

# ***GW-7552 (Modbus RTU Master)*** ***以 SIMATIC STEP 7 為範例***

- 連線前置作業
- 範例 1:讀/寫 DO 模組資料
- 範例 2:讀取 DI 模組 資料
- 範例 3:讀/寫 AO 模組資料
- 範例 4:讀取 AI 模組資料



## 設置裝置(PLC、GW-7552)的參數如下



SIMATIC PLC  
\* PROFIBUS Device 0(Master)



GW-7552  
• PROFIBUS Device 2 (Slave)  
• Modbus Device (RTU Master)

### Comport Settings:

- Baud rate:115200
- Data bit: 8
- Stop bit : 1
- Parity: None
- Byte order: Big Endian
- Output Data Mode: Auto



## 新增一個PROFIBUS 連線與一個 GW-7552模組(當作Slave)

The screenshot shows the HW Config window for a SIMATIC 300 station. The main workspace displays a rack configuration with the following components:

- Slot 1: UR (Universal module)
- Slot 2: CPU313 C-2 DP(1) (DP master system)
- Slot X2: DP (DP/DP Coupler)
- Slot 2.2: DI16/DO16 (Digital Input/Output)
- Slot 2.4: Count (Counter)
- Slot 3: (Empty)
- Slot 4: (Empty)

A connection line labeled "PROFIBUS(1): DP master system (1)" is shown between the CPU and the DP module. Below the rack, a GW-7552 module is connected to the DP master system.

The right-hand pane shows the component selection tree for the PROFIBUS DP connection. The search criteria are:

- Find: 7552
- Profile: Standard

The selected component is:

- FIBUS DP
- Additional Field Devices
- Switching Devices
- I/O
- Gateway
- AS-I
- DP/DP Coupler
- DP/RS232C Link
- GW-7552** (selected)
- Universal module
- System setting
- Output Relay/Coil--1 by
- Output Relay/Coil--2 by
- Output Relay/Coil--3 by
- Output Relay/Coil--4 by
- Output Relay/Coil--5 by

The bottom status bar shows "SIMATIC 300 Station" and a table with the following data:

Slot	Designation
0	UR
PROFIBUS(1): DP master system (1)	DP master system (1)

Press F1 to get Help. Chg



## 設置PLC如下



SIMATIC PLC  
\* PROFIBUS Device 0 (Master)

1. 雙擊 DP 圖示
2. 點選“Properties”(屬性)
3. 更改PLC的位址
4. 點選OK

HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

Properties - PROFIBUS interface DP (R0/S2.1)

General Parameters

Address: 0

Highest address: 126

Transmission rate: 1.5 Mbps

Subnet: --- not networked ---

Interface: PROFIBUS(1) 1.5 Mbps

OK Cancel Help

Slot	Module	Order
1		
2	CPU313 C-2 DP(1)	6ES
X2	DP	
2.2	DI16/DO16	
2.4	Count	

Press F1 to get Help.



## 設置 GW-7552 位址如下



### GW-7552

- PROFIBUS Device 2 (Slave)
- Modbus Device (RTU Master)

1. 雙擊 GW7552 圖示
2. 點選 PROFIBUS
3. 修改位址
4. 點選 OK

The screenshot shows the SIMATIC Manager software interface. The main window is titled "[SIMATIC 300 Station (Configuration) -- S7\_Pro2]". The HW Config window is open, showing the rack configuration. The GW-7552 module is highlighted in green. The 'Properties - PROFIBUS interface GW-7552' dialog box is open, with the 'Parameters' tab selected. The 'Address' field is highlighted with a red box and contains the value '2'. The 'Subnet' list shows 'PROFIBUS(1) 1.5 Mbps' selected. The background shows the SIMATIC Manager interface with the HW Config window open, displaying the rack configuration.



## 設置GW-7552參數如下



### Comport Settings:

- Baudrate:115200
- Data bit: 8
- Stop bit : 1
- Parity: None
- Byte order: Big Endian
- Output Data Mode: Auto

1. 雙擊GW7552 圖示
2. 點擊Parameter Assignment
3. 修正以下參數

Baud rate : 115200

Data bit : 8

Stop bit : 1

Parity : None

Byte order: big Endian

Output Data Mode: Auto

4. 點選“OK”

※可以在此修改參數

Parameters	Value
Station parameters	
Device-specific parameters	
baud rate	115200 baud
parity	none
data	8 data bit
stop bit	1 stop bit
Modbus Type	Master
Modbus Format	Modbus RTU
I/O Safe Mode	Retain Last Value
Byte Order	Big Endian(Motorola format)
Output Data Mode	Auto
Modbus Device ID (S)	1
Modbus Polling Interval(ms)(M)	500
Query timeout Value(ms)(M)	500
Hex parameter assignment	

確定GW-7552 背後的指撥開關為 Normal模式

參考 [GW-7552 user manual](#) 2.6



更改指撥以設置PROFIBUS的位址  
設置GW-7552 在PROFIBUS端連線位置為2

Refer to [GW-7552 user manual](#) 2.4

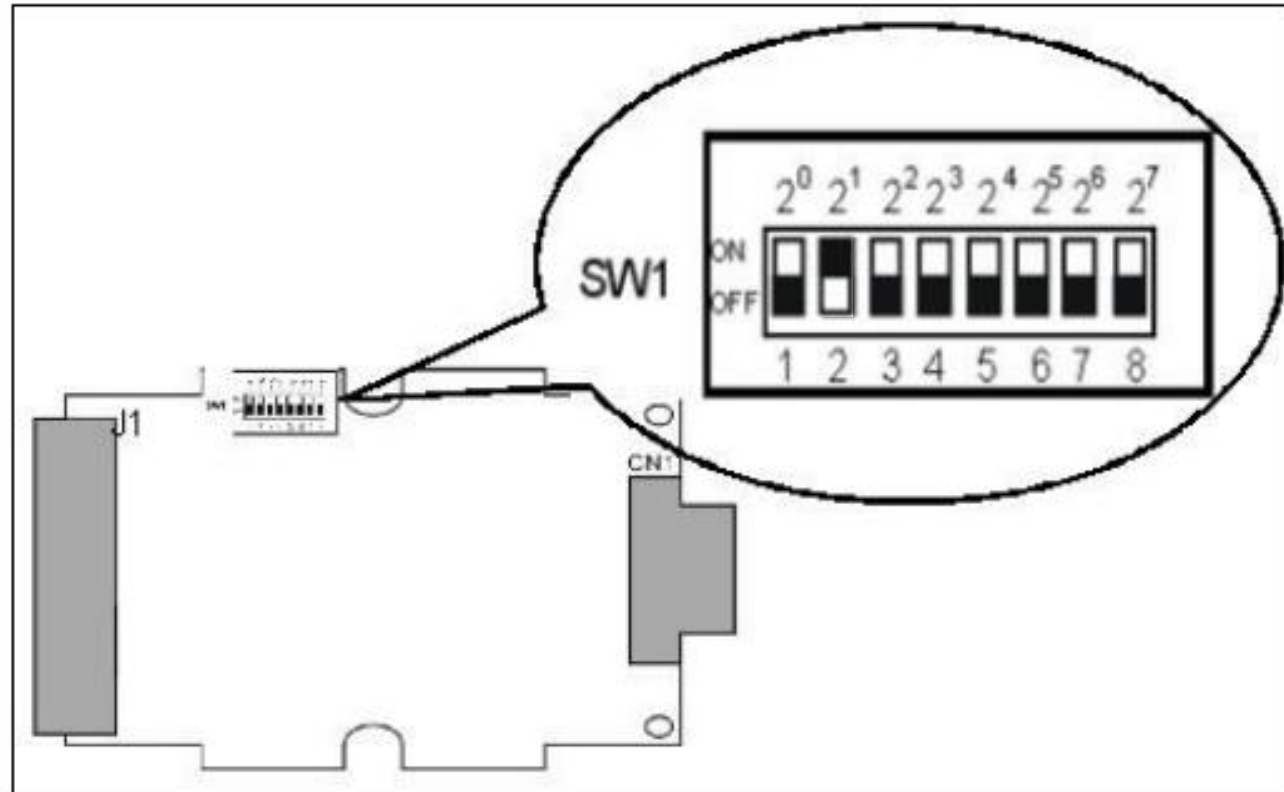
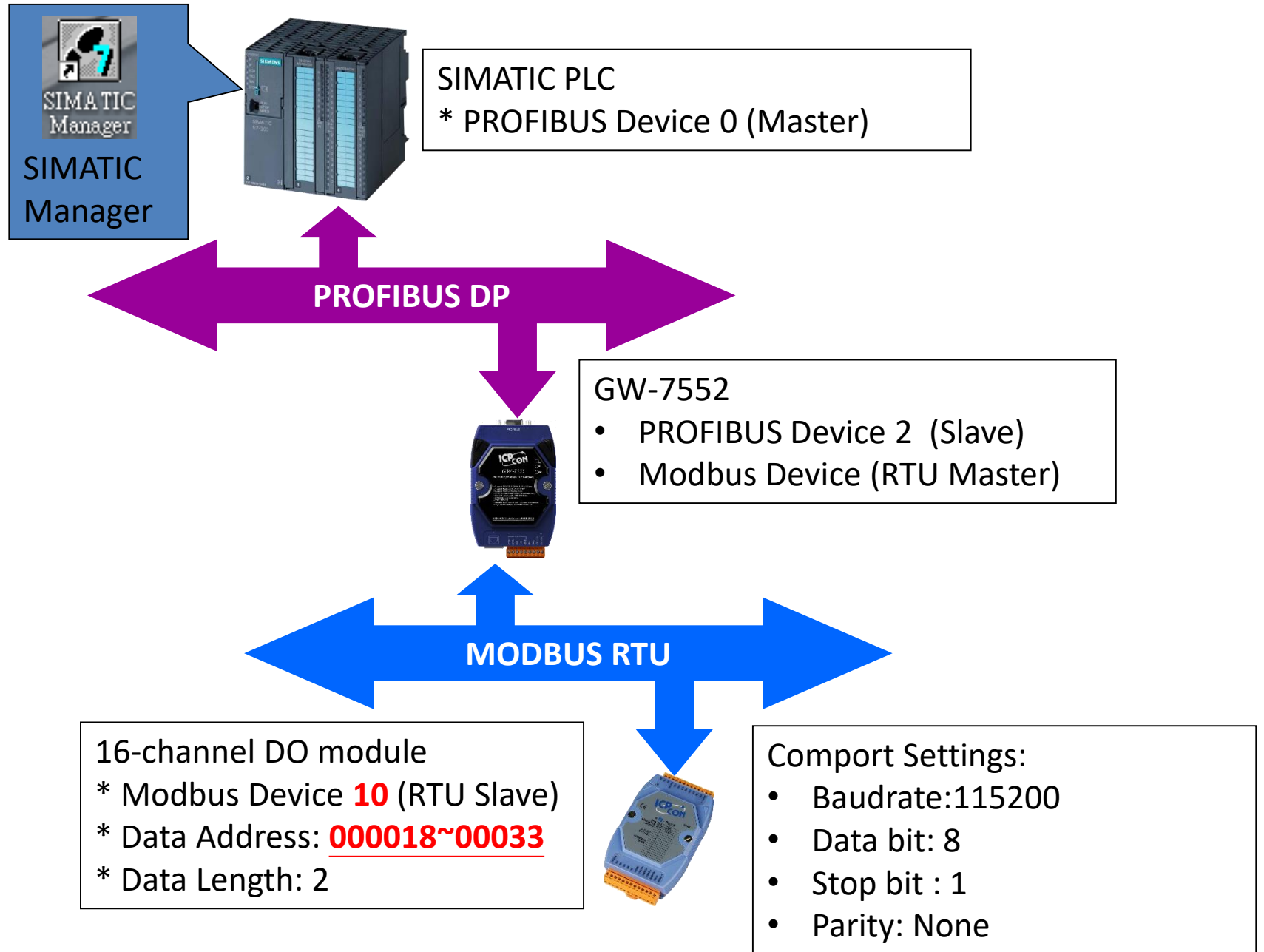


Figure 12: DIP switch





# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help



(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP master system (1)



(1) 選擇 GW-7552 模組

(2) 雙擊

1. "System setting module"
2. "Output Relay/Coil - 2 byte"
3. "Input Relay/Coil - 2byte"

Find: 7552

Profile: Standard

- Output Relay/Coil--29 b
- Output Relay/Coil--30 b
- Output Relay/Coil--31 b
- Output Relay/Coil--32 b
- Input Relay/Coil--1 byte
- Input Relay/Coil--2 byte
- Input Relay/Coil--3 byte
- Input Relay/Coil--4 byte
- Input Relay/Coil--5 byte
- Input Relay/Coil--6 byte
- Input Relay/Coil--7 byte
- Input Relay/Coil--8 byte
- Input Relay/Coil--9 byte
- Input Relay/Coil--10 by
- Input Relay/Coil--11 by
- Input Relay/Coil--12 by
- Input Relay/Coil--13 by
- Input Relay/Coil--14 by

(2) GW-7552

Slot	DP ID	...	Order Number / Designation	I Address	Q Address	Comment
1	24DO		System setting		0...2	
2	32DI		--> System setting	0...3		
3	16DO		Output Relay/Coil--2 byte		3..4	
4	16DI		Input Relay/Coil--2 byte	4...5		
5						

Press F1 to get Help.

Chg

# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help



Slot	Module
1	
2	CPU313 C-2 DP (1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

Properties - DP ID

Address / ID **Parameter Assignment**

(2) 參數設置

Parameters	Value
Station parameters	
Device-specific parameters	
Modbus Slave Device ID (M)	10
Start Address (M)	17
NO. of Relay/Coil (M)	16 BITS
Hex parameter assignment	

Modbus Slave Device ID (M) : 10  
Start Address(M):17  
No.of Relay/Coil (M):16 BITS

(3) 點選OK

OK

Cancel

Help

(1) 雙擊 "output Relay/Coil - 2 byte" 模組

Find: 7552

Profile: Standard

- Output Relay/Coil--29 b
- Output Relay/Coil--30 b
- Output Relay/Coil--31 b
- Output Relay/Coil--32 b
- Input Relay/Coil--1 byte
- Input Relay/Coil--2 byte
- Input Relay/Coil--3 byte
- Input Relay/Coil--4 byte
- Input Relay/Coil--5 byte
- Input Relay/Coil--6 byte
- Input Relay/Coil--7 byte
- Input Relay/Coil--8 byte
- Input Relay/Coil--9 byte
- Input Relay/Coil--10 by
- Input Relay/Coil--11 by
- Input Relay/Coil--12 by
- Input Relay/Coil--13 by
- Input Relay/Coil--14 by

Press F1 to get Help.

Chg

# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

Properties - DP ID

Address / ID **Parameter Assignment** (2)參數設置

Parameters	Value
Station parameters	
Device-specific parameters	
Modbus Slave Device ID (M)	10
Start Address (M)	17
NO. of Relay/Coil (M)	16 BITS
Module Type (M)	Read DO
Hex parameter assignment	

Modbus Slave Device ID (M) : 10  
Start Address(M):17  
No.of Relay/Coil (M):16 BITS  
Module Type(M):Read DO

(3)點選 OK

OK Cancel Help

(1)雙擊 "input Relay/Coil - 2 byte" 模組

Slot	DP ID	Order Num
1	24DO	System setting
2	32DI	--> System setting
3	16DO	Output Relay/Coil--2 byte
4	16DI	Input Relay/Coil--2 byte
5		

Find: 7552 Profile: Standard

Output Relay/Coil--29 b  
Output Relay/Coil--30 b  
Output Relay/Coil--31 b  
Output Relay/Coil--32 b  
Input Relay/Coil--1 byte  
Input Relay/Coil--2 byte  
Input Relay/Coil--3 byte  
Input Relay/Coil--4 byte  
Input Relay/Coil--5 byte  
Input Relay/Coil--6 byte  
Input Relay/Coil--7 byte  
Input Relay/Coil--8 byte  
Input Relay/Coil--9 byte  
Input Relay/Coil--10 by  
Input Relay/Coil--11 by  
Input Relay/Coil--12 by  
Input Relay/Coil--13 by  
Input Relay/Coil--14 by

Press F1 to get Help. Chg

# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7\_Pro2\SIMATIC 300 Station
- 2 S7\_Pro1\SIMATIC 300 Station
- 3 S7\_Pro4\SIMATIC 300 Station
- 4 S7\_Pro3\SIMATIC 300 Station
- Exit Alt+F4

點選“Save and Compile”

Find: 7552  
Profile: Standard

- Output Relay/Coil--29 b
- Output Relay/Coil--30 b
- Output Relay/Coil--31 b
- Output Relay/Coil--32 b
- Input Relay/Coil--1 byte
- Input Relay/Coil--2 byte
- Input Relay/Coil--3 byte
- Input Relay/Coil--4 byte
- Input Relay/Coil--5 byte
- Input Relay/Coil--6 byte
- Input Relay/Coil--7 byte
- Input Relay/Coil--8 byte
- Input Relay/Coil--9 byte
- Input Relay/Coil--10 by
- Input Relay/Coil--11 by
- Input Relay/Coil--13 by
- Input Relay/Coil--14 by

Address	Q Address	Comment
	0...2	
3		
	3...4	
5		

Saves and creates all system data in the current station.

Chg

# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet

PROFIBUS

Save Service Data...

點選"Download to PLC"

(0) UR

1	
2	CPU313
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

(2) GW-7552

Slot	DP ID	...
1	24DO	System setting
2	32DI	--> System setting
3	16DO	Output Relay/Coil--2 byte
4	16DI	Input Relay/Coil--2 byte
5		

Find: 7552

Profile: Standard

- Output Relay/Coil--29 b
- Output Relay/Coil--30 b
- Output Relay/Coil--31 b
- Output Relay/Coil--32 b
- Input Relay/Coil--1 byte
- Input Relay/Coil--2 byte
- Input Relay/Coil--3 byte
- Input Relay/Coil--4 byte
- Input Relay/Coil--5 byte
- Input Relay/Coil--6 byte
- Input Relay/Coil--7 byte
- Input Relay/Coil--8 byte
- Input Relay/Coil--9 byte
- Input Relay/Coil--10 by
- Input Relay/Coil--11 by
- Input Relay/Coil--12 by
- Input Relay/Coil--13 by
- Input Relay/Coil--14 by

Loads the current station into the load memory of the current module.

Chg

# 讀取 16-channel DO 與寫入 16-channel DO



SIMATIC Manager - S7\_Pro2

File Edit Insert PLC View Options Window Help

S7\_Pro2 -- C:\Program Files\Siemens\Step7\s7proj\S7\_Pro2

System data OB1 OB82 OB86 VAT\_1

S7\_Pro2  
SIMATIC 300 Station  
CPU313 C-2 DP(1)  
S7 Program(1)  
Sources

Cut Ctrl+X  
Copy Ctrl+C  
Paste Ctrl+V  
Delete Del  
Insert New Object  
PLC  
Rewire...  
Compare Blocks...  
Reference Data  
Check Block Consistency...  
Print  
Rename F2  
Object Properties... Alt+Return  
Special Object Properties

Organization Block  
Function Block  
Function  
Data Block  
Data Type  
Variable Table

新增一個變數表，並雙擊變數表

Inserts Variable Table

# 讀取 16-channel DO 與寫入 16-channel DO



鍵入 output(QB #)& input (IB #)

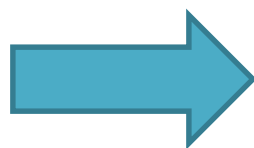
IB : input 以Byte表示 ; QB : output 以 Byte表示

IW: input 以Word表示 ; QW : output 以Word表示

The screenshot shows the 'Table Edit' window in SIMATIC Manager. The table has the following data:

	Address	Symbol	Display format	Status value	Modify value
1	QB 3		HEX		
2	qb4				

A red box highlights the 'Address' column for rows 1 and 2.



The screenshot shows the 'Table Edit' window in SIMATIC Manager after editing. The table has the following data:

	Address	Symbol	Display format	Status value	Modify value
1	QB 3		HEX		
2	QB 4		HEX		
3					
4	IB 4		HEX		
5	IB 5		HEX		
6					

A red box highlights the 'Address' column for rows 1 through 5.



# 讀取 16-channel DO 與寫入 16-channel DO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

(2) GW-752

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	16DO	Output Relay/Coil--2 byte		3...4	
4	16DI	Input Relay/Coil--2 byte	4...5		
5					

Var - [VAT\_1 -- S7\_Pro2\SIMATIC 300 S...]

Table Edit Insert PLC Variable View

Options Window Help

Monitor

	Address	Symbol	Display format	Status value	Modify value
1	QB 3		HEX		
2	QB 4		HEX		
3					
4	IB 4		HEX		
5	IB 5		HEX		
6					

oil--29 b  
oil--30 b  
oil--31 b  
oil--32 b  
il--1 byte  
il--2 byte  
il--3 byte  
il--4 byte  
il--5 byte  
il--6 byte  
il--7 byte  
il--8 byte  
il--9 byte  
il--10 by  
il--11 by  
il--12 by  
Input Relay/Coil--13 by  
Input Relay/Coil--14 by

Press F1 for help.

Press F1 to get Help.

Chg

1. 輸入所對應PROFIBUS的位址  
2. 點選“Monitor”按鈕



## 點選"Monitor Variable"

	Address	Symbol	Display format	Status value	Modify value
1	QB 3		HEX	B#16#00	
2	QB 4		HEX	B#16#00	
3					
4	IB 4		HEX	B#16#00	
5	IB 5		HEX	B#16#00	
6					

00018~00025

Bit 25 24 23 22 21 20 19 18  
 0 0 0 0 0 0 0 0  
 27 26 25 24 23 22 21 20

Modbus...  
 File Connection  
 Setup Display View  
 Window Help

ID = 10

00018 = 0	00026 = 0
00019 = 0	00027 = 0
00020 = 0	00028 = 0
00021 = 0	00029 = 0
00022 = 0	00030 = 0
00023 = 0	00031 = 0
00024 = 0	00032 = 0
00025 = 0	00033 = 0

For Help, press F1. For Edit,

Bit 33 32 31 30 29 28 27 26  
 0 0 0 0 0 0 0 0  
 27 26 25 24 23 22 21 20

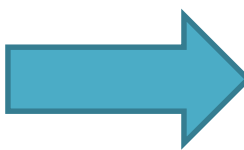
00026~00033

修改要經由Modbus命令所送的資料

準備傳輸的資料

	Address	Symbol	Display form	modify value
1	QB 3		HEX	B#16#01
2	QB 4		HEX	B#16#03
3				
4	IB 4		HEX	B#16#00
5	IB 5		HEX	B#16#00
6				

設置 QB3 QB4, 點擊 "modify variable" 按鈕



資料傳送完畢

	Address	Symbol	Display form	modify value
1	QB 3		HEX	B#16#01
2	QB 4		HEX	B#16#03
3				
4	IB 4		HEX	B#16#01
5	IB 5		HEX	B#16#03
6				

接收到的資料



## DO 的 Input 與 Output 情況

	Address	Symbol	Display format	Status value	Modify value
1	QB 3		HEX	B#16#01	B#16#01
2	QB 4		HEX	B#16#03	B#16#03
3					
4	IB 4		HEX	B#16#01	
5	IB 5		HEX	B#16#03	
6					

Data 03  
 Address 33 32 31 30 29 28 27 26  
 bit 0 0 0 0 0 0 1 1  
 Write X X X X X X V V

寫入 DO(8bit)

寫入 DO(8bit)

Data 03  
 Address 25 24 23 22 21 20 19 18  
 bit 0 0 0 0 0 0 0 1  
 Write X X X X X X X V

讀取 DO(8bit)

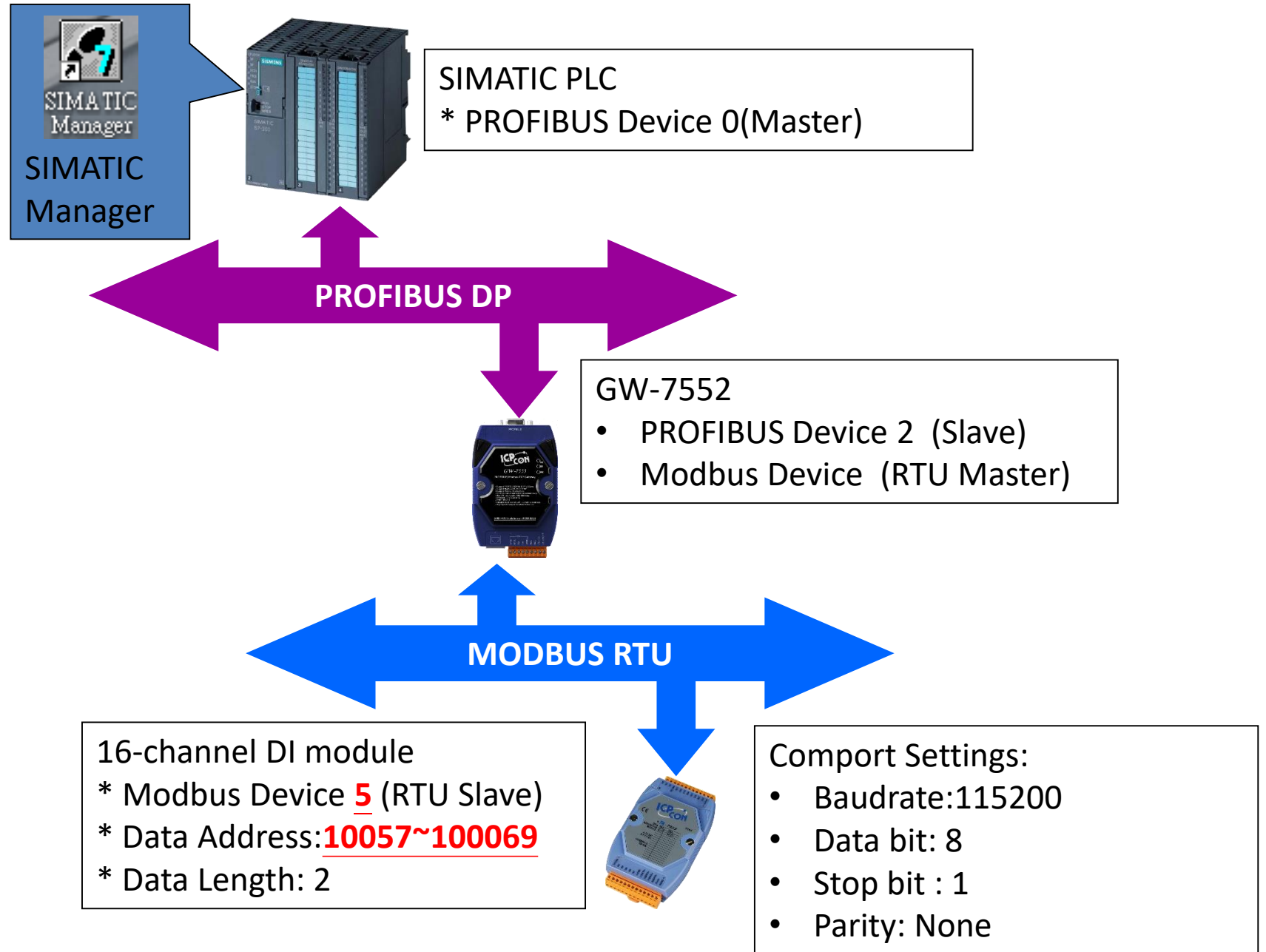
讀取 DO(8bit)

ID = 10

00018 = 1	00026 = 1
00019 = 0	00027 = 1
00020 = 0	00028 = 0
00021 = 0	00029 = 0
00022 = 0	00030 = 0
00023 = 0	00031 = 0
00024 = 0	00032 = 0
00025 = 0	00033 = 0

For Help, press F1. For Edit,

User can read the data to the Modbus DO module at address IB4 、IB5



# 讀取 13-channel DI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP master system (1)

(1) 選擇 GW-7552 module

(2) GW-7552

(2) 雙擊右側模組  
1. "System setting"  
2. "Input Relay/Coil--2 byte"

Find: 7552  
Profile: Standard

Output Relay/
Output Relay/
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C
Input Relay/C

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	16DI	Input Relay/Coil--2 byte	4...5		
4					
5					

Press F1 to get Help.

Chg



# 讀取 13-channel DI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

New... Ctrl+N  
Open... Ctrl+O  
Open ONLINE  
Close  
Save  
Save and Compile Ctrl+S  
Properties...  
Import...  
Export...  
Consistency Check Ctrl+Alt+K  
Check CiR Compatibility Ctrl+Alt+F  
Print... Ctrl+P  
Print Preview...  
Page Setup...  
1 S7\_Pro2\SIMATIC 300 Station  
2 S7\_Pro1\SIMATIC 300 Station  
3 S7\_Pro4\SIMATIC 300 Station  
4 S7\_Pro3\SIMATIC 300 Station  
Exit Alt+F4

點選“Save and Compile”

Address	Q Address	Comment
	0...2	
3		
5		

Find: 7552  
Profile: Standard

Output Relay/  
Output Relay/  
Output Relay/  
Output Relay/  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C

Saves and creates all system data in the current station.

Chg



# 讀取 13-channel DI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert **PLC** View Options Window Help

Download... Ctrl+L  
Upload...  
Download Module Identification...  
Upload Module Identification to PG...  
Faulty Modules...  
Module Information... Ctrl+D  
Operating Mode... Ctrl+I  
Clear/Reset...  
Set Time of Day...  
Monitor/Modify  
Update Firmware...  
Save Device Name to Memory Card...  
Ethernet ▶  
PROFIBUS ▶  
Save Service Data...

點選“Download to PLC”

(0) UR

1	
2	CPU313
X2	DP
2.2	DI16/DO4
2.4	Count
3	
4	

(2) GW-7552

Slot	DP ID	...
1	24DO	System setting
2	32DI	--> System setting
3	16DI	Input Relay/Coil--2 byte
4		
5		

Find: 7552  
Profile: Standard

Output Relay/  
Output Relay/  
Output Relay/  
Output Relay/  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C  
Input Relay/C

Loads the current station into the load memory of the current module.

Chg

# 讀取 13-channel DI



The screenshot shows the SIMATIC Manager interface for a project named S7\_Pro2. The main workspace displays a project tree on the left and a list of objects on the right. The objects listed are System data, OB1, OB82, OB86, and VAT\_1. The VAT\_1 object is highlighted with a red box. A context menu is open over the VAT\_1 object, showing options such as Cut, Copy, Paste, Delete, Insert New Object, PLC, Rewire..., Compare Blocks..., Reference Data, Check Block Consistency..., Print, Rename, Object Properties..., and Special Object Properties. The 'Insert New Object' option is selected, and a sub-menu is open, showing options like Organization Block, Function Block, Function, Data Block, Data Type, and Variable Table. The 'Variable Table' option is highlighted. A red text box with the Chinese text '建立變數表並雙擊變數表' (Create variable table and double-click variable table) is overlaid on the workspace. The status bar at the bottom left shows 'Inserts Variable Table'.

SIMATIC Manager - S7\_Pro2

File Edit Insert PLC View Options Window Help

S7\_Pro2 -- C:\Program Files\Siemens\Step7\s7proj\S7\_Pro2

S7\_Pro2

- SIMATIC 300 Station
  - CPU313 C-2 DP(1)
    - S7 Program(1)
      - Sources
      - Blocks
- System data
- OB1
- OB82
- OB86
- VAT\_1

建立變數表並雙擊變數表

Inserts Variable Table

# 讀取 13-channel DI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP ma

(2) GW-752

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	16DI	Input Relay/Coil--2 byte	4...5		
4					
5					

Var - [VAT\_1 -- S7\_Pro2\SIMATIC 300 ...]

Table Edit Insert PLC Variable View

Options Window Help

1. 輸入所對應PROFIBUS位址  
2. 點選 "Monitor" 按鈕

Address	Symbol	Display format	Status value	Modify value
1				
2	IB 4	HEX	B#16#00	
3	IB 5	HEX	B#16#00	
4				
5				
6				

S7\_Pro2\SIMATIC 300 Station\...\S7 Program(1)

Press F1 to get Help.

Chg

# 讀取 13-channel DI



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\

Table Edit Insert PLC Variable View Options Window

讀取 DI(8bit)

	Address	Symbol	Display format	Status value	Modify value
1					
2	IB 4		HEX	B#16#07	
3	IB 5		HEX	B#16#05	
4					
5					
6					

0000111 (binary)= 07 (hex)  
00101 (binary)= 05 (hex)

User can read the data to the Modbus DI module at address IB 4 、 IB 5

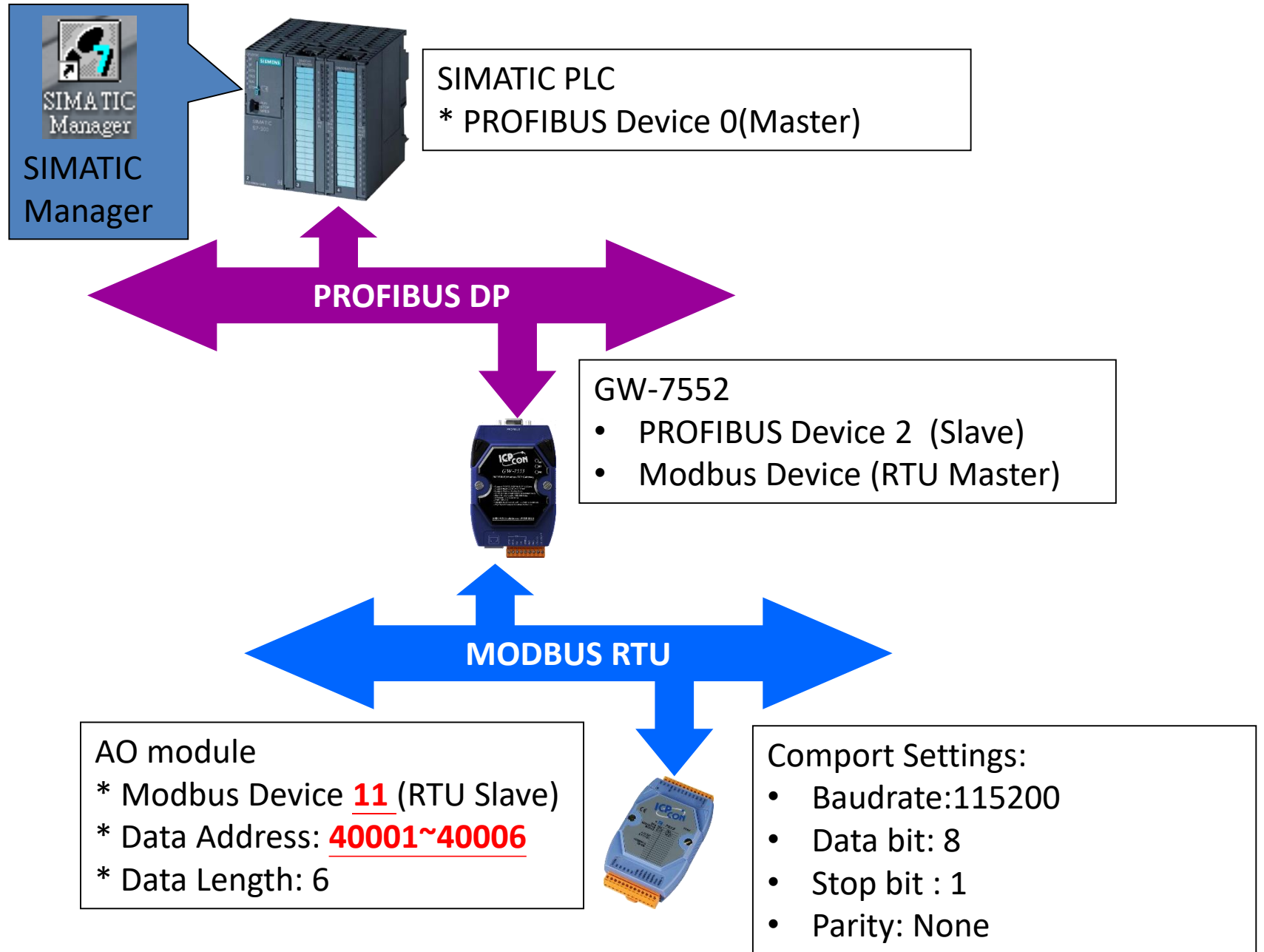
讀取 DI(5bit)

Modbus Slave - [M...

File Connection Setup Display  
View Window Help

ID = 5

10057	=	1
10058	=	1
10059	=	1
10060	=	0
10061	=	0
10062	=	0
10063	=	0
10064	=	0
10065	=	1
10066	=	0
10067	=	1
10068	=	0
10069	=	0



# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP master system (1)

(1)點選 GW-7552 module

(2)雙擊

- 1."System setting"
- 2."Output Register—6 word"
- 3."Input Register—6 word"

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	6AO	Output Register--6 word		256...267	
4	6AI	Input Register--6 word	256...267		
5					

Find: 7552

Profile: Standard

Output Register--61 word  
Output Register--62 word  
Output Register--63 word  
Output Register--64 word  
Input Register--1 word  
Input Register--2 word  
Input Register--3 word  
Input Register--4 word  
Input Register--5 word  
Input Register--6 word  
Input Register--7 word  
Input Register--8 word  
Input Register--9 word  
Input Register--10 word  
Input Register--11 word  
Input Register--12 word  
Input Register--13 word  
Input Register--14 word

Press F1 to get Help.

Chg

# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

(2) GW

(2) GW-7552

(1)雙擊 AO 模組

Slot	Module	Address	Value
1			
2	32DI	--> System setting	0...3
3	6AO	Output Register--6 word	256...267

Properties - DP ID

Address / ID Parameter Assignment (2)參數設置

Parameters	Value
Station parameters	
Device-specific parameters	
Modbus Slave Device ID (M)	11
Start Address (M)	0
Change Word Order	Disable
Hex parameter assignment	
User_Prm_Data (0 to 3)	0B,00,00,03

Modbus Slave Device ID (M) : 11  
修改ID

Find: 7552

Profile: Standard

- Output Register--61 word
- Output Register--62 word
- Output Register--63 word
- Output Register--64 word
- Input Register--1 word
- Input Register--2 word
- Input Register--3 word
- Input Register--4 word
- Input Register--5 word
- Input Register--6 word
- Input Register--7 word
- Input Register--8 word
- Input Register--9 word
- Input Register--10 word
- Input Register--11 word
- Input Register--12 word
- Input Register--13 word
- Input Register--14 word

Slot is occupied, module is too wide, or the functionality of the inserted module is not transferable to the new module

Chg

# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

(2) GW

(2) GW-7552

Slot 2 Number  
2 6AO Output Register--6 word 256...267  
3 6AI Input Register--6 word 256...267

Properties - DP ID

Address / ID Parameter Assignment (2)參數設置

Parameters	Value
Station parameters	
Device-specific parameters	
Modbus Slave Device ID (M)	11
Start Address (M)	0
Module Type (M)	Read AO
Change Word Order	Disable
Hex parameter assignment	
User_Prm_Data (0 to 3)	0B,00,00,04

Modbus Slave Device ID (M) : 11  
Module Type (M):Read AO

OK (3)點選 OK

Find: 7552 Profile: Standard

- Output Register--61 word
- Output Register--62 word
- Output Register--63 word
- Output Register--64 word
- Input Register--1 word
- Input Register--2 word
- Input Register--3 word
- Input Register--4 word
- Input Register--5 word
- Input Register--6 word
- Input Register--7 word
- Input Register--8 word
- Input Register--9 word
- Input Register--10 word
- Input Register--11 word
- Input Register--12 word
- Input Register--13 word
- Input Register--14 word

Slot is occupied, module is too wide, or the functionality of the inserted module is not transferable to the new module

Chg



# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

- New... Ctrl+N
- Open... Ctrl+O
- Open ONLINE
- Close
- Save
- Save and Compile Ctrl+S**
- Properties...
- Import...
- Export...
- Consistency Check Ctrl+Alt+K
- Check CiR Compatibility Ctrl+Alt+F
- Print... Ctrl+P
- Print Preview...
- Page Setup...
- 1 S7\_Pro2\SIMATIC 300 Station
- 2 S7\_Pro1\SIMATIC 300 Station
- 3 S7\_Pro4\SIMATIC 300 Station
- 4 S7\_Pro3\SIMATIC 300 Station
- Exit Alt+F4

點選“Save and Compile”

Master system (1)

Find: 7552

Profile: Standard

- Output Register--61 word
- Output Register--62 word
- Output Register--63 word
- Output Register--64 word
- Input Register--1 word
- Input Register--2 word
- Input Register--3 word
- Input Register--4 word
- Input Register--5 word
- Input Register--6 word
- Input Register--7 word
- Input Register--8 word
- Input Register--9 word
- Input Register--10 word
- Input Register--11 word
- Input Register--12 word
- Input Register--13 word
- Input Register--14 word

Saves and creates all system data in the current station.

Chg

# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert **PLC** View Options Window Help

Download... Ctrl+L

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet ▶

PROFIBUS ▶

Save Service Data...

點選"Download to PLC"

Find: 7552

Profile: Standard

- Output Register--61 word
- Output Register--62 word
- Output Register--63 word
- Output Register--64 word
- Input Register--1 word
- Input Register--2 word
- Input Register--3 word
- Input Register--4 word
- Input Register--5 word
- Input Register--6 word
- Input Register--7 word
- Input Register--8 word
- Input Register--9 word
- Input Register--10 word
- Input Register--11 word
- Input Register--12 word
- Input Register--13 word
- Input Register--14 word

Slot	Designation
0	UR
PROFIBUS(1): DP master system (1)	
DP master system (1)	

Loads the current station into the load memory of the current module.

Chg

# 讀取/寫入 6-channel AO



SIMATIC Manager - S7\_Pro2

File Edit Insert PLC View Options Window Help

S7\_Pro2 -- C:\Program Files\Siemens\Step7\s7proj\S7\_Pro2

System data OB1 OB82 OB86 VAT\_1

S7\_Pro2

- SIMATIC 300 Station
  - CPU313 C-2 DP(1)
    - S7 Program(1)
      - Sources
      - Blocks

Insert New Object

- Organization Block
- Function Block
- Function
- Data Block
- Data Type
- Variable Table

建立變數表並雙擊變數表

Inserts Variable Table at t

# 讀取/寫入 6-channel AO



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP master system (1)

(2) GW-752

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
2	32DI	--> System setting	0...3		
3	6AO	Output Register--6 word		256...267	
4	6AI	Input Register--6 word	256...267		

Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU3...

Table Edit Insert PLC Variable View Options Window Help

1. 在變數表輸入對應PROFI位址  
2. 點選 "Monitor" button

	Address	Symbol	Display format	Status value	Modify value
1	PQW 256		HEX	00	
2	PQW 258		HEX	00	
3	PQW 260		HEX	00	
4	PQW 262		HEX	00	
5	PQW 264		HEX	00	
6	PQW 266		HEX	00	
7					
8	PIW 256		HEX	W#16#0000	
9	PIW 258		HEX	W#16#0000	
10	PIW 260		HEX	W#16#0000	
11	PIW 262		HEX	W#16#0000	
12	PIW 264		HEX	W#16#0000	
13	PIW 266		HEX	W#16#0000	
14					

S7\_Pro2\SIMATIC 300 Station\...\S7 Program(1)

# 讀取/寫入 6-channel AO



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 Program(1) ONLINE]

Table Edit Insert PLC Variable View Options Window Help



	Address	Symbol	Display format	Status value	Modify value
1	PQW 256		HEX	<del>00</del>	
2	PQW 258		HEX	<del>00</del>	
3	PQW 260		HEX	<del>00</del>	
4	PQW 262		HEX	<del>00</del>	
5	PQW 264		HEX	<del>00</del>	
6	PQW 266		HEX	<del>00</del>	
7					
8	PTW 256		HEX	W#16#0000	
9	PTW 258		HEX	W#16#0000	
10	PTW 260		HEX	W#16#0000	
11	PTW 262		HEX	W#16#0000	
12	PTW 264		HEX	W#16#0000	
13	PTW 266		HEX	W#16#0000	
14					

Modbus Slave - [M...]

File Connection Setup Display  
View Window Help

ID = 11

40001 = 0x0000  
40002 = 0x0000  
40003 = 0x0000  
40004 = 0x0000  
40005 = 0x0000  
40006 = 0x0000

For Help, press F1. For Edit, double clic

讀取 AO(6 word)

# 讀取/寫入 6-channel AO



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 Program(1) ONLINE]

Table Edit Insert PLC Variable View Options Window Help



(2)點選“Modify variable”按鈕

	Address	Symbol	Display format	Status value
1	PQW 256		HEX	<del>W#16#1253</del>
2	PQW 258		HEX	<del>W#16#5533</del>
3	PQW 260		HEX	<del>W#16#4537</del>
4	PQW 262		HEX	<del>W#16#0123</del>
5	PQW 264		HEX	<del>W#16#0012</del>
6	PQW 266		HEX	<del>W#16#0022</del>
7				
8	PTW 256		HEX	W#16#0000
9	PTW 258		HEX	W#16#0000
10	PTW 260		HEX	W#16#0000
11	PTW 262		HEX	W#16#0000
12	PTW 264		HEX	W#16#0000
13	PTW 266		HEX	W#16#0000
14				

(1)設置準備傳輸之資料

W#16#1253  
W#16#5533  
W#16#4537  
W#16#0123  
W#16#0012  
W#16#0022

PTW 256  
PTW 258  
PTW 260  
PTW 262  
PTW 264  
PTW 266

讀取 AO(6 word)

Modbus Slave - [M...]

File Connection Setup Display  
View Window Help

ID = 11

40001 = 0x0000  
40002 = 0x0000  
40003 = 0x0000  
40004 = 0x0000  
40005 = 0x0000  
40006 = 0x0000

For Help, press F1. For Edit, double clic

# 讀取/寫入 6-channel AO



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 Program(1) ONLINE]

Table Edit Insert PLC Variable View Options Window Help



	Address	Symbol	Display format	Status value	Modify value
1	PQW 256		HEX	<del>0000</del>	W#16#1253
2	PQW 258		HEX	<del>0000</del>	W#16#5533
3	PQW 260		HEX	<del>0000</del>	W#16#4537
4	PQW 262		HEX	<del>0000</del>	W#16#0123
5	PQW 264		HEX	<del>0000</del>	W#16#0012
6	PQW 266		HEX	<del>0000</del>	W#16#0022
7					
8	PIW 256		HEX	W#16#1253	
9	PIW 258		HEX	W#16#5533	
10	PIW 260		HEX	W#16#4537	
11	PIW 262		HEX	W#16#0123	
12	PIW 264		HEX	W#16#0012	
13	PIW 266		HEX	W#16#0022	
14					

寫入 AO(6 word)

讀取 AO(6 word)

Modbus Slave - [M...]

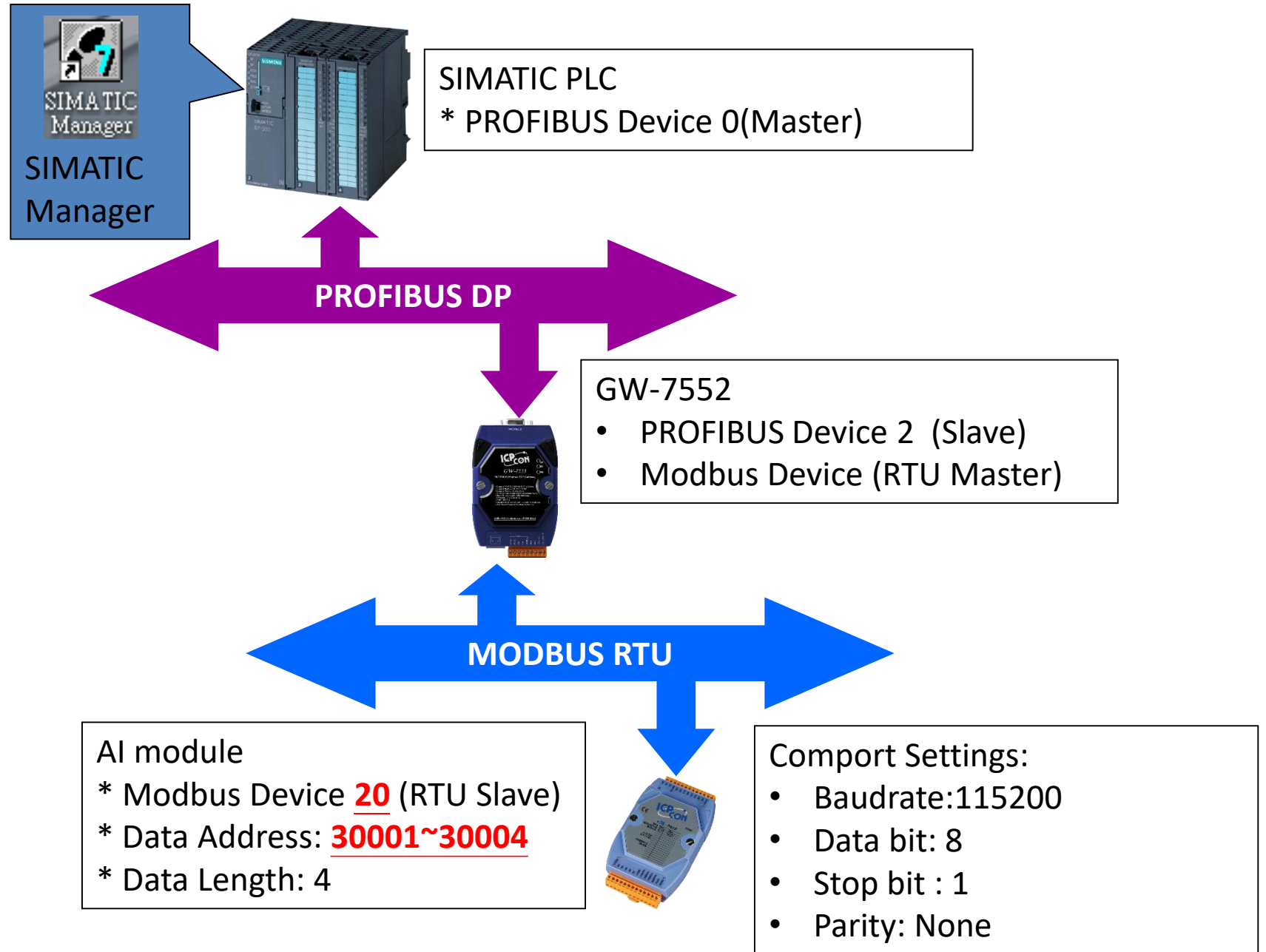
File Connection Setup Display  
View Window Help

ID = 11

```
40001 = 0x1253
40002 = 0x5533
40003 = 0x4537
40004 = 0x0123
40005 = 0x0012
40006 = 0x0022
```

For Help, press F1. For Edit, double clic

# 讀取 4-channel AI





# 讀取 4-channel AI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS(1): DP master system (1)

(1)選擇 GW-7552模組

(2) GW-7552

(2) 雙擊  
1. "System setting"  
2. "Input Register—4 word "

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	4AI	Input Register--4 word	256...263		
4					

Press F1 to get Help.

Chg

# 讀取 4-channel AI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

(2) GW

(2) GW-7552

(1)雙擊 AI 模組

Properties - DP ID

Address / ID Parameter Assignment

(2)參數設置

Parameters	Value
Station parameters	
Device-specific parameters	
Modbus Slave Device ID (M)	20
Start Address (M)	0
Module Type (M)	Read AI
Change Word Order	Disable
Hex parameter assignment	
User_Prm_Data (0 to 3)	

修改ID  
Modbus Slave Device ID (M) : 20

OK Cancel Help

Find: 7552 Profile: Standard

Output Register  
Output Register  
Output Register  
Output Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register  
Input Register

2	32DI	--> System settin_		
3	4AI	Input Register--4 word	256...263	
4				

Press F1 to get Help.

Chg

# 讀取 4-channel AI



The screenshot shows the SIMATIC Manager HW Config interface. The 'Station' menu is open, and the 'Save and Compile' option is highlighted. A red box with the Chinese text '點選“Save and Compile”' (Click 'Save and Compile') is overlaid on the menu item. The background shows a hardware configuration table with columns for Address, Q Address, and Comment. The table has several rows, with the last row highlighted in blue and green. The right side of the interface shows a search bar with '7552' and a profile dropdown set to 'Standard'. Below the search bar is a list of hardware components, including multiple 'Output Register' and 'Input Register' entries.

Address	Q Address	Comment
	0...2	
3		
5...263		

Saves the current station

Chg

# 讀取 4-channel AI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert **PLC** View Options Window Help

Download... 點選“Download to PLC”

Upload...

Download Module Identification...

Upload Module Identification to PG...

Faulty Modules...

Module Information... Ctrl+D

Operating Mode... Ctrl+I

Clear/Reset...

Set Time of Day...

Monitor/Modify

Update Firmware...

Save Device Name to Memory Card...

Ethernet >

PROFIBUS >

Save Service Data...

(0) UR

1	
2	CPU313
X2	DP
2.2	DI16/DO4
2.4	Count
3	
4	

(2) GW-7552

Slot	DP ID	...	Comment
1	24DO		System setting
2	32DI		--> System setting
3	4AI	Input Register--4 word	256..263
4			

Find: 7552

Profile: Standard

- Output Register
- Output Register
- Output Register
- Output Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register
- Input Register

Loads the current station into the load memory of the current module.

Chg

# 讀取 4-channel AI



SIMATIC Manager - S7\_Pro2

File Edit Insert PLC View Options Window Help

S7\_Pro2 -- C:\Program Files\Siemens\Step7\s7proj\S7\_Pro2

S7\_Pro2

- SIMATIC 300 Station
  - CPU313 C-2 DP(1)
    - S7 Program(1)
      - Sources

System data OB1 OB82 OB86 VAT\_1

建立變數表並雙擊變數表

Cut Ctrl+X  
Copy Ctrl+C  
Paste Ctrl+V  
Delete Del  
Insert New Object ▶  
PLC ▶  
Rewire...  
Compare Blocks...  
Reference Data ▶  
Check Block Consistency...  
Print ▶  
Rename F2  
Object Properties... Alt+Return  
Special Object Properties ▶

Organization Block  
Function Block  
Function  
Data Block  
Data Type  
Variable Table

Inserts Variable Table at the cursor position.

# 讀取 4-channel AI



HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro2]

Station Edit Insert PLC View Options Window Help

(0) UR

1	
2	CPU313 C-2 DP(1)
X2	DP
2.2	DI16/DO16
2.4	Count
3	
4	

BUS

(2) GW-75!

(2) GW-7552

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	32DI	--> System setting	0...3		
3	4AI	Input Register--4 word	256...263		
4					

Var - VAT\_1

Table Edit Insert PLC Variable View Options

Window Help

VAT\_1 -- S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 P

	Address	Symbol	Display format	Status value	Modify value
1	PIW 256		HEX		
2	PIW 258		HEX		
3	PIW 260		HEX		
4	PIW 262		HEX		
5					

Press F1 for help.

Press F1 to get Help.

- 1.輸入所對應PROFIBUS的位址
- 2.點選“Monitor”按鈕

# 讀取 4-channel AI



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 Program(1) ONLINE]

Table Edit Insert PLC Variable View Options Window

	Address	Symbol	Display format	Status value	Modify value
1	PIW 256		HEX	W#16#1234	
2	PIW 258		HEX	W#16#0000	
3	PIW 260		HEX	W#16#0000	
4	PIW 262		HEX	W#16#0000	
5					

Modbus Slave - [M...]

File Connection Setup Display  
View Window Help

ID = 20

30001 = 0x1234  
30002 = 0x0000  
30003 = 0x0000  
30004 = 0x0000

讀取 AI(4word)

S7\_Pro2\SIMATIC 300 Station\...\S7 Program(1) RUN Abs < 5.2

# 讀取 4-channel AI



Var - [VAT\_1 -- @S7\_Pro2\SIMATIC 300 Station\CPU313 C-2 DP(1)\S7 Program(1) ONLINE]

Table Edit Insert PLC Variable View Options Window Help



	Address	Symbol	Display format	Status value	Modify value
1	PIW 256		HEX	W#16#1234	
2	PIW 258		HEX	W#16#7788	
3	PIW 260		HEX	W#16#AABB	
4	PIW 262		HEX	W#16#CCDD	
5					

讀取 AI(4word)

Modbus Slave - [M...]

File Connection Setup Display  
View Window Help

ID = 20

30001 = 0x1234  
30002 = 0x7788  
30003 = 0xAABB  
30004 = 0xCCDD

For Help, press F1. For Edit, double clic