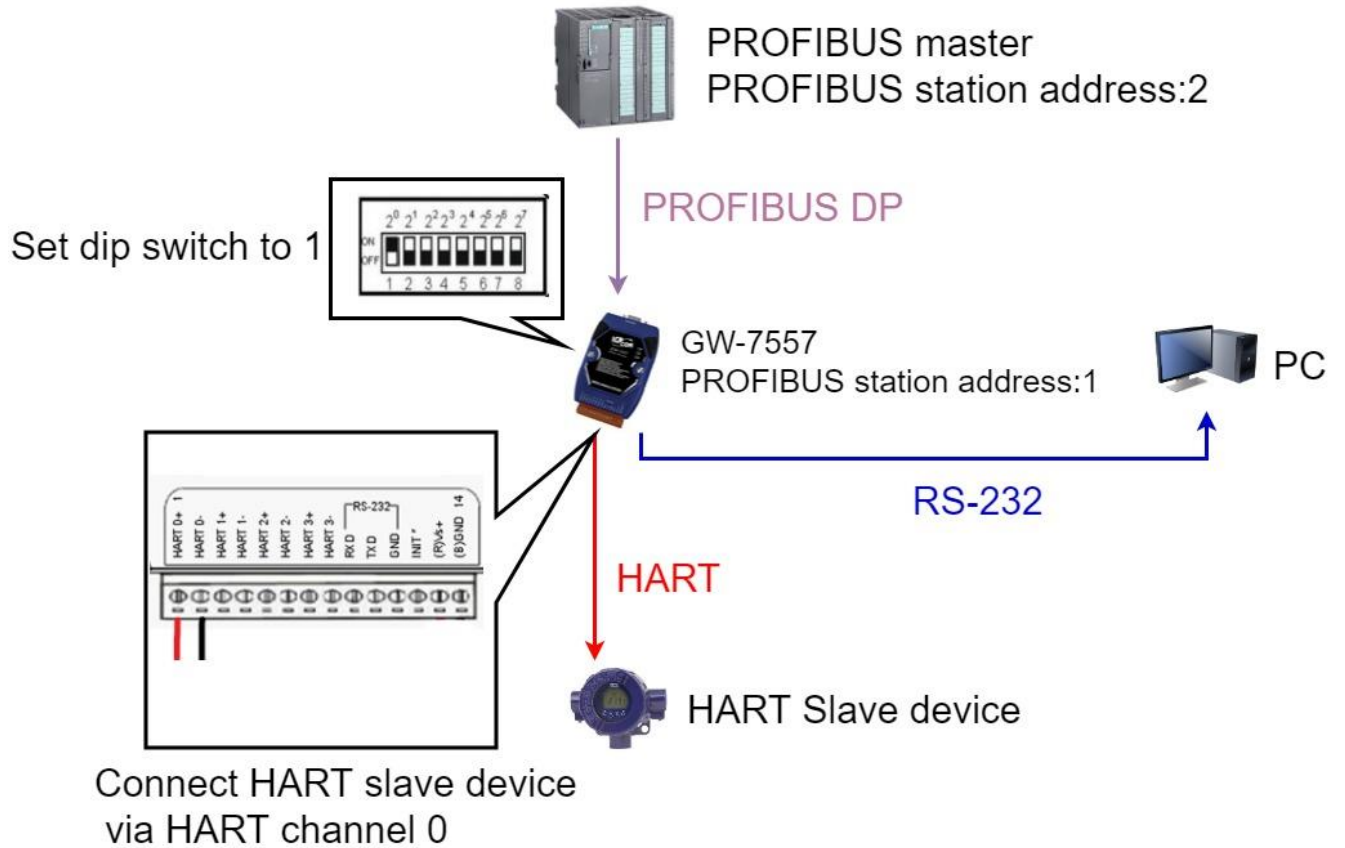


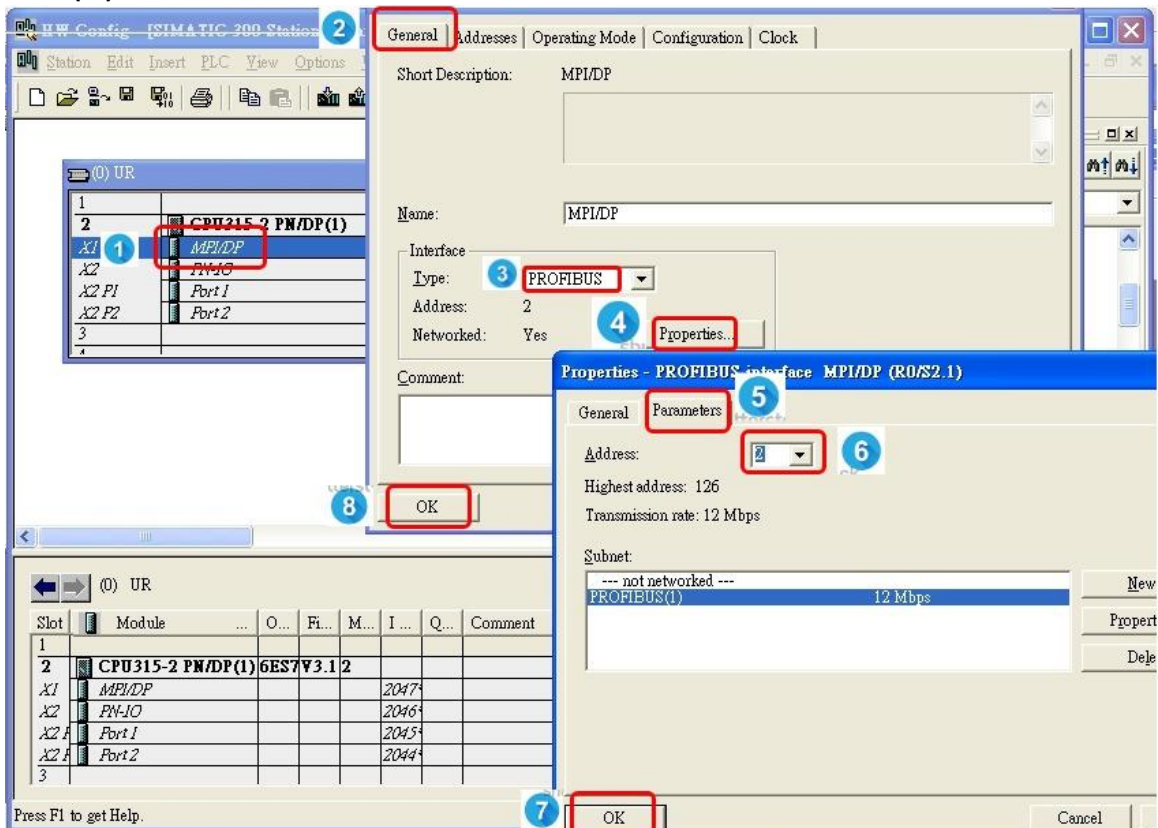
# How to set HART Command (burst mode) in GW-7557 example for SIMATIC STEP 7

## Step 1: Wiring diagram

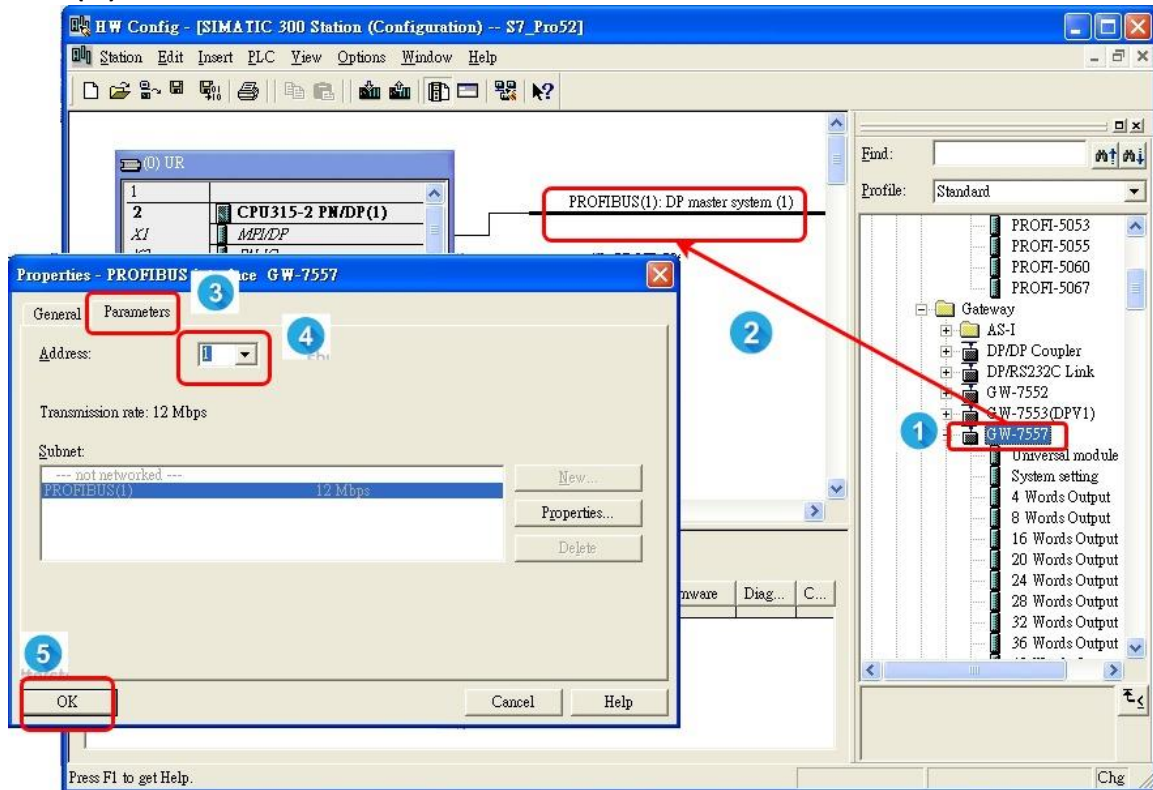


## Step 2: Set up GW-7557 in SIMATIC STEP 7

1. Set PLC PROFIBUS station address.
  - (1) Double click "PROFIBUS DP" interface
  - (2) Select "General"
  - (3) Select "PROFIBUS"
  - (4) Click "Properties"
  - (5) Select "Parameters"
  - (6) Select "2"
  - (7) Click "OK"
  - (8) Click "OK"



2. Set GW-7557 PROFIBUS station address.
  - (1) Select "GW-7557".
  - (2) Drag "GW-7557" to PROFIBUS DP system.
  - (3) Select "Parameters".
  - (4) Select "1".
  - (5) Click "OK".



3. Set GW-7557 module.
  - (1) Select GW-7557
  - (2) Double click "System setting"

The screenshot shows the HW Config software interface for a SIMATIC 300 station. The main window displays a rack configuration for a UR (Universal Rack) with a CPU 315-2 PN/DP in slot 2. A PROFIBUS DP master system is connected to slot 1, which contains a GW-7557 module. The right-hand pane shows the hardware selection tree for the GW-7557 module, with 'System setting' highlighted. The bottom pane shows a table of hardware components for the GW-7557 module, with the first two rows highlighted in red.

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					

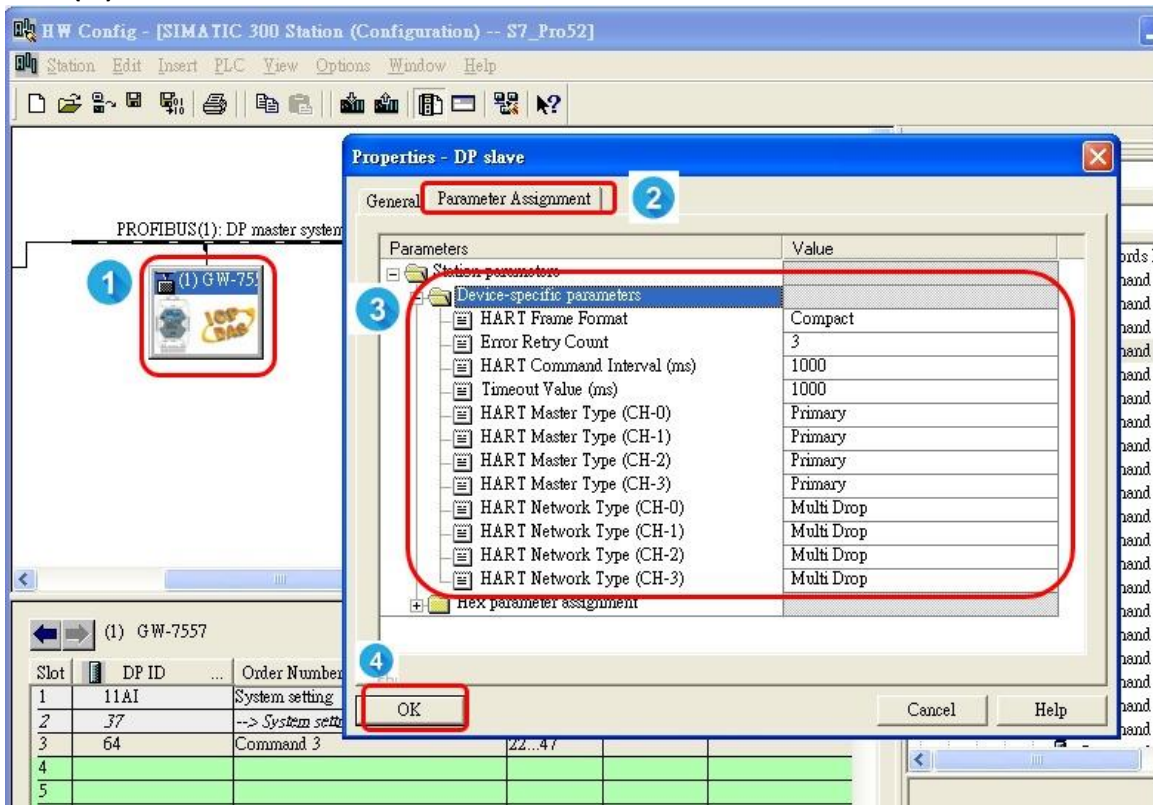
#### 4. Set HART Command

- (1) Double click "Command 1" (you can choose other HART command that you need to change burst mode)
- (2) Double click "Command 108"
- (3) Double click "Command 109"

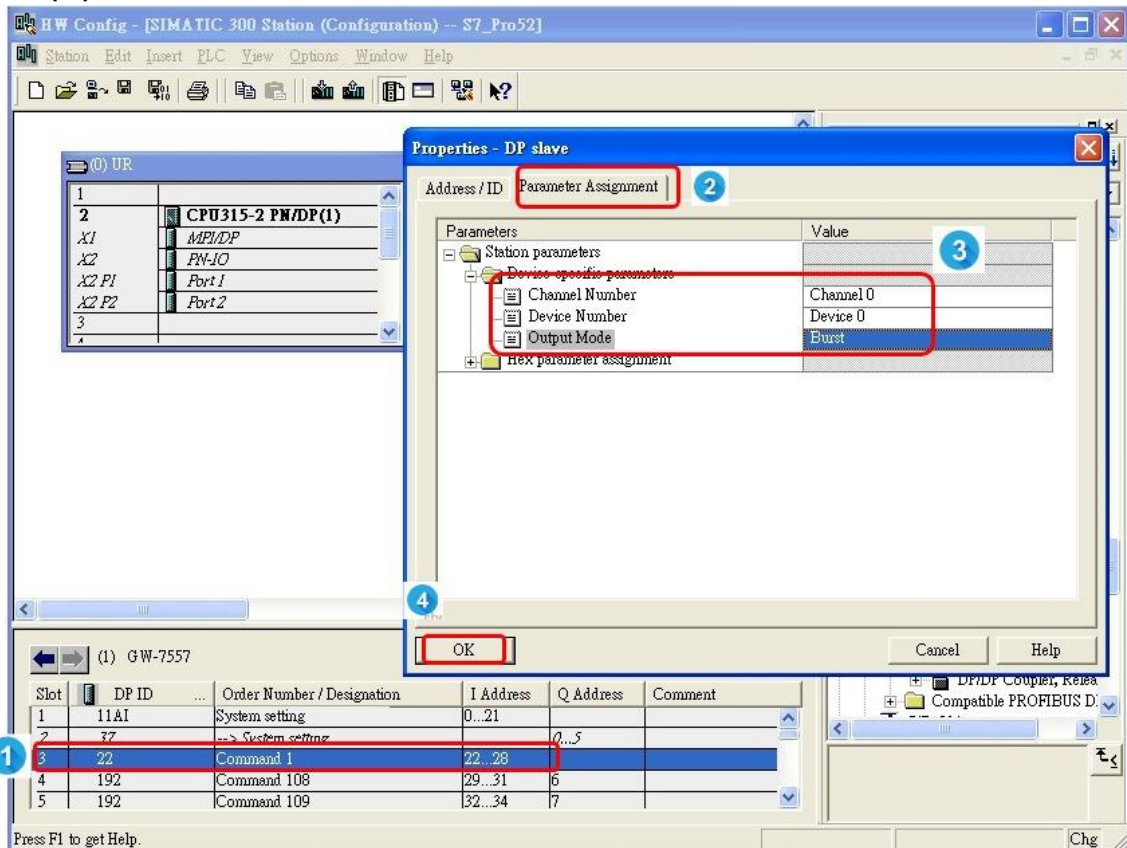
The screenshot shows the SIMATIC Manager HW Config interface. The hardware rack on the left lists components for a SIMATIC 300 station, including a CPU 315-2 PN/DP and various modules. A PROFIBUS network diagram shows a DP master system connected to a gateway (GW-757). The bottom table lists HART commands for the gateway, with Command 1, 108, and 109 highlighted. The right panel shows a list of HART commands from 0 to 111, with Command 1, 108, and 109 also highlighted. Blue circles 1, 2, and 3 indicate the sequence of double-click actions.

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					

5. Set GW-7557 device parameters.
  - (1) Double click "GW-7557"
  - (2) Select "Parameter Assignment"
  - (3) Set device parameters of GW-7557:
    - 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) Click "OK"



6. Set module parameters
  - (1) Double click "command 1"
  - (2) Select "Parameter Assignment"
  - (3) Set module parameters of "command 1":
    - Channel Number: Channel 0
    - Device Number: Device 0
    - Output Mode: Burst
  - (4) Click "OK"



## 7. Set module parameters

(1) Double click "command 108"

(2) Select "Parameter Assignment"

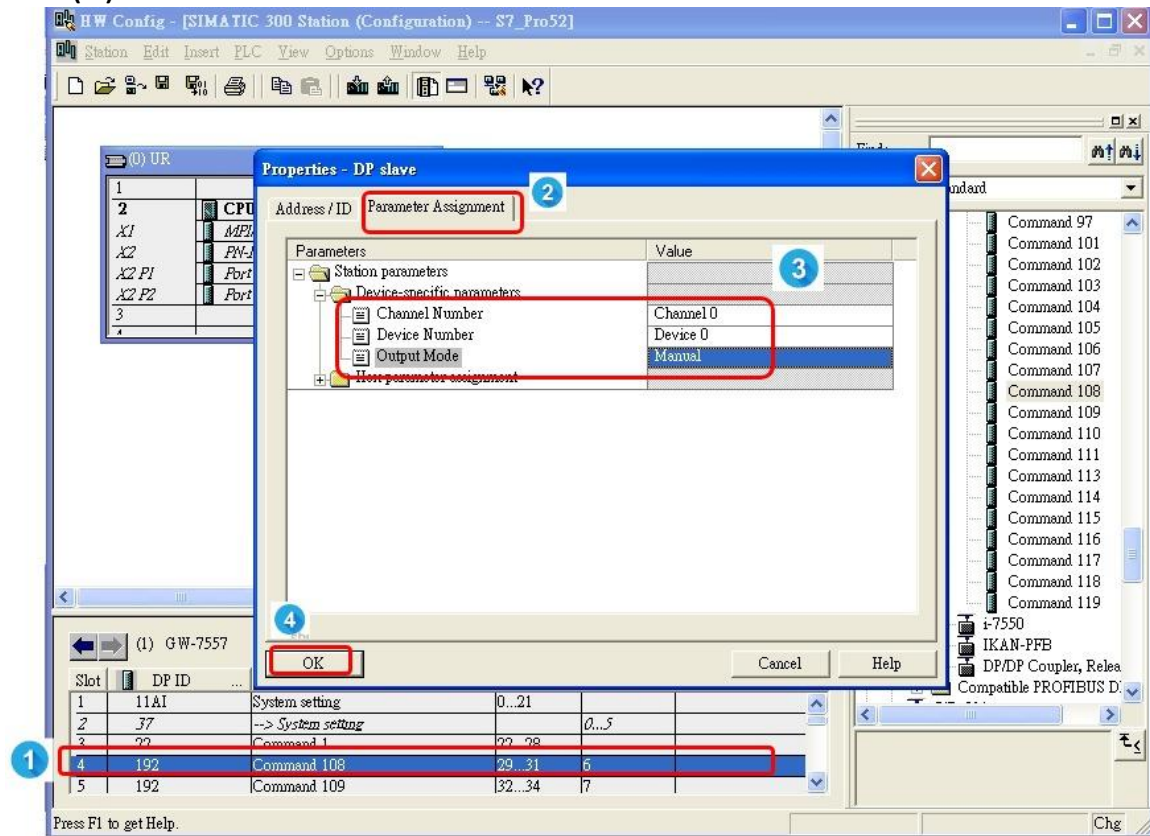
(3) Set module parameters of "command 108":

- Channel Number: Channel 0

- Device Number: Device 0

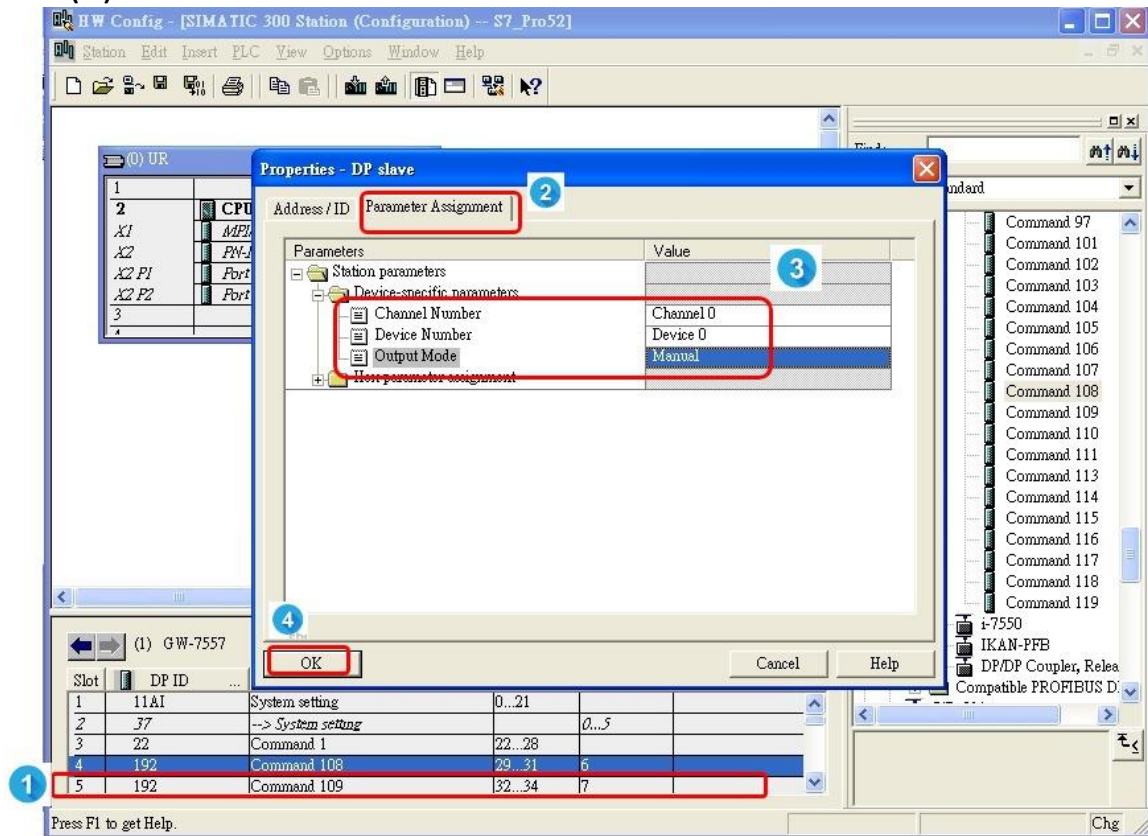
- Output Mode: Manual

(4) Click "OK"





8. Set module parameters
  - (1) Double click "command 109"
  - (2) Select "Parameter Assignment"
  - (3) Set module parameters of "command 109":
    - Channel Number: Channel 0
    - Device Number: Device 0
    - Output Mode: Manual
  - (4) Click "OK"



## 9. Save, compile, and download to PLC

(1) Save and Compile

(2) Download settings into PLC

The screenshot shows the SIMATIC Manager HW Config interface. The main workspace displays a rack configuration for a SIMATIC 300 station. The rack is labeled '(0) UR' and contains a CPU 315-2 PN/DP (1) in slot 2. The CPU is connected to a PROFIBUS (1) DP master system (1), which is in turn connected to a GW-757 module (1) in slot 1. The GW-757 module is a universal module with various I/O capabilities.

The hardware catalog on the right side of the screen shows the selected module 'GW-757' with the following specifications:

- Universal module
- System setting
- 4 Words Output
- 8 Words Output
- 16 Words Output
- 20 Words Output
- 24 Words Output
- 28 Words Output
- 32 Words Output
- 36 Words Output
- 40 Words Output
- 44 Words Output
- 48 Words Output
- 4 Words Input
- 8 Words Input
- 16 Words Input
- 20 Words Input
- 24 Words Input
- 28 Words Input
- 32 Words Input

The bottom part of the screen shows a table for the selected hardware (1) GW-757. The table has columns for Slot, DP ID, Order Number / Designation, I Address, Q Address, and Comment.

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

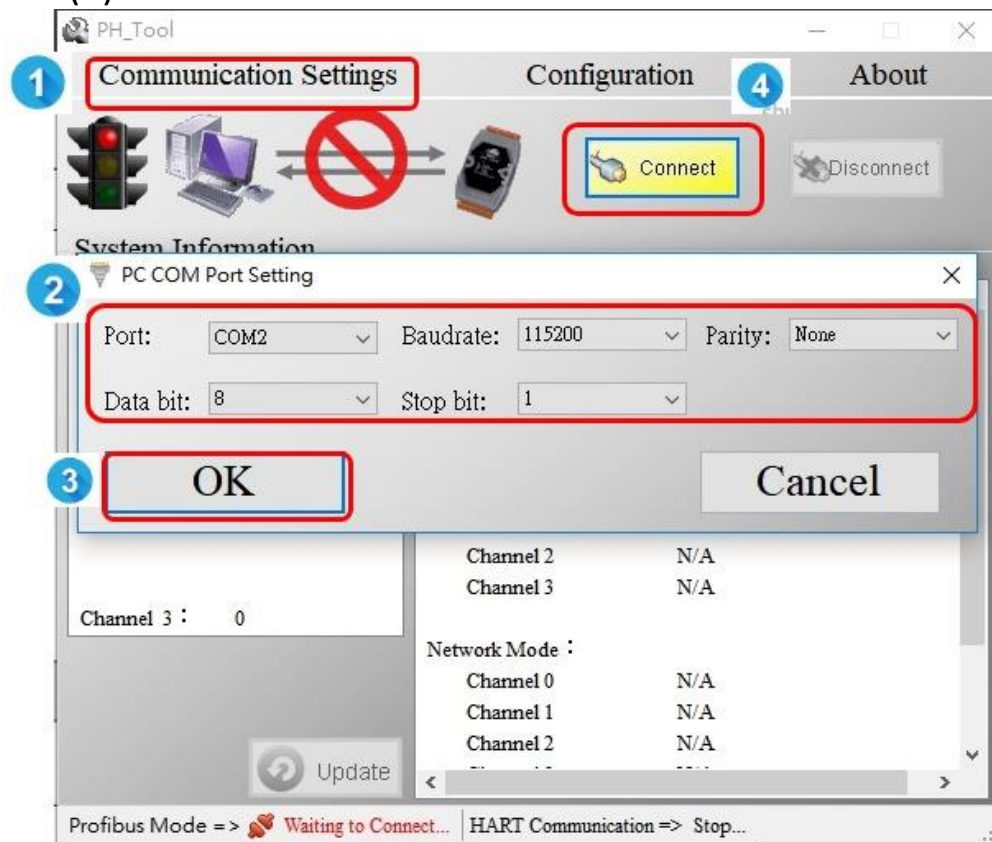
The status bar at the bottom left indicates 'Selecting the hardware' and the bottom right shows 'Chg'.

### Step 3: Set up HART slave device via “PH\_Tool”

1. Double click “PH\_Tool” icon to open “PH\_Tool”

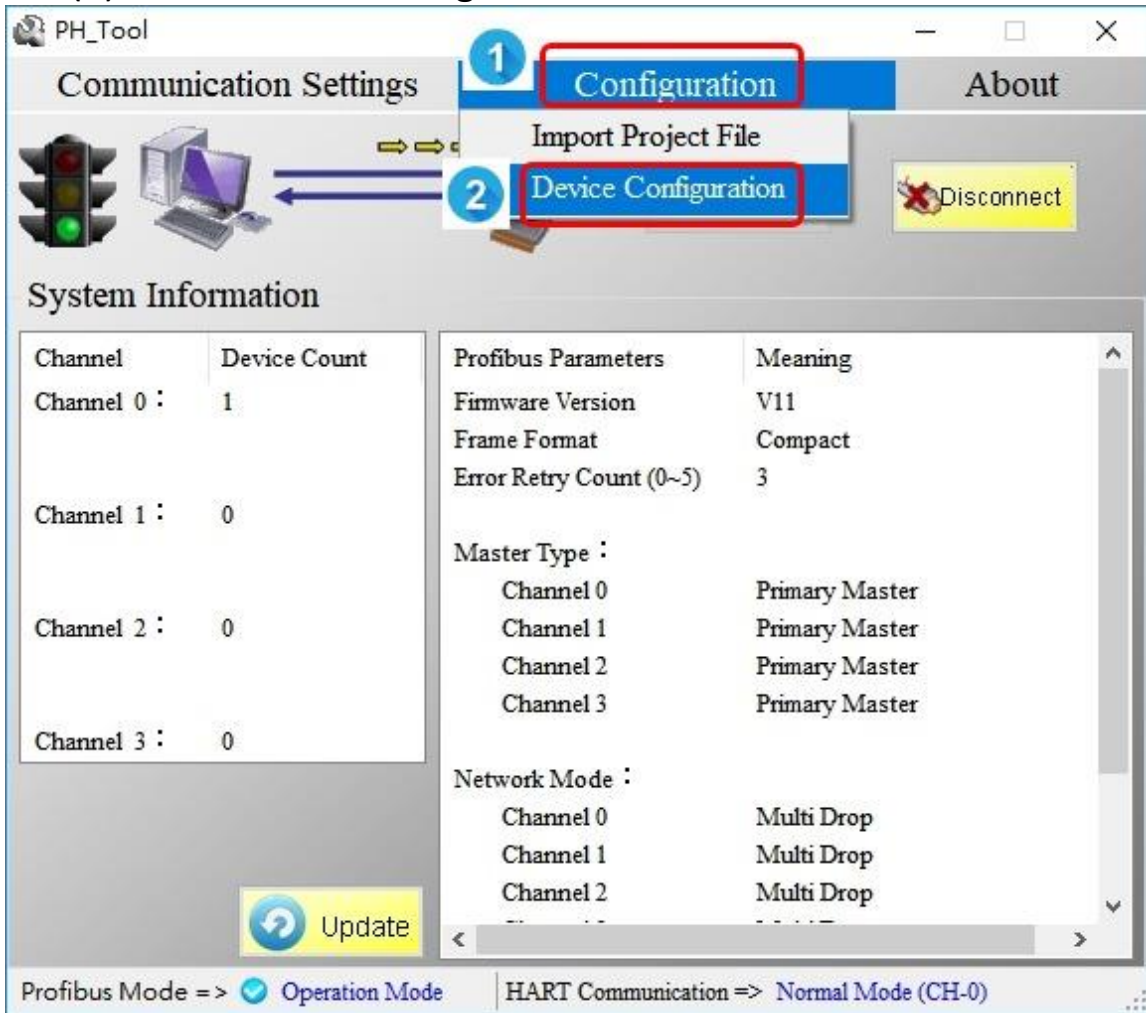


2. PH\_Tool connects GW-7557
  - (1) Select “Communication Settings”.
  - (2) Set communication settings of PC com port, these settings have to be the same with GW-7557, or else the connection will be failed.
  - (3) Click “OK”
  - (4) Click “Connect”

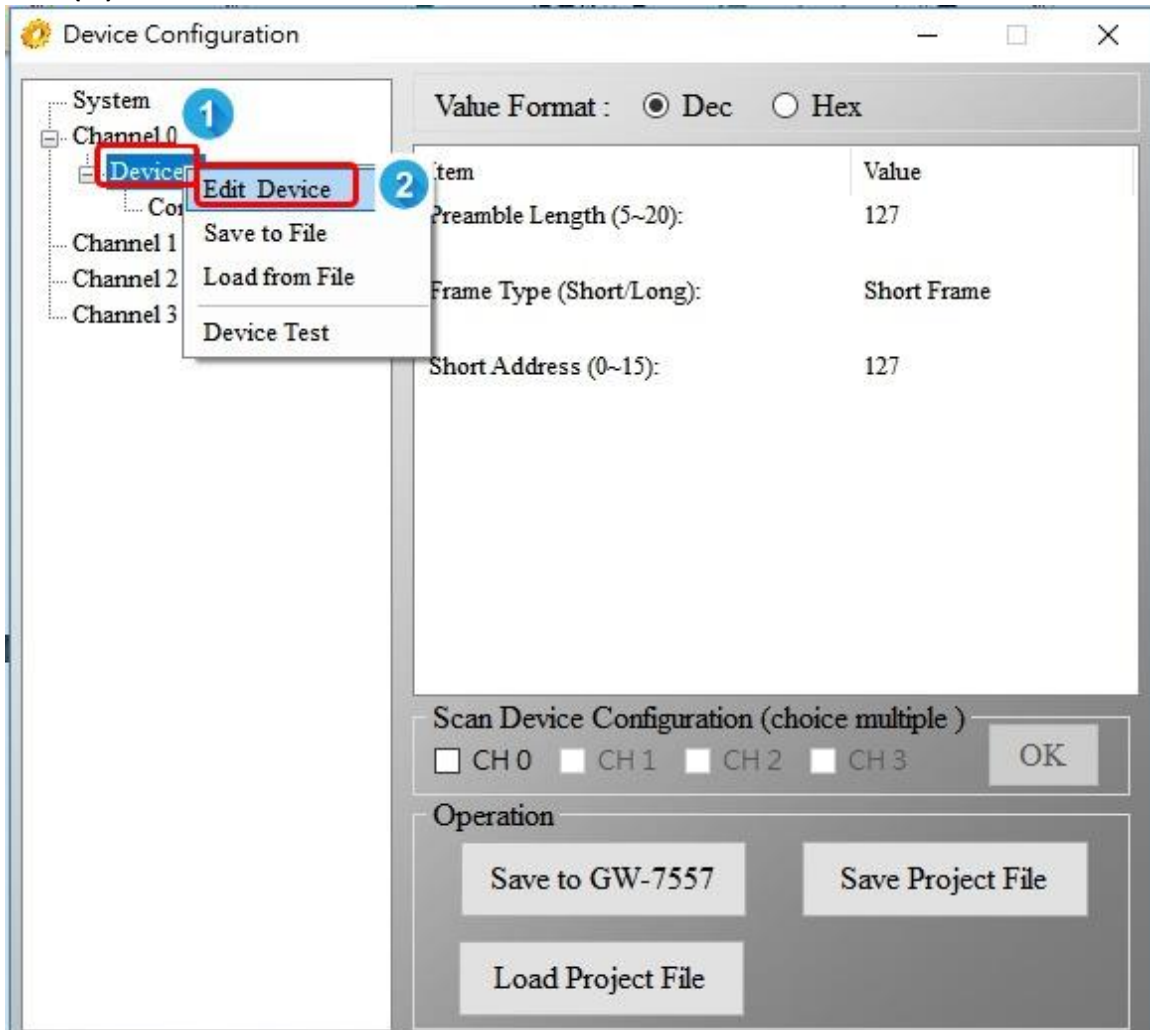


## If you forget the Com port settings of GW-7557, please refer to [GW-7557 user manual](#) 2.6.

3. Set GW-7557
  - (1) Click "Configuration"
  - (2) Click "Device Configuration"



4. Set GW-7557
  - (1) Right click "Device 0"
  - (2) Click "Edit Device"



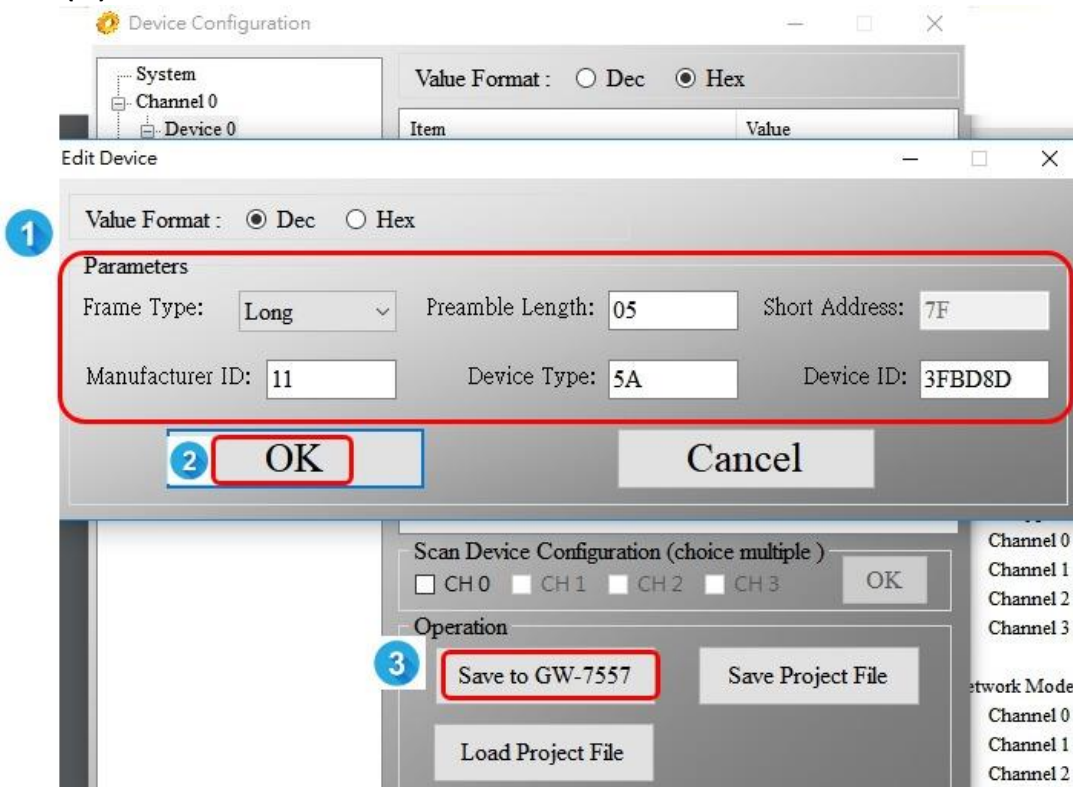
5. Set the parameters of HART slave device

(1) Set the parameters of HART slave device.

Please access these parameters from the manual of HART slave device.

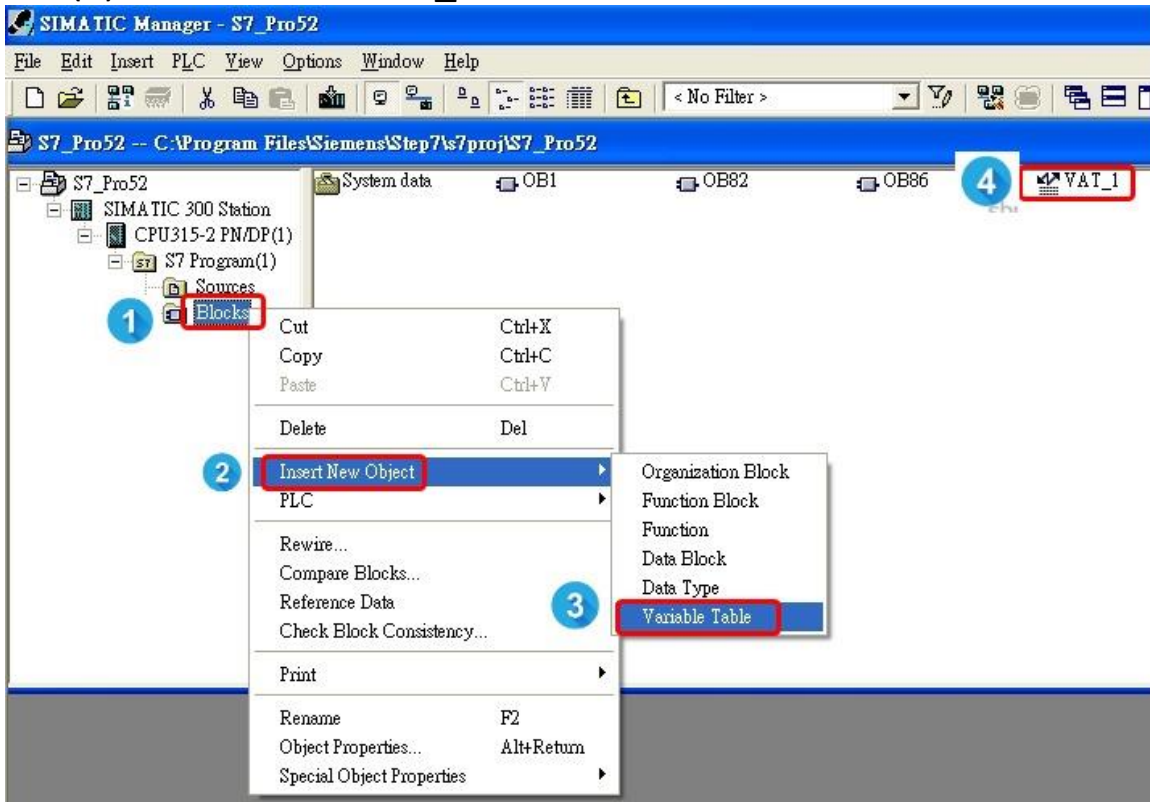
(2) Click “OK”

(3) Click “Save to GW-7557”



## Step 4: Show the HART data in the variable table

1. Establish a variable table
  - (1) Right click "Blocks"
  - (2) Select "Insert New Object"
  - (3) Select "Variable Table"
  - (4) Double click "VAT\_1"



## 2. Set variable table

- (1) Key in "System setting", "command 1", "command 108", and "command 109" data address.  
The data address in VAT\_1 correspond module address.

- (2) Click monitor button

The screenshot displays the SIMATIC Manager interface. On the left, the hardware rack configuration shows a rack with slots 1-4. Slot 2 contains a CPU 315-2 PN/DP (1) with modules MPI/DP, PN-IO, Port 1, and Port 2. A PROFIBUS(1) DP master is connected to a gateway (1) GW-757. A red box highlights the 'Monitor' button in the software toolbar.

At the bottom, a table for the gateway (1) GW-757 shows the following data:

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

On the right, the 'Var - [VAT\_2 -- @S7\_Pro52SIMATIC 300]' window shows a variable table with columns for Address, Display format, and Status value. A red box highlights the address range 22 to 36, and a red arrow points from the '22...47' address in the gateway table to this range.

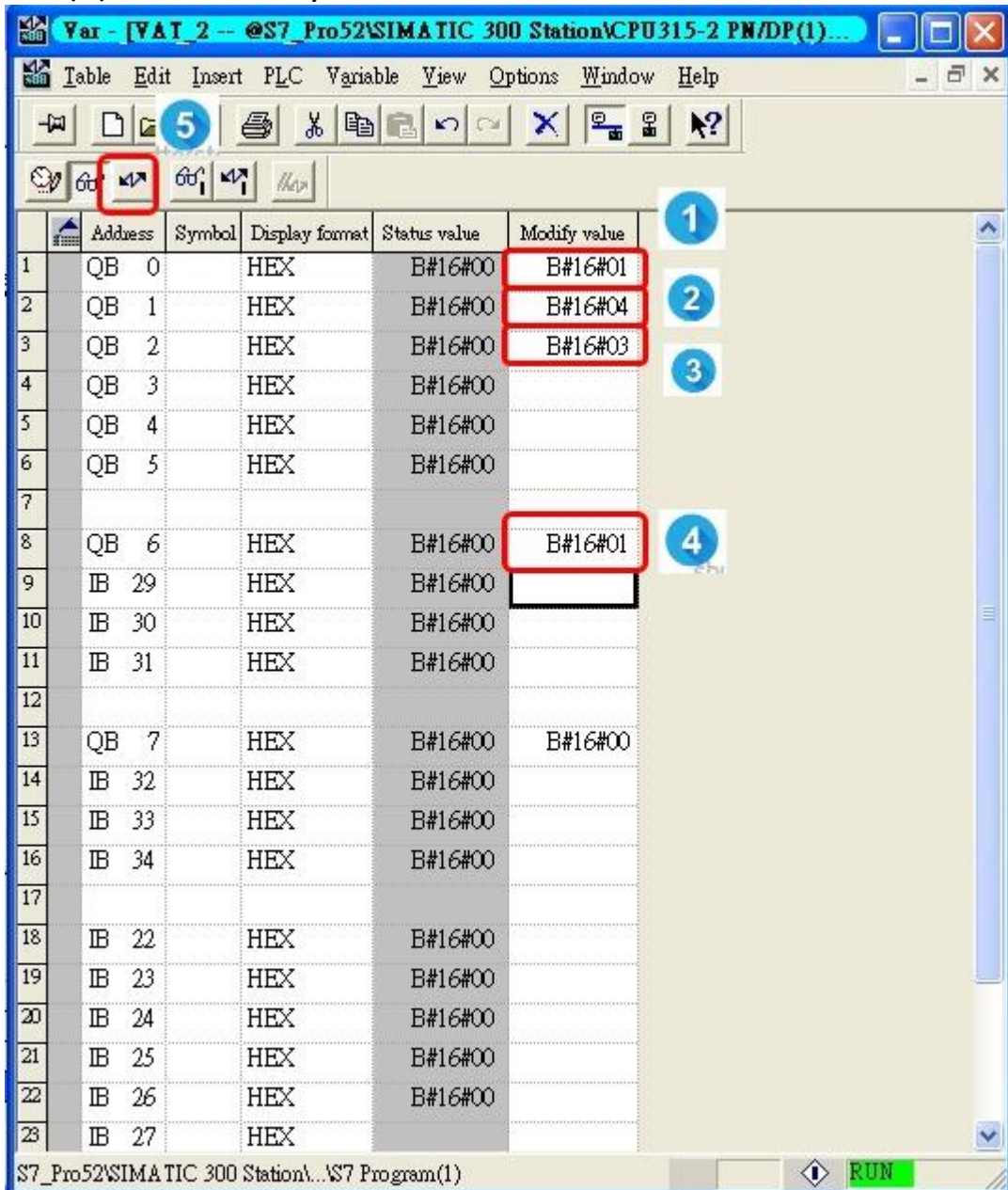
A red text box in the center provides the following definitions:

IB : input Byte ; QB : output Byte  
IW : input Word ; QW : output Word



3. Set burst command number

- (1) Key in "1" at QB0
- (2) Key in "4" at QB1(Close auto detecting function)
- (3) Key in "3" at QB2(the module order of command 108)
- (4) Key in "1" at QB6(Command 1 is changed burst mode)
- (5) Click Modify variable icon



#### 4. Enable burst mode

(1) Key in "2" at QB0

(2) Key in "4" at QB2(the module order of command 109)

(3) Key in "1" at QB7(Enable burst mode)

(4) Click Modify variable icon

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. Annotations include a blue circle '4' on the toolbar's 'Modify variable' icon, a blue circle '1' next to the 'Modify value' cell for QB 0 (containing B#16#02), a blue circle '2' next to the 'Modify value' cell for QB 2 (containing B#16#04), and a blue circle '3' next to the 'Modify value' cell for QB 7 (containing B#16#01). Red boxes highlight these three 'Modify value' cells. The status bar at the bottom shows 'RUN' in a green box.

	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. Receive HART burst command 1 data from HART slave device.

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. A red box highlights the 'Status value' column, and a red arrow points to the value 'B#16#40' at address 21. The HART log shows a burst command at 15:30:46.646.

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				

```
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
```