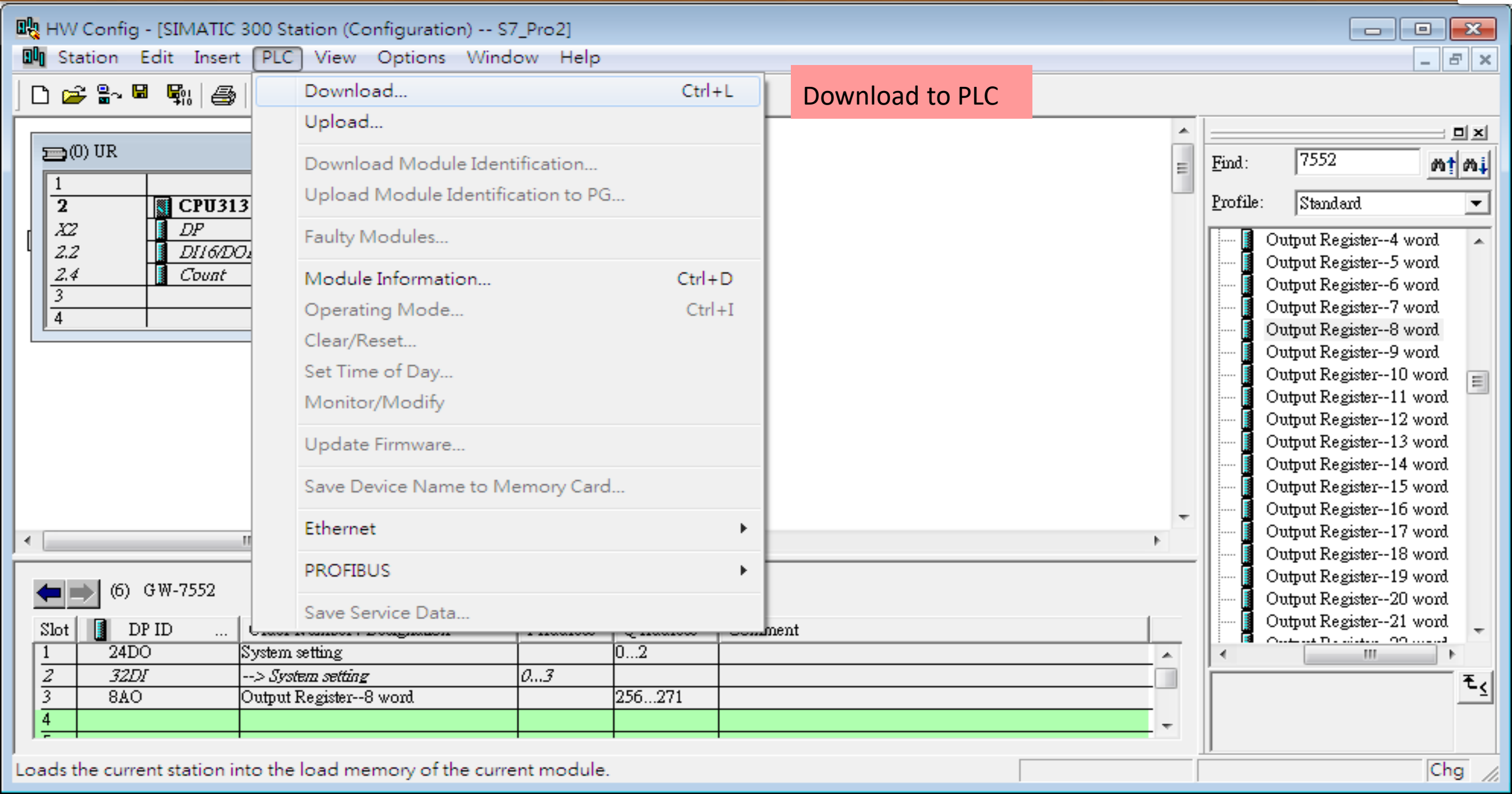
PLC Refreshes AI from Modbus master



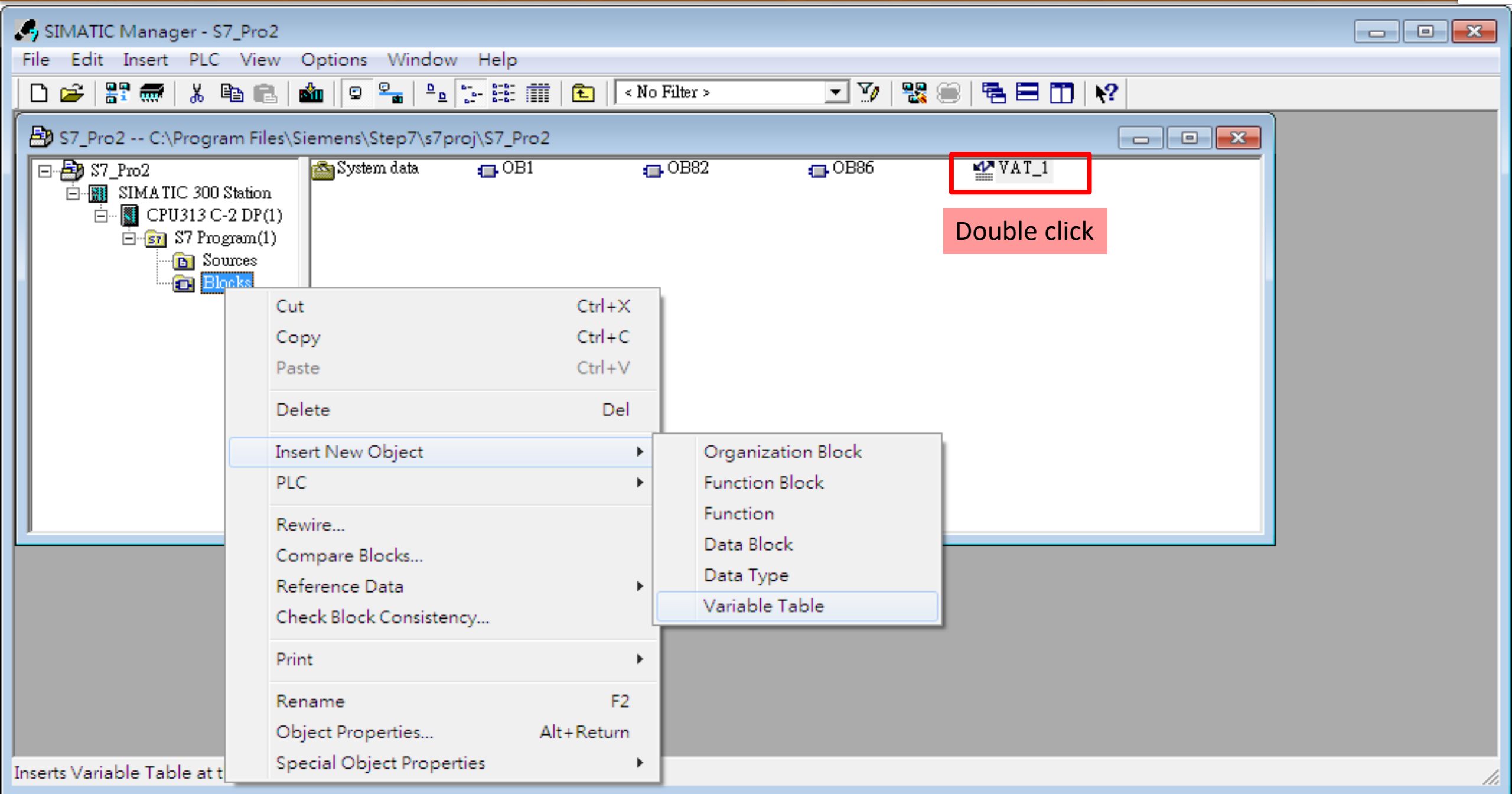
PLC Refreshes AI from Modbus master



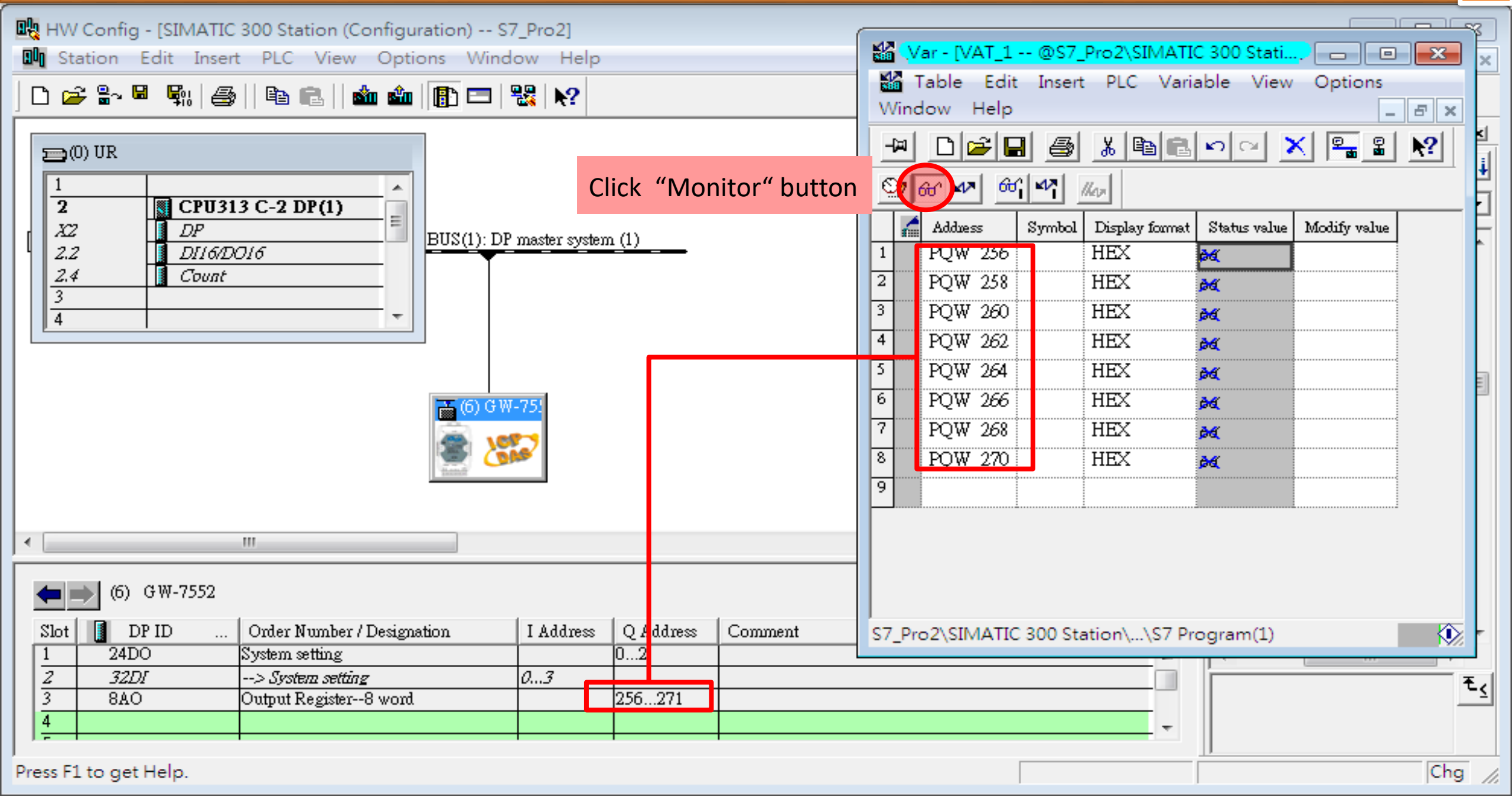
PLC Refreshes AI from Modbus master



PLC Refreshes AI from Modbus master



PLC Refreshes AI from Modbus master



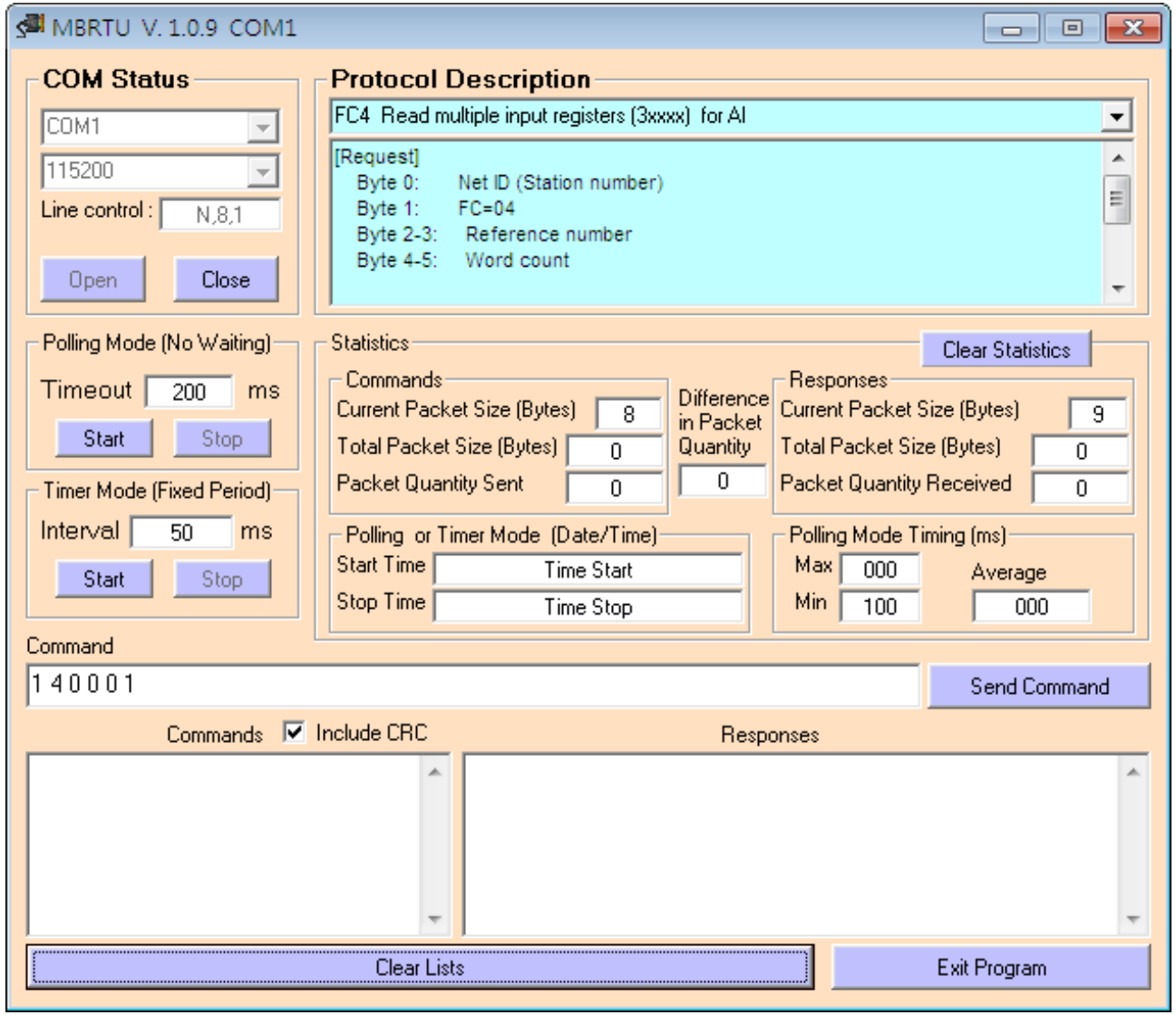
PLC Refreshes AI from Modbus master

Communication test 1

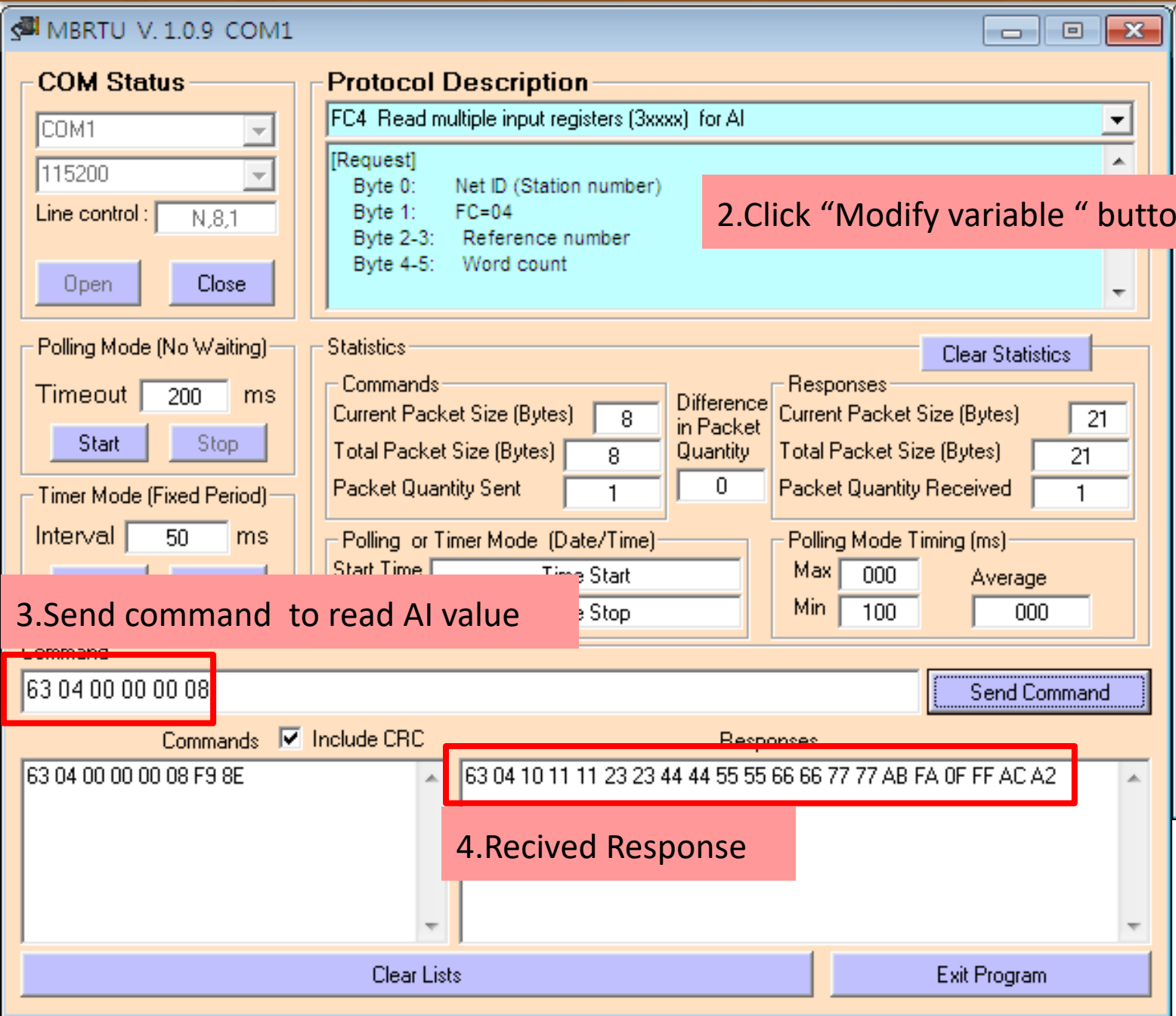
Confirm the GW-7552's Com Port setting is the same with Modbus Master tool

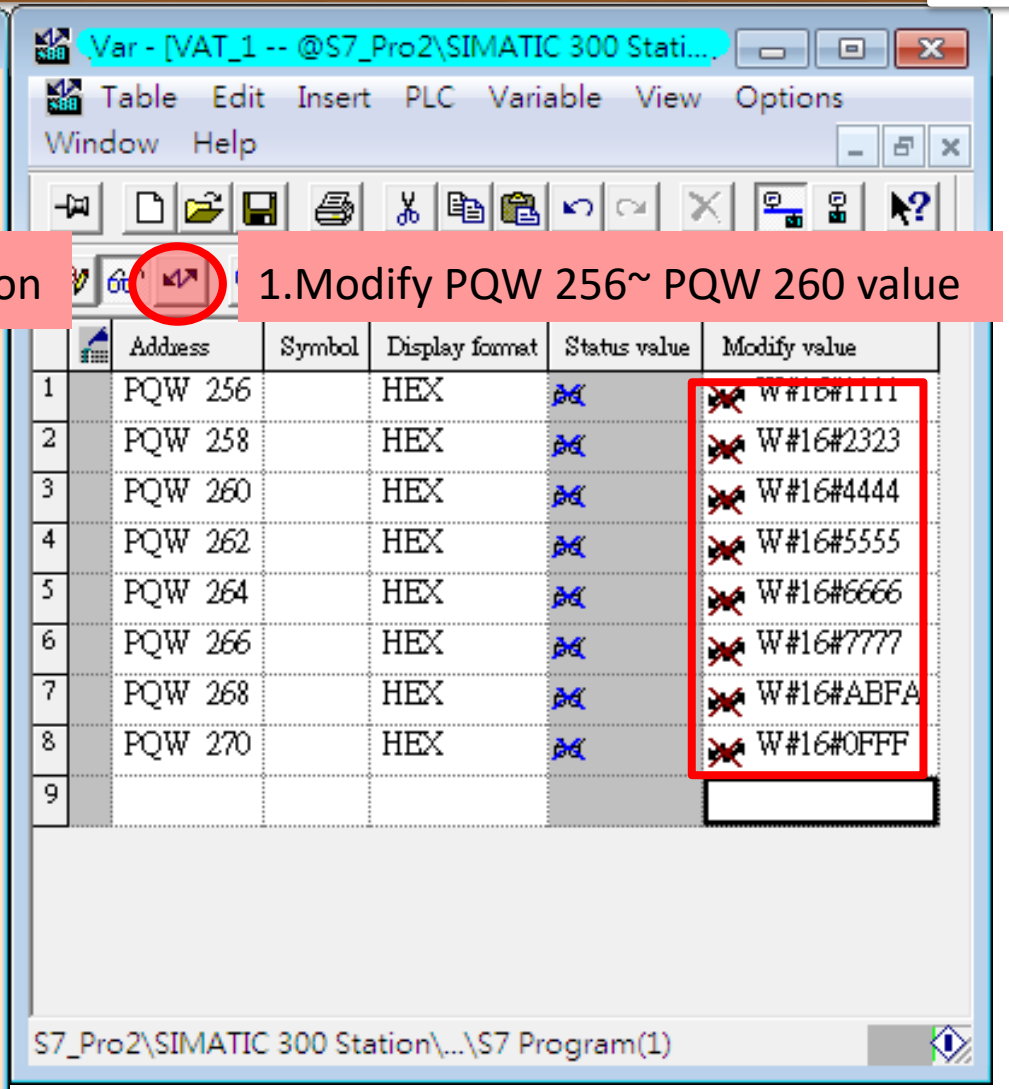
(ex: MBRTU, you can download MBRTU from http://ftp.icpdas.com.tw/pub/cd/8000cd/napdos/modbus/modbus_utility/)

Com Port Settings:
baud rate-115200,
data bits-8, stop bits-1,
parity-none



PLC Refreshes AI from Modbus master





User can refresh AI value in
PIW 256~ PIW 260