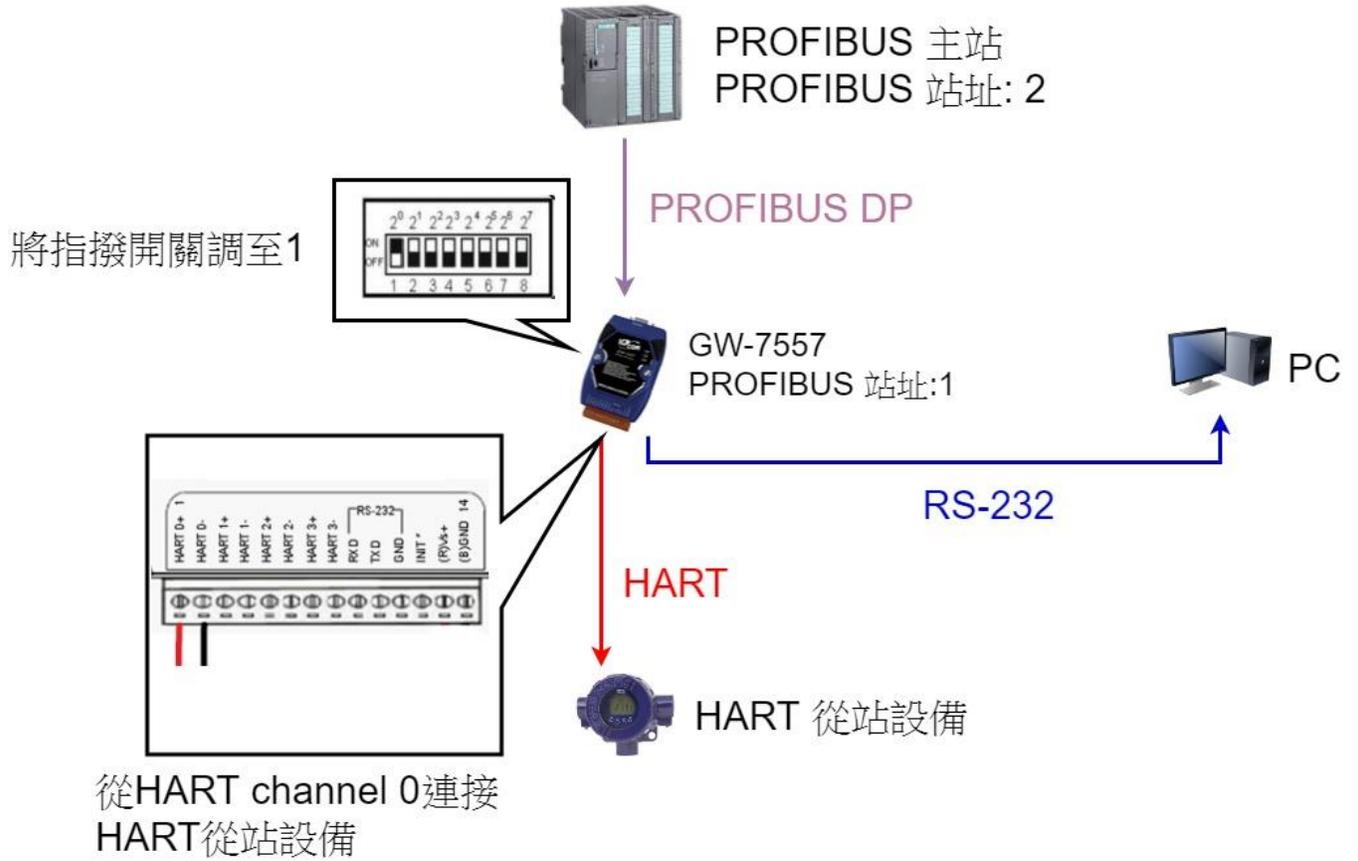


# 如何在 GW-7557 設定 HART 命令(Burst 模式) 以 SIMATIC STEP 7 為例

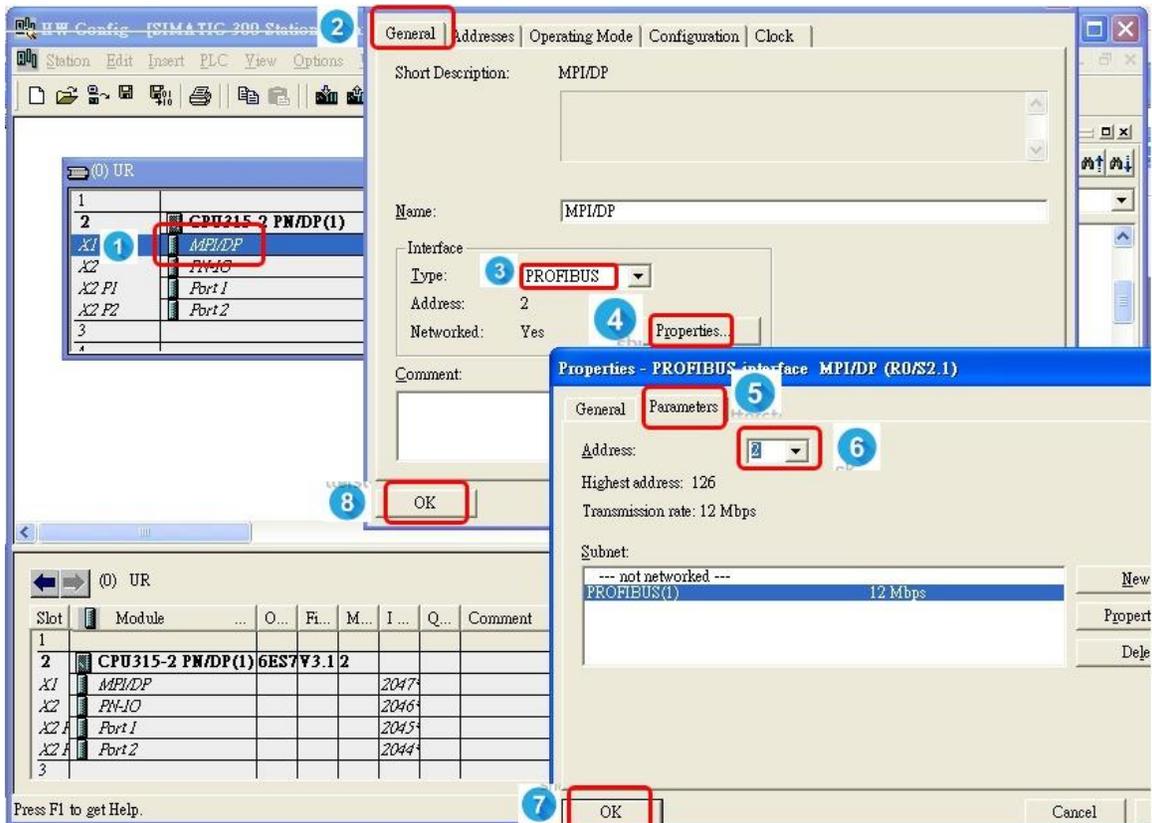
## 步驟一:接線圖



## 步驟二：在 SIMATIC STEP 設定 GW-7557

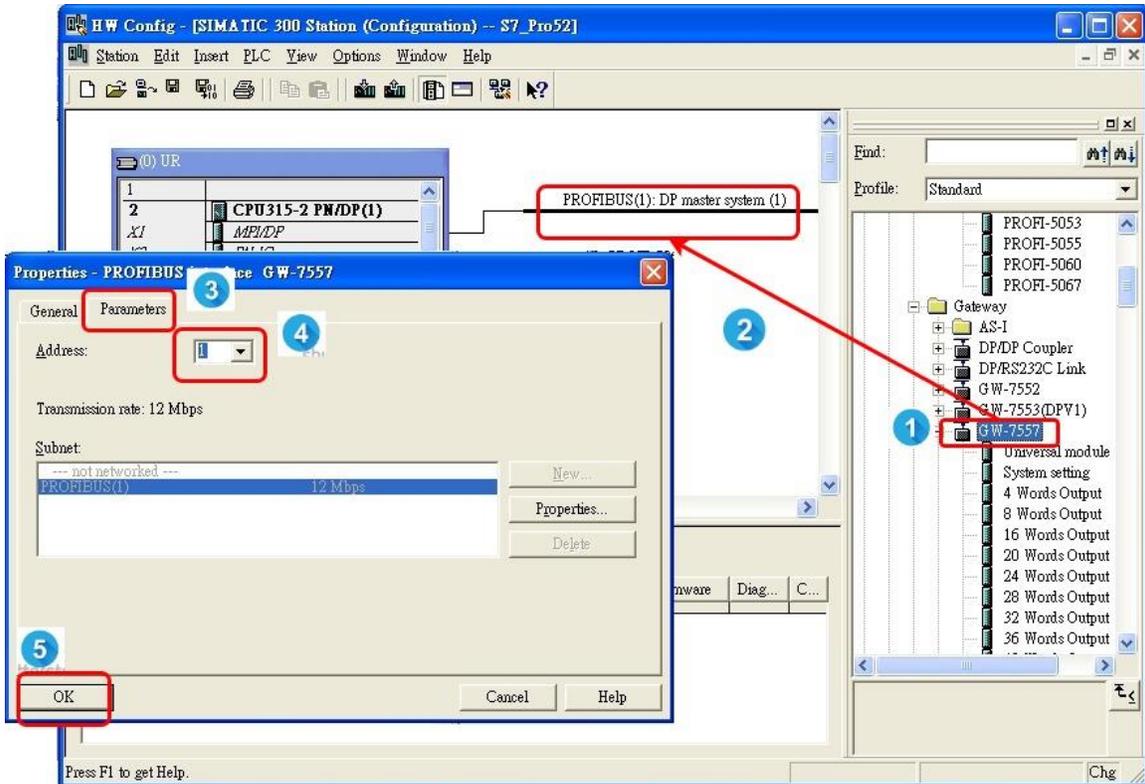
### 1. 設定 PLC 的 PROFIBUS 站址

- (1) 雙擊“PROFIBUS DP”介面
- (2) 點擊“General”
- (3) 選擇 “PROFIBUS”
- (4) 點擊 “Properties”
- (5) 點擊 “Parameters”
- (6) 選擇 “2”
- (7) 點擊 “OK”
- (8) 點擊 “OK”



## 2. 設定 GW-7557 的 PROFIBUS 站址

- (1) 點擊 “GW-7557”
- (2) 拖移 “GW-7557”到 PROFIBUS DP 系統
- (3) 點擊 “Parameters”.
- (4) 選擇 “1”.
- (5) 點擊 “OK”.



### 3. 設定 GW-7557 的模組

(1) 點選 GW-7557

(2) 雙擊 “System setting”

HW Config - [SIMATIC 300 Station (Configuration) -- S7\_Pro52]

Station Edit Insert PLC View Options Window Help

Find:  Profile: Standard

PROFIBUS(1): DP master system (1)

(1) GW-7557

System setting

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	11A1	System setting	0...21		
2	37	--> System setting		0...5	
3	64	Command 3	22...47		
4					
5					
6					
7					

Selecting the hardware

Chg

#### 4. 設定 HART 命令

- (1) 雙擊 “Command 1” (你可以選擇其他需要設為 burst 模式的 HART 命令)
- (2) 雙擊 “Command 108”
- (3) 雙擊 “Command 109”

The screenshot shows the SIMATIC 300 Station (Configuration) software interface. The main window displays a hardware rack configuration for a SIMATIC 300 station. The rack contains a CPU 315-2 PN/DP (1) in slot 2, and three ports (MPI/DP, PN-I/O, Port 1, Port 2) in slots X1, X2 P1, and X2 P2. A PROFIBUS (1) DP master system (1) is connected to a GW-757 gateway module in slot 1. The gateway module is configured with 48 Words Input and 48 Words Output. The command selection table is shown below, with Command 1, Command 108, and Command 109 highlighted in red boxes. The command selection table is as follows:

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	11AI	System setting	0..21		
2	37	--> System setting		0...5	
3	22	Command 1	22...28		
4	192	Command 108	29...31	6	
5	192	Command 109	32...34	7	
6					
7					

The software interface also shows a list of commands on the right side, with Command 1, Command 108, and Command 109 highlighted in red boxes. The status bar at the bottom indicates "Selecting the hardware".

## 5. 設定 GW-7557 設備參數

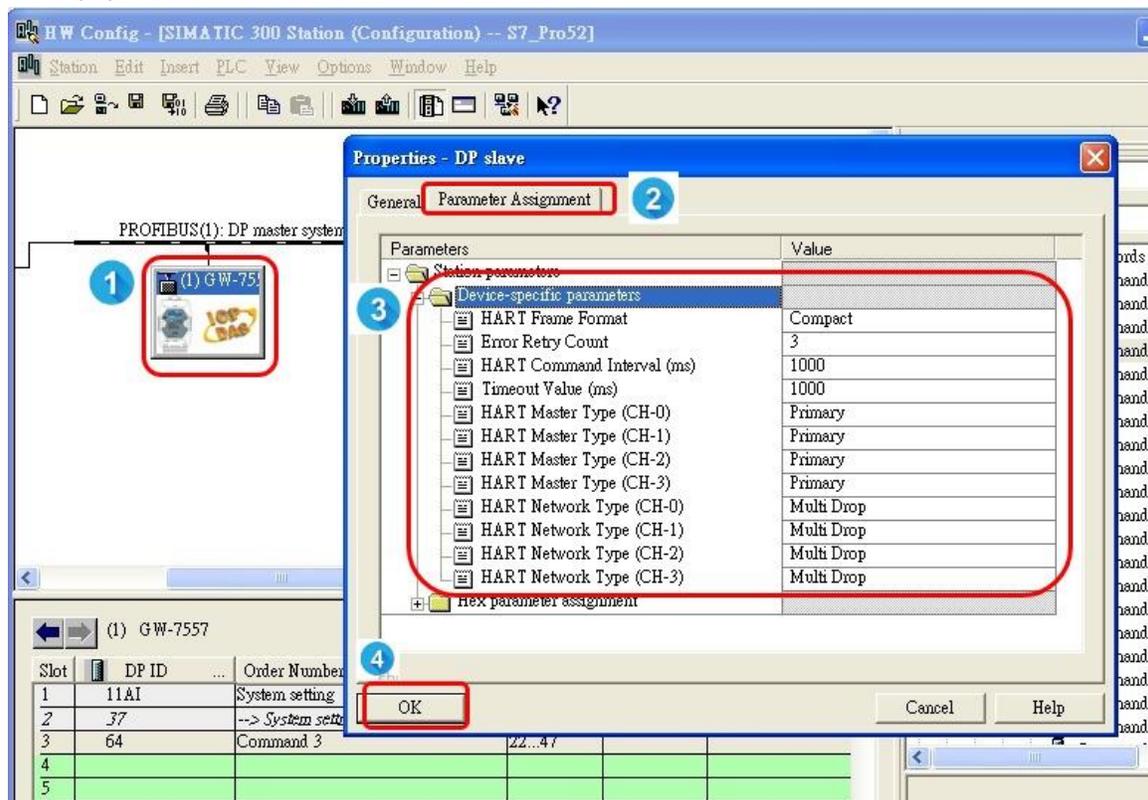
(1) 雙擊 “GW-7557”

(2) 點選 “Parameter Assignment”

(3) 設定 GW-7557 的設備參數:

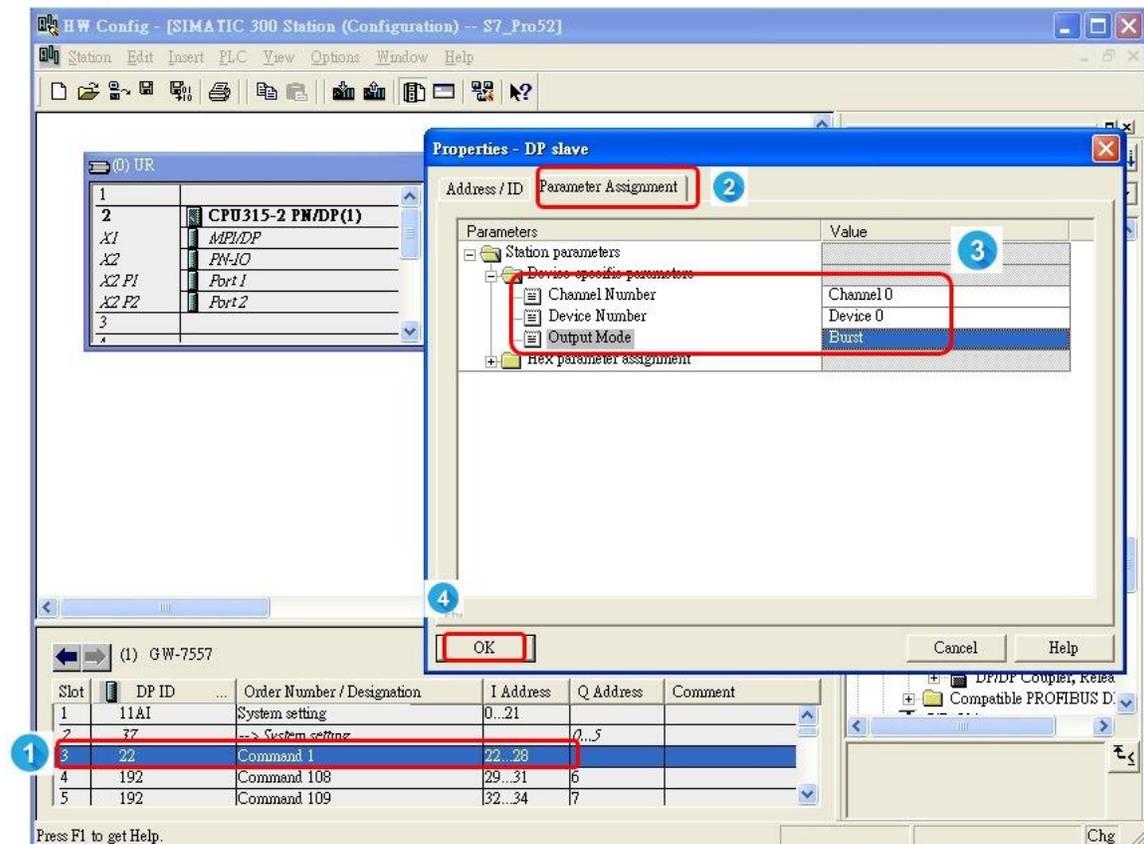
- HART Frame Format: Compact
- Error Retry Count: 3
- HART Command Interval(ms): 1000
- Timeout Value(ms): 1000
- HART Master Type(CH-0): Primary
- HART Master Type(CH-1): Primary
- HART Master Type(CH-2): Primary
- HART Master Type(CH-3): Primary
- HART Network Type(CH-0): Multi Drop
- HART Network Type(CH-1): Multi Drop
- HART Network Type(CH-2): Multi Drop
- HART Network Type(CH-3): Multi Drop

(4) 點選 “OK”



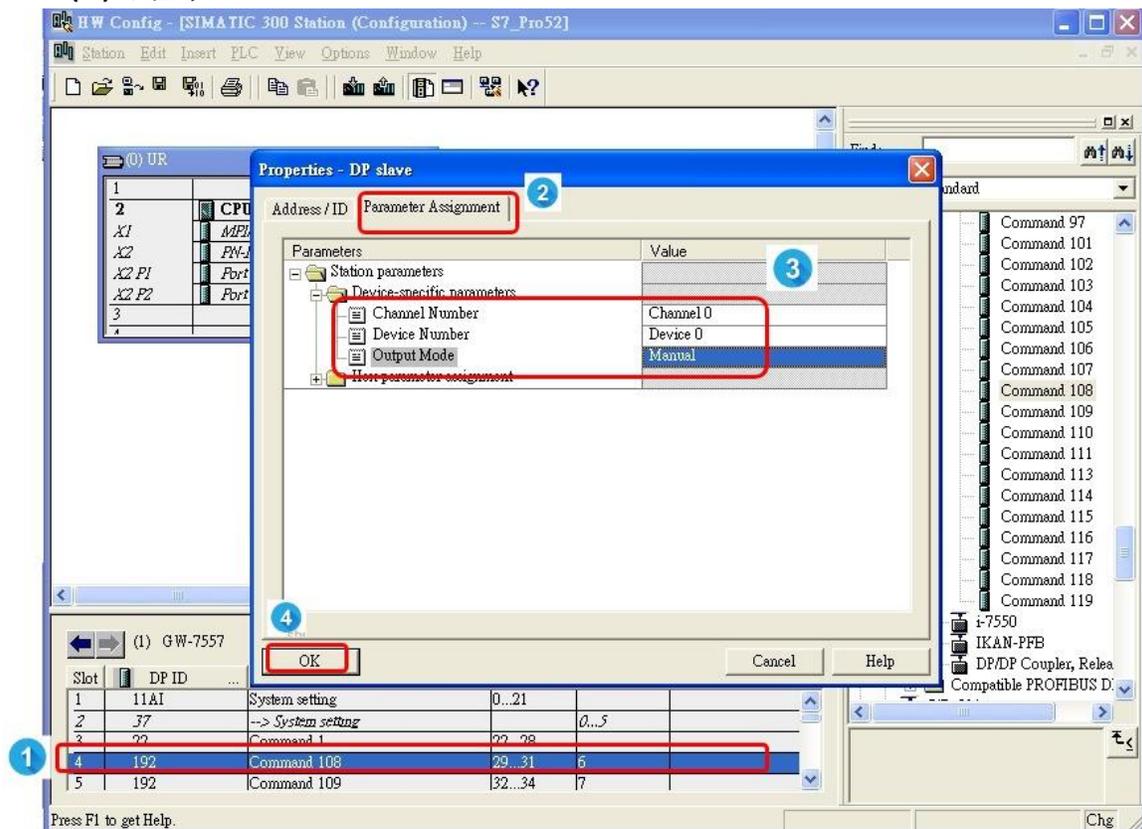
## 6. 設定模組參數

- (1) 雙擊 “command 1”
- (2) 點擊 “Parameter Assignment”
- (3) 設定命令 1 的模組參數：
  - Channel Number: Channel 0
  - Device Number: Device 0
  - Output Mode: Burst
- (4) 點擊 “OK”



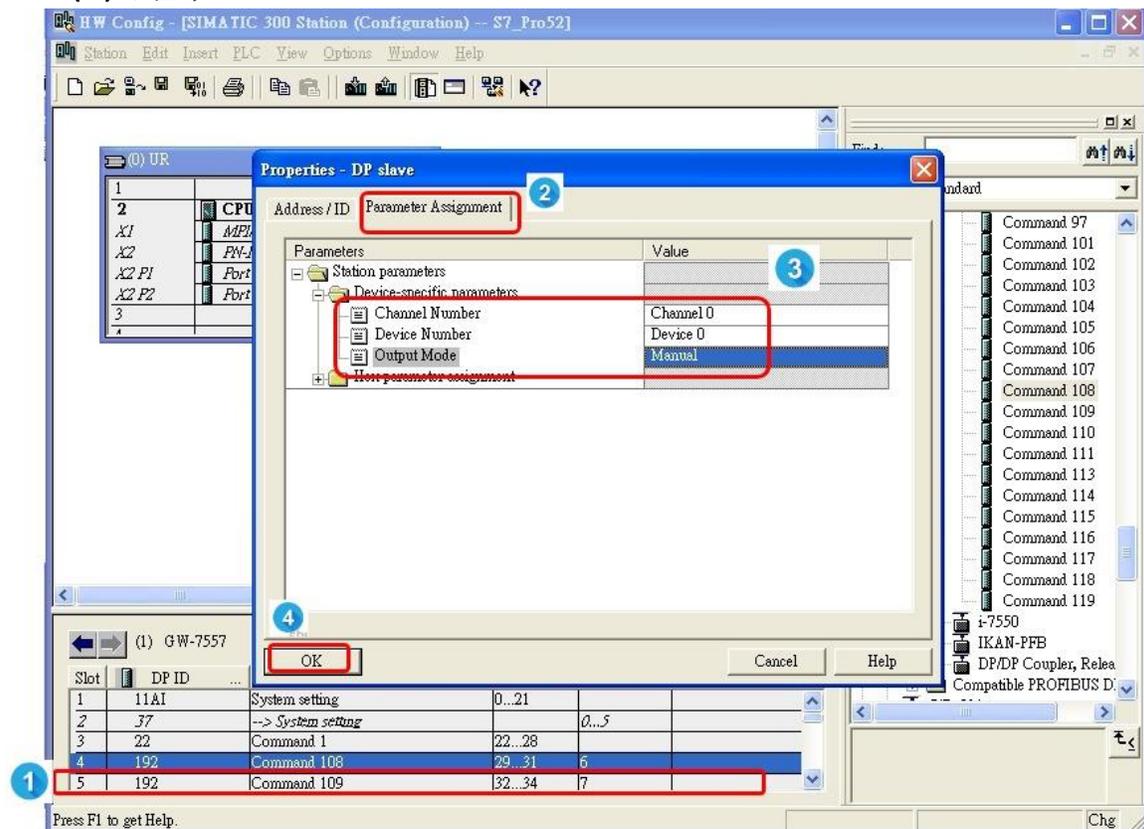
## 7. 設定模組參數

- (1) 雙擊 “command 108”
- (2) 點擊 “Parameter Assignment”
- (3) 設定命令 108 的模組參數：
  - Channel Number: Channel 0
  - Device Number: Device 0
  - Output Mode: Manual
- (4) 點擊 “OK”



## 8. 設定模組參數

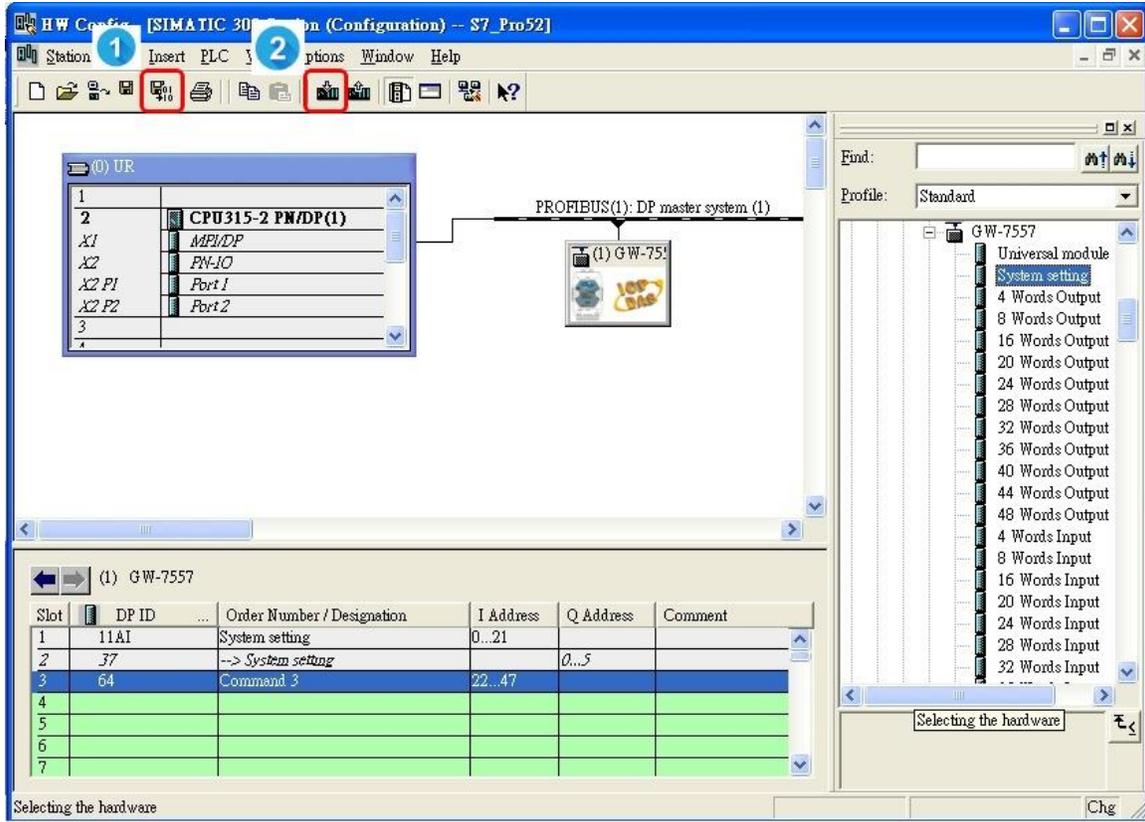
- (1) 雙擊“command 109”
- (2) 點擊 “Parameter Assignment”
- (3) 設定命令 109 的模組參數：
  - Channel Number: Channel 0
  - Device Number: Device 0
  - Output Mode: Manual
- (4) 點擊 “OK”



## 9. 存檔、編譯、下載到 PLC

(1) 點擊 Save and Compile 圖示

(2) 點擊 Download 圖示



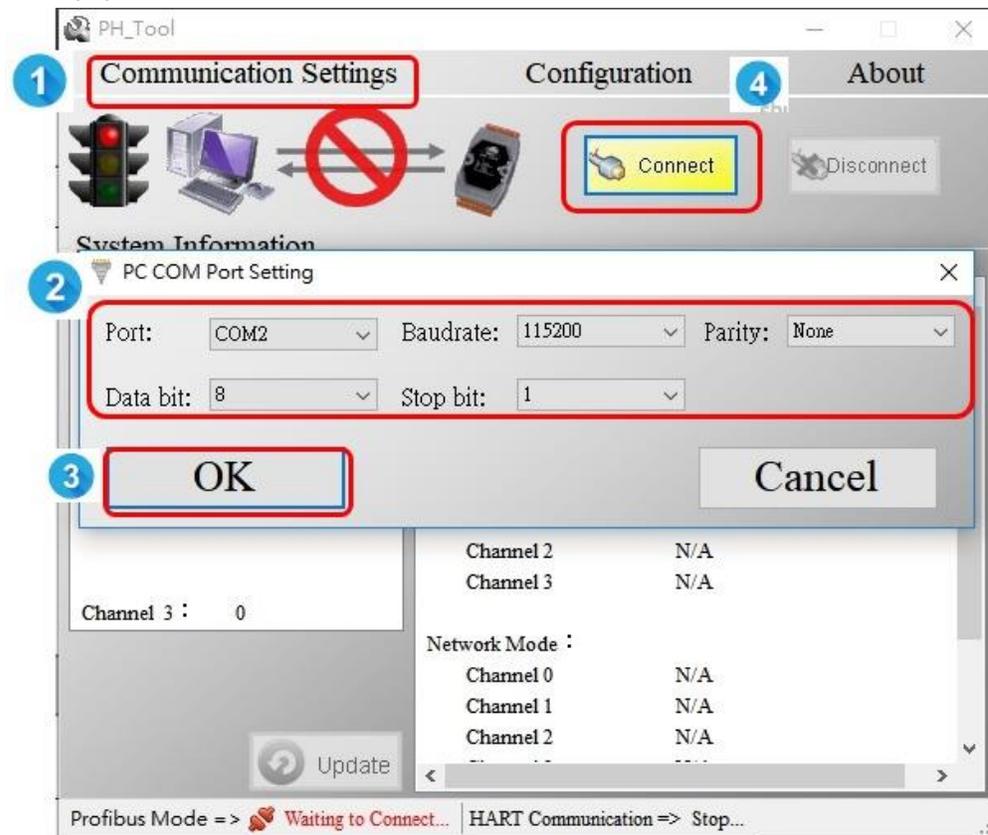
### 步驟三:透過 PH\_Tool 設定 HART 從站設備

#### 1. 雙擊 “PH\_Tool” 圖示



#### 2. PH\_Tool 連線 GW-7557

- (1) 點擊 “Communication Settings”.
- (2) 設定 PC 的 COM port 的通訊設定，這些設定必需與 GW-7557 的 COM port 設定相同，否則會連線失敗。
- (3) 點擊 “OK”
- (4) 點擊 “Connect”

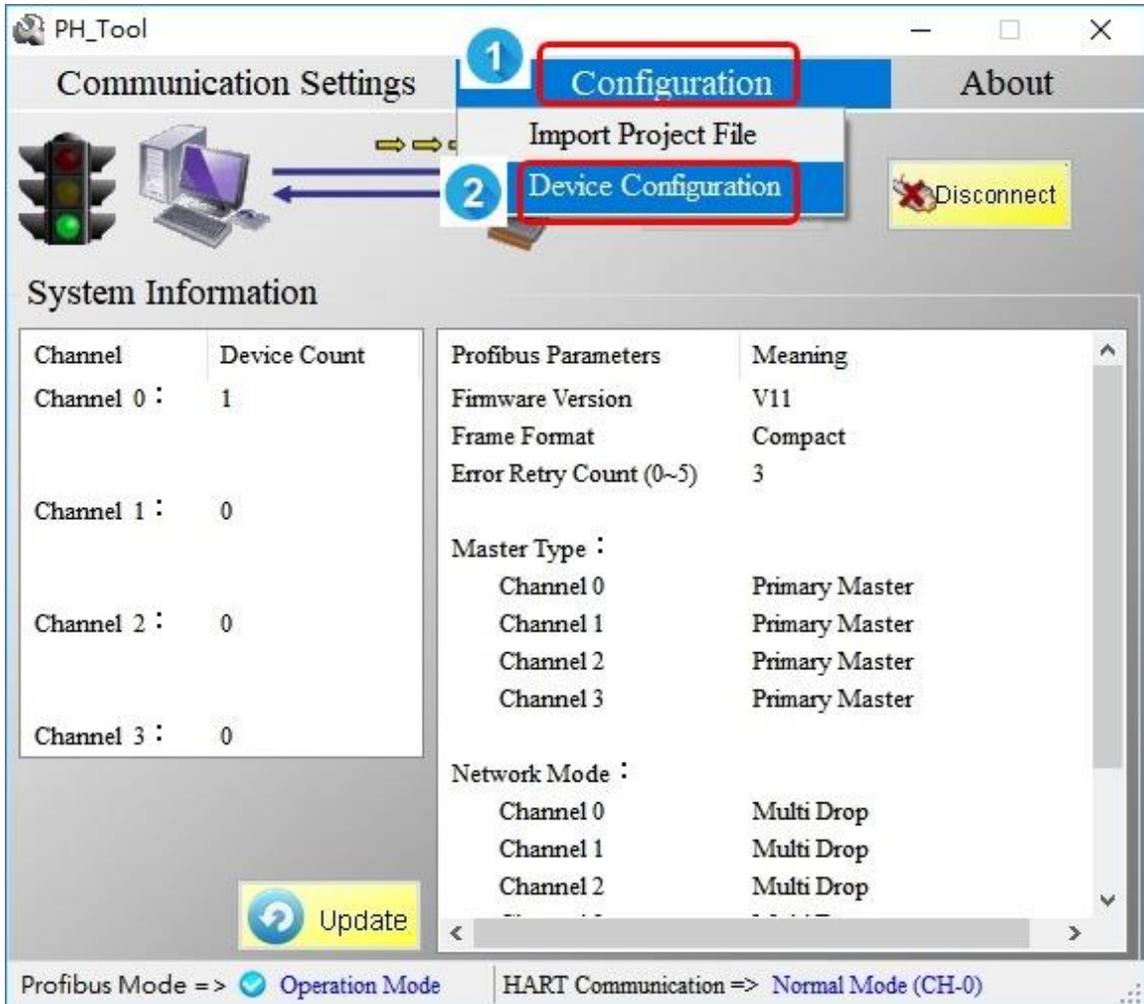


## 如果你忘記 GW-7557 的 COM port 設定，請參考 [GW-7557 user manual 2.6](#).

### 3. 設定 GW-7557

(1) 點擊 “Configuration”

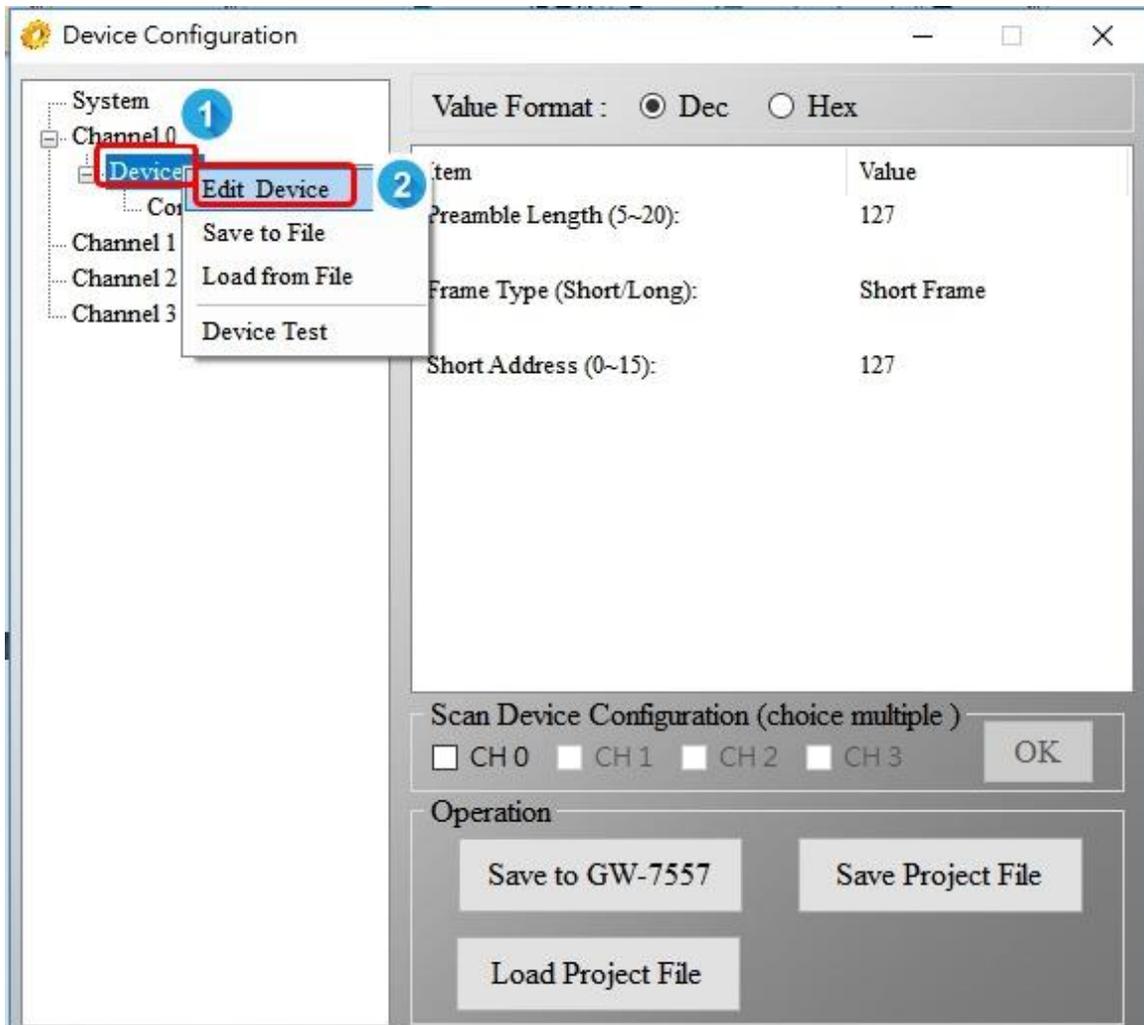
(2) 點擊 “Device Configuration”



#### 4. 設定 GW-7557

(1) 右鍵點擊 “Device 0”

(2) 點擊 “Edit Device”



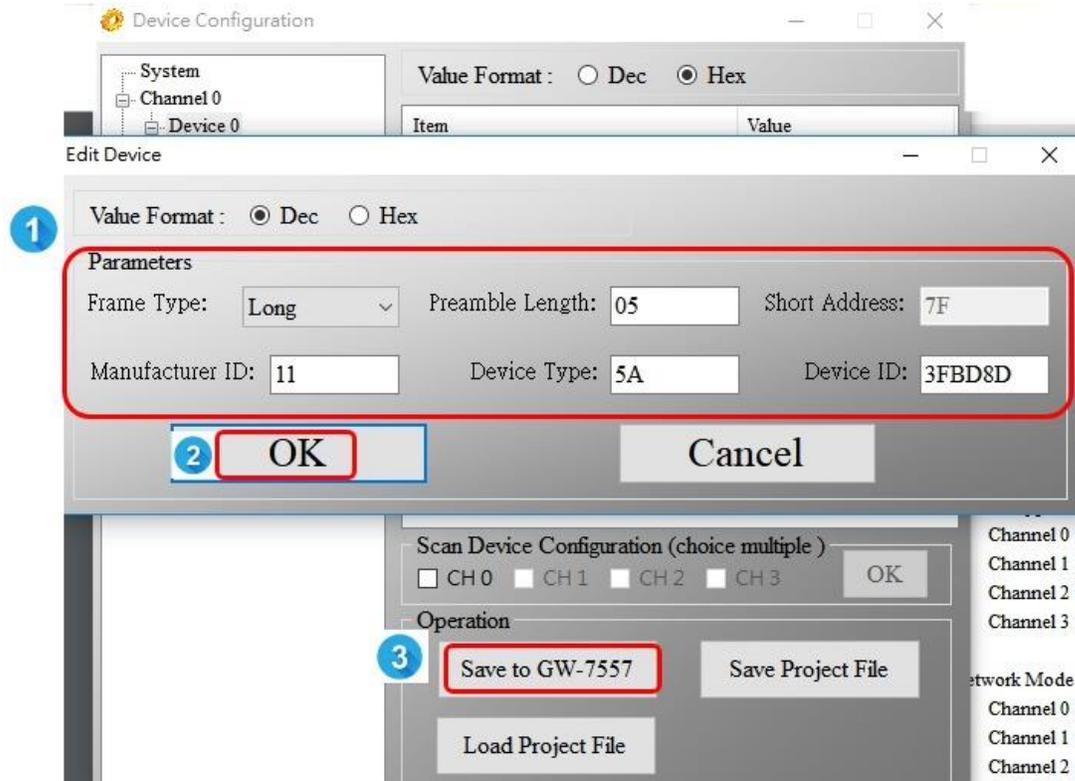
## 5. 設定 HART 從站設備的參數

### (1) 設定 HART 從站設備參數

請從 HART 從站設備的手冊中取得這些參數

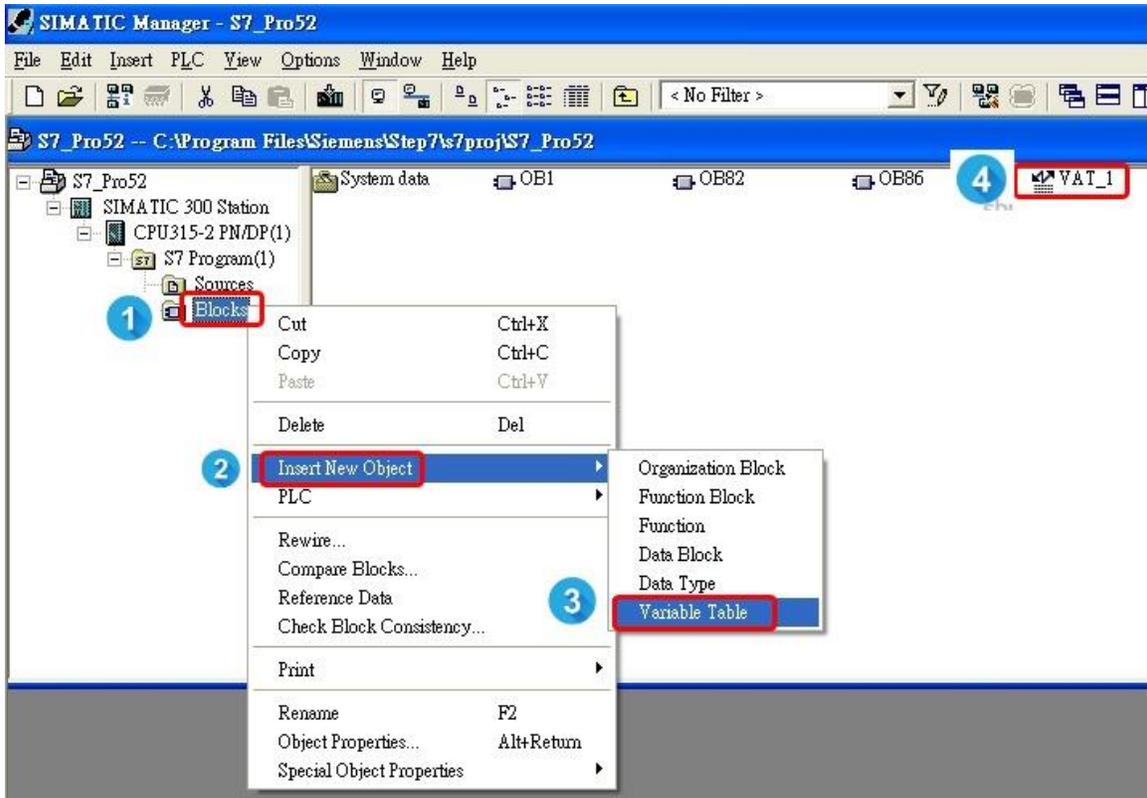
### (2) 點擊 “OK”

### (3) 點擊 “Save to GW-7557”



## 步驟四：在變數表上顯示 HART 數據

1. 建立變數表
  - (1) 右鍵點擊 “Blocks”
  - (2) 點擊 “Insert New Object”
  - (3) 點擊 “Variable Table”
  - (4) 雙擊 “VAT\_1”



## 2. 設定變數表

- (1) 輸入 “System setting”、 “command 1”、 “command 108”、 “command 109” 的數據位址。  
(請將模組提供的數據位址輸入進變數表內)
- (2) 點擊監控按鈕

The screenshot displays the SIMATIC Manager interface. On the left, a hardware rack is shown with a CPU 315-2 PN/DP(1) and two CP 343-1 modules. A PROFIBUS(1) DP master is connected to a GW-757 gateway. On the right, the 'Variable' table is open, showing a list of input bytes (IB) from address 22 to 36. A red box highlights the 'Address' column, and a red arrow points to the value '22..47' in the 'I Address' column of the 'Command 3' row in the hardware rack table below. A red text box explains the abbreviations: IB : input Byte ; QB : output Byte ; IW: input Word ; QW : output Word.

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comm
1	11AI	System setting	0...21		
2	37	--> System setting		0...5	
3	64	Command 3	22..47		
4					
5					

#	Address	Display format	Status value
1	IB 22	HEX	B#16#00
2	IB 23	HEX	B#16#00
3	IB 24	HEX	B#16#C0
4	IB 25	HEX	B#16#D8
5	IB 26	HEX	B#16#4C
6	IB 27	HEX	B#16#F0
7	IB 28	HEX	B#16#06
8	IB 29	HEX	B#16#40
9	IB 30	HEX	B#16#8E
10	IB 31	HEX	B#16#35
11	IB 32	HEX	B#16#3F
12	IB 33	HEX	B#16#07
13	IB 34	HEX	B#16#40
14	IB 35	HEX	B#16#53
15	IB 36	HEX	B#16#33

### 3. 設定要進行 burst 模式的 HART 命令

- (1) 在 QB0 輸入 1
- (2) 在 QB1 輸入 4 (關閉自動偵測功能)
- (3) 在 QB2 輸入 3 (命令 108 在 GW-7557 的模組排序)
- (4) 在 QB6 輸入 1 (設定命令 1 為 burst 模式)
- (5) 點擊修改變數的圖示

The screenshot shows the SIMATIC Manager interface with a table of variables. The table has columns for Address, Symbol, Display format, Status value, and Modify value. The 'Modify value' column for QB 0, QB 1, QB 2, and QB 6 is highlighted with red boxes. Blue circles with numbers 1, 2, 3, and 4 are placed next to these rows. A red box also highlights the 'Modify value' column header. A toolbar icon with a blue circle and the number 5 is also visible.

	Address	Symbol	Display format	Status value	Modify value	
1	QB 0		HEX	B#16#00	B#16#01	1
2	QB 1		HEX	B#16#00	B#16#04	2
3	QB 2		HEX	B#16#00	B#16#03	3
4	QB 3		HEX	B#16#00		
5	QB 4		HEX	B#16#00		
6	QB 5		HEX	B#16#00		
7						
8	QB 6		HEX	B#16#00	B#16#01	4
9	IB 29		HEX	B#16#00		
10	IB 30		HEX	B#16#00		
11	IB 31		HEX	B#16#00		
12						
13	QB 7		HEX	B#16#00	B#16#00	
14	IB 32		HEX	B#16#00		
15	IB 33		HEX	B#16#00		
16	IB 34		HEX	B#16#00		
17						
18	IB 22		HEX	B#16#00		
19	IB 23		HEX	B#16#00		
20	IB 24		HEX	B#16#00		
21	IB 25		HEX	B#16#00		
22	IB 26		HEX	B#16#00		
23	IB 27		HEX	B#16#00		

#### 4. 啟動 burst 模式

- (1) 在 QB0 輸入 2
- (2) 在 QB2 輸入 4 (命令 109 在 GW-7557 所有模組的排序)
- (3) 在 QB7 輸入 1 (啟動 BURST 模式)
- (4) 點擊修改變數的圖示

The screenshot shows the SIMATIC Manager interface with the following table data:

Address	Symbol	Display format	Status value	Modify value
1	QB 0	HEX	B#16#01	B#16#02
2	QB 1	HEX	B#16#04	B#16#04
3	QB 2	HEX	B#16#03	B#16#04
4	QB 3	HEX	B#16#00	
5	QB 4	HEX	B#16#00	
6	QB 5	HEX	B#16#00	
7				
8	QB 6	HEX	B#16#01	B#16#01
9	IB 29	HEX	B#16#00	
10	IB 30	HEX	B#16#00	
11	IB 31	HEX	B#16#00	
12				
13	QB 7	HEX	B#16#00	B#16#01
14	IB 32	HEX	B#16#00	
15	IB 33	HEX	B#16#00	
16	IB 34	HEX	B#16#00	
17				
18	IB 22	HEX	B#16#00	
19	IB 23	HEX	B#16#00	
20	IB 24	HEX	B#16#00	
21	IB 25	HEX	B#16#00	
22	IB 26	HEX	B#16#00	
23	IB 27	HEX	B#16#00	

## 5. 接收 HART 從站設備發出的 burst 命令 1

The screenshot displays the SIMATIC Manager interface with a variable table and a HART communication log. The variable table lists addresses, symbols, display formats, status values, and modify values. The HART communication log shows a series of data exchanges between the master and slave devices, with a red box highlighting a specific burst command and its corresponding status value in the table.

Address	Symbol	Display format	Status value	Modify value
5	QB 4	HEX	B#16#00	
6	QB 5	HEX	B#16#00	
7				
8	QB 6	HEX	B#16#01	B#16#01
9	IB 29	HEX	B#16#00	
10	IB 30	HEX	B#16#40	
11	IB 31	HEX	B#16#01	
12				
13	QB 7	HEX	B#16#01	B#16#01
14	IB 32	HEX	B#16#00	
15	IB 33	HEX	B#16#40	
16	IB 34	HEX	B#16#01	
17				
18	IB 22	HEX	B#16#00	
19	IB 23	HEX	B#16#00	
20	IB 24	HEX	B#16#06	
21	IB 25	HEX	B#16#40	
22	IB 26	HEX	B#16#8E	
23	IB 27	HEX	B#16#35	
24	IB 28	HEX	B#16#3F	
25				
26				

HART CommLog

```
15:30:17.112 <== FF FF FF FF FF 82 91 5A 3F BD 8D 6C 01 01 2A
15:30:17.194 ==> FF FF FF FF FF 86 91 5A 3F BD 8D 6C 03 00 40 01 6C
15:30:32.548 <== FF FF FF FF FF 82 91 5A 3F BD 8D 6D 01 01 2B
15:30:32.607 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:33.610 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:34.613 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:35.615 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:36.618 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:37.621 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:38.623 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:39.626 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:40.629 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:41.631 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:42.634 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:43.637 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:44.640 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:45.643 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:46.646 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:47.648 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:48.651 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:49.654 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:50.656 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
15:30:51.659 ==> FF FF FF FF FF 81 D1 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F C1
15:30:52.662 ==> FF FF FF FF FF 81 51 5A 3F BD 8D 01 07 00 00 06 40 8E 35 3F 41
```