# **I-7550 & SIMATIC STEP 7 Configurations**

1. Double Click "SIMATIC Manager" icon to open "SIMATIC Manager"



2. Open "New Project Wizard

| SIMATIC Manager   |        |  |
|---|--------|--|
| <u>File</u> P <u>L</u> C <u>V</u> iew <u>Options Window H</u> elp |        |  |
| <u>N</u> ew   | Ctrl+N |  |
| New Project' Wizard   |        |  |
| Open  | Ctrl+O |  |
| S7 Memory Card  | +      |  |
| Memory Card <u>Fi</u> le  | +      |  |
| Delete  |        |  |
| Reorganize  |        |  |
| Manage  |        |  |
| Arc <u>h</u> ive  |        |  |
| Retrieve  |        |  |
| Page Setup  |        |  |
| 1 S7_Pro2 (Project) C1SiemensStep7\s7proj\S7_Pro2                 |        |  |
| 2 S7_Pro1 (Project) CASiemensStep7/s/projS7_Pro1                  |        |  |
| Exit  | Alt+F4 |  |
|   |        |  |
|   |        |  |
|   |        |  |
|   |        |  |
|   |        |  |
|   |        |  |
| Creates a new project step-by-step with the help of a wizard.     |        |  |

## 3. Set up Project

a. Click "Next"



b. Select CPU type then click "Next"

| STEP 7 Wizard: "New Proje     | ect"  |  |                      |
|-------------------------------|---|--|----------------------|
| Which CPU are you usin        | g in your project?  |  | 2(4)                 |
| CPU:                          | CPU Type<br>CPU312C<br>CPU312C<br>CPU313C<br>CPU313C-2 DP<br>CPU313C-2 DP<br>CPU314C-2 DP | Order No         6ES7 312 5BD00-0AB0           6ES7 312-1AD10-0AB0         6ES7 313-5BE00-0AB0           6ES7 313-6CE00-0AB0         6ES7 313-6CE00-0AB0           6ES7 313-6BE00-0AB0         6ES7 313-6BE00-0AB0           6ES7 314-1AE04-0AB0         6ES7 314-6CF00-0AB0 | ~                    |
| MFI adduess:                  | 2 Jacobi Sci - Z Dr(I)<br>32 KB w<br>Di16/DO<br>3 channe                                  | ouk memouy; 0.1ms/1000 instruction<br>16 integrated; 3 pulse outputs (2.5 )<br>1s counting and measuring increme<br>Previe   | ns;<br>kHz);<br>ntal |
| < <u>B</u> ack <u>N</u> ext > | Finish  | Cancel   | lelp                 |

c. Select blocks and language for selected blocks then click "Next"

| STEP 7 Wizard: "New Proje     | ct"   |  |                    |
|-------------------------------|---|--|--------------------|
| 🕞 Which blocks do you was     | at to add?  |  | 3(4)               |
| Bloc <u>k</u> s:              | Block Name<br>OB1<br>OB10<br>OB11<br>OB12<br>OB13 | Symbolic Name<br>Cycle Execution<br>Time of Day Interrupt 0<br>Time of Day Interrupt 1<br>Time of Day Interrupt 2<br>Time of Day Interrupt 3 |                    |
|                               | 🔲 Select <u>A</u> ll                              |  | Help on <u>O</u> B |
|                               | Language for Select                               | ed Blooks  | ⊂ <u>F</u> BD      |
| Create with source files      |   |  | Previe <u>w</u> >> |
| < <u>B</u> ack <u>N</u> ext > | ] Finish  | Cancel   | Help               |

d. Set project name and click "Finish"

| STEP 7 Wizard: "New Pro             | oject"  |   |                 |
|-------------------------------------|---|---|-----------------|
| 🛬 What do you want to o             | all your project?   |   | 4(4)            |
| Project name:<br>Existing projects: | S7_Pro3<br>S7_Pro1<br>S7_Pro2<br>Check your new project i<br>Click "Finish" to create t | n the pueview.<br>he puoject with the displayed : | structure.      |
|                                     |   | Pre   | vie <u>w</u> >> |
| < Back Mext >                       | Finish  | Cancel  | Help            |

4. Double click "Hardware" to open "HW Config"



## 5. Install I-7550's GSD File

a. Click "Install GSD File" <u>ftp://ftp.icpdas.com/pub/cd/fieldbus\_cd/profibus/converter/i-7550/</u>

| 🖳 HW Config - [SIMATIC 300 Sta  | tion (Configuration) \$7_Pro3]   |   |
|---|--|---|
| 🛄 Station <u>E</u> dit Insert <u>P</u> LC <u>V</u> iew  | <u>Options W</u> indow <u>H</u> elp  | _ = ×   |
| 🗅 🚅 🔓 🖩 🖏 🎒 🖻 🖻   | Customize Ctrl+Alt+E   |   |
| Image: CPU313C-2 DP(1)           X2         DP           2.2         DI16D016           2.4         Count           3         4 | Specify Module         Configure Network         Symbol Table       Ctrl+Alt+T         Report System Error         Edit Catalog Profile         Update Catalog         Install HW Indates         Install GSD File | Find: Mt Mi<br>Profile: Standard  Profile: Standard ProFIBUS DP PROFIBUS-PA PROFIDUS-PA SIMATIC 300 SIMATIC 400 |
| 5<br>6<br>7<br>-  | Find in Service & Support  | SIMATIC PC Bas<br>SIMATIC PC Star   |
|   |  | PROFIBUS-DP<br>slaves for<br>SIMATIC S7, M7,<br>and C7 (distributed   |
| Installs new GSD files in the system and upo  | ates the contents of the catalog.  |   |

b.Select the directory of I-7550's GSD file(IPDS0B0D.gsd) and click "OK"

| Install GSD Files    |                                      | ×    |
|----------------------|--------------------------------------|------|
| Install GSD Files:   | from the directory 💽 1.              |      |
| C:PROGRAM FILES'SIE  | MENS%TEP7%7TMP                       | /se  |
| File Release Version | 潮覽資料夾 ? 🔀                            |      |
|                      | Select a directory via the GSD files |      |
|                      |                                      |      |
|                      | ■ <u> </u> 22 ■ <u> </u> 23          |      |
|                      | ₽ 24                                 |      |
|                      |                                      |      |
|                      |                                      |      |
| 1                    | 2. 1 text3                           |      |
| Install              |                                      |      |
| Close                | 3. 確定 取消                             | Help |

#### c. Click"Install"

| Install GSD Files                   |  |        |
|-------------------------------------|--|--------|
| I <u>n</u> stall GSD Files:         | from the directory                     |        |
| C./code/montibue/U-7550/MEW/最終版/fil |  | Browse |
|                                     |  |        |
| IPDS0B0D.gsd                        | Default                                |        |
|                                     |  |        |
|                                     |  |        |
|                                     |  |        |
|                                     |  |        |
|                                     |  |        |
| i-7550                              |  |        |
|                                     |  |        |
| Install Show Log                    | Select <u>All</u> <u>D</u> eselect All |        |
|                                     |  |        |
| Close                               |  | Help   |

#### d. Click"OK"

| Install GSD Files            |  | ×              |
|------------------------------|--|----------------|
| I <u>n</u> stall GSD Files:  | from the directory   |                |
| C:\code\profibus\I-7550\NEW  | 小最終版\firmware\test3\GSD  | <u>B</u> rowse |
| File Release<br>IPDS0B0D.gsd | Version Languages<br>Default   |                |
|                              | Install GSD File (13:4986)  Installation was completed successfully.  OK |                |
| i-7550<br>Install            | now LogSelect <u>All</u> Deselect All                                    |                |
| Close                        |  | Help           |

#### e. Click"Close"

| Install GSD Files                        | $\mathbf{X}$                           |
|--|--|
| I <u>n</u> stall GSD Files:              | from the directory                     |
| C:/code/profibus/I-7550/NEW/最終版/fin      | mware/test3/GSD <u>B</u> rowse         |
| File Release Version I<br>IPDS0B0D.gsd I | Languages<br>Default                   |
|  |  |
|  |  |
| i-7550                                   |  |
|  |  |
| Install Show Log                         | Select <u>All</u> <u>D</u> eselect All |
| Close                                    | Help                                   |

### f. Confirm I-7550's GSD file is exist

| 🙀 HW Config - [SIMATIC 300 Station (Configuration) S7_  | Pm3] 📃 🗖 🔀  |
|---|---|
| 💵 <u>S</u> tation <u>E</u> dit Insert <u>P</u> LC <u>V</u> iew <u>Options</u> <u>W</u> indow <u>H</u> elp | _ @ ×   |
| D 🌽 🖫 🖳 👯   🚑    🖻 🖻   🏜 🎰   🛐 🗖   🎇   I  |   |
| 🚍 (0) UR  |   |
| 1   | Lina: William William   |
| 2 CPU313C-2 DP(1)   | Profile: Standard   |
| 2.2 DI 6/DO16<br>2.4 Count<br>3<br>4  | PROFIBUS DP     Additional Field Devices     Switchgear     I/O             |
| 5<br>6<br>7<br>-  | ☐ - ☐ Gateway<br>☐ - ☐ AS-I<br>☐ - ☐ DP/DP Coupler<br>☐ - ☐ DP/R\$232C Link |
|   |   |
|   | GiR-Object<br>⊕ ⊡ Closed-Loop Controller                                    |
|   | 📄 🕀 🧰 Configured Stations 🛛 💽   |
|   | <u>₹</u>  |
|   |   |
| Press F1 to get Help.   |   |

6. Double click "Connections" to open "NetPro"



#### 7. Add PROFIBUS subnet

a. double click the block of the DP



#### b. Click"New"

| <b>Properties</b> | - PROFIBUS | interface | DP (R0/\$2.1) |  |                    | × |
|-------------------|------------|-----------|---------------|--|--------------------|---|
| General           | Parameters |           |               |  |                    |   |
| <u>A</u> ddress:  |            |           |               | If a subnet is selected,<br>the next available add | ress is suggested. |   |
| <u>S</u> ubnet:   |            |           |               |  |                    | _ |
| not               | networked  |           |               |  | <u>N</u> ew        |   |
|                   |            |           |               |  | Properties         |   |
|                   |            |           |               |  | Delete             |   |
|                   |            |           |               |  |                    |   |
| OK                |            |           |               | C  | ancel Help         |   |

c. Select PROFIBUS Transmission Rate=12Mbps, Profile=DP and click "OK"

| Properties - New subnet PRC  | FIBUS   |        |                   | X      |
|------------------------------|---|--------|-------------------|--------|
| General Network Settings     |   |        |                   |        |
| Highest PROFIBUS<br>Address: | 126   | Change | Option            | ns     |
| <u>T</u> ransmission Rate:   | 500 Kbps<br>1.5 Mbps<br>3 Mbps<br>6 Mbps<br>12 Mbps |        |                   |        |
| Profile:                     | DP<br>Standard<br>User-Defined                      |        | <u>B</u> us Parar | neters |
| OK                           |   |        | Cancel            | Help   |

#### d. Click "OK"

| Properties - PROFIBUS interface DP (R0/S2.1)          |                                  |
|---|----------------------------------|
| General Parameters                                    |                                  |
| Address: 2  If a subnet is sele<br>the next available | cted,<br>e address is suggested. |
| Transmission rate: 12 Mbps                            |                                  |
| Subnet:<br>not networked<br>PROFIBILS(1) 12 Mbns      | <u>New</u>                       |
|   | Properties                       |
|   | Delete                           |
|   |                                  |
|   |                                  |
|   |                                  |
| ОК  | Cancel Help                      |

#### 8. Add I-7550

a. Find I-7550



 b. Select DP module and double click I-7550's icon and then set I-7550's address in the "Properties" dialog (this address must be the same with dip switch of the I-7550 module) and click "OK"

| RetPro - [S7_Pro3 (Network) C:\Program Files\\s7proj\S7_Pro3]  |   |
|--|---|
| Network Edit Insert PLC View Options Window Help   | - 6 ×   |
| Image: Second | Emd: 7550 Mt Mi<br>Selection of the network   |
| 1.       General Parameters         SIMATIC 300       Address:         Image: Simatic state of the   | Additional Field Devices<br>Switchgear<br>Additional Field Devices<br>AS-I<br>DP/DP Coupler<br>DP/DP Coupler<br>DP/DP Coupler, Release 2<br>Compatible PROFIBUS DP Slaves<br>CiR-Object<br>Closed-Loop Controller<br>Configured Stations<br>DP V0 slaves<br>DP/AS-i<br>DP/AL Link<br>ENCODER<br>ET 200B |
| OK 4. Cancel He<br>To display the connection table, please select a module capable of a connection (CPU, FM modu<br>OPC server or application). To display the network address overview, please select a subnet.   | ET 200C<br>ET 200eco<br>ET 200iS<br>ET 200iS<br>ET 200iS<br>ET 200iS<br>ET 200L<br>ET 200L<br>ET 200L   |

#### c. I-7550 add completely



### 9. I-7550 parameter settings

a. Double click I-7550's icon to open "HW Config"



b. Double click I-7550's icon to open "Properties" dialog

| 🖳 HW Config - [SIMATIC 300 Station (Configuration) S7_Pro3] |  |  |  |  |
|---|--|--|--|--|
| 💵 Station Edit Insert PLC View Options Window Help –        |  |  |  |  |
| D 😅 🖫 🖳 🚳 🗈 🗈 💼 🧰 🏜 🚯 📼 👯 📢                                 |  |  |  |  |
| 🖚 (0) UR  | <b></b> _  |  |  |  |
|   | Find: M1 M1  |  |  |  |
| 2 CPU313C-2 DP(1)   | Profile: Standard 💌  |  |  |  |
| 2.2 DI16/DO16   | 🛨 🊟 PROFIBUS DP  |  |  |  |
| 2.4 Count   | ROFIBUS-PA   |  |  |  |
| 4   | E SIMATIC 300  |  |  |  |
|   | 🕀 🚮 SIMATIC 400  |  |  |  |
| PROFIBUS(1): DP master system (1)                           | E SIMATIC PC Based Cor.  |  |  |  |
|   |  |  |  |  |
| (1) <u>i-7550</u>   | ▼ROFIBUS-DP slaves for<br>SIMATIC S7, M7, and C7<br>(distributed rack) |  |  |  |
| Press E1 to get Help  |  |  |  |  |
| Press F1 to get Help.                                       | SIMATIC S7, M7, and C7   |  |  |  |

c. Select "Device-specific parameters" folder and configure the settings (ex: baud rate, parity, data bit) and click "OK".

| perties - DP slave  |   |
|---|---|
| eneral Parameter Assignment   |   |
| Parameters  | Value    Value                              |
| <ul> <li>□ parity</li> <li>□ data</li> <li>□ end char of input data</li> <li>□ input fixed length data</li> <li>□ unit of time out value</li> </ul> | none<br>8 data bit<br>CR<br>Disable<br>1 ms |
| ⊢≝ diagnosis of time out<br>  | None  |
|   |   |
| ОК  | Cancel Help                                 |

# 10. I-7550's module configuration

#### a. Find I-7550

| HW Config - [SIMATIC 300 Station (Configuration) S7_Pr   |   |
|--|---|
| 💵 Station Edit Insert PLC View Options Window Help   | _ = × _ = = ×   |
| D 😅 🖫 🖳 🎒 🕋 🗈 💼 🏜 🏜 🚯 🗔 👯 📢  | 2   |
| I         CPU313C-2 DP(1)           X2         DP           2.2         D116DO16           2.4         Count           3         4           c         PROFIBUS(1): DP master system (1) | I.     Image: Standard       Profile:     Standard       Image: Standard     Image: Standard       Image: Stand |
|  |   |
| Press F1 to get Help.  | Chg /   |
|  |   |
| Ready  |   |

b. Spread I-7550's folder

| R HW Config - [SIMATIC 300 Station (Configuration) S7_Pro3] |                  |                        |                       |
|---|------------------|------------------------|-----------------------|
| III Station Edit Insert PLC ⊻iew Options Window Help        |                  |                        | - 8 ×                 |
| 🗅 😅 🖫 📓 🥞 🕒 🗈 💼 🏜 🏦 🚯 📼 🞇 👀                                 |                  |                        |                       |
| 🗩 (0) UR  |                  |                        |                       |
|   | <u>F</u> ind:    | 7550                   | м <b>!</b> М <b>i</b> |
| 2 CPU313C-2 DP(1)   | <u>P</u> rofile: | Standard               | •                     |
| $\begin{bmatrix} X2 \\ 2.2 \end{bmatrix} DP$                | i i i            | 🖬 i-7550               | ~                     |
| 2.4 Count   |                  | Universal module       |                       |
| 3   |                  | System setting         |                       |
|   |                  | 2 Byte In              |                       |
| DEOFIDIIS(1), DEmostra anten (1)                            |                  | 3 Byte In              |                       |
| PROFIBUS(I): Dr master system (I)                           |                  | 4 Byte In              |                       |
| <b>孟</b> (1) i-7550   |                  | 5 Byte In<br>6 Byte In |                       |
|   |                  | 7 Byte In              |                       |
|   |                  | 8 Byte In              |                       |
| - Annal   |                  | 9 Byte In              |                       |
|   |                  | 🛛 🚺 10 Byte In         |                       |
|   |                  | 📕 11 Byte In           |                       |
|   |                  | 12 Byte In             |                       |
| ✓   |                  | 13 Byte In             | ~                     |
|   | <                | 14 EVIE III            |                       |
|   |                  |                        | ₹                     |
| SIMATIC 300 Station   |                  |                        |                       |
| Slot   Designation  | ļ                |                        |                       |
| Press F1 to get Help.                                       |                  |                        | Chg //                |

c. Click I-7550 module and double click "System setting module" and select the IO modules that you need (ex: 16 Bytes IN, 16 Bytes OUT).

| 🖳 HW Config - [SIMATIC 300 S   | tation (Configurati              | ion) S7_P    | 'ro3]    |               |                  |               |
|--------------------------------|----------------------------------|--------------|----------|---------------|------------------|---------------|
| 🛄 Station Edit Insert PLC View | v <u>O</u> ptions <u>W</u> indow | <u>H</u> elp |          |               |                  | - 8 ×         |
| D 🚅 🐎 🖩 🖫   🚑   Ba (           | 2. 1 🖄 🏫 📳                       | 🖂   🎎   N    | ?        |               |                  |               |
|                                |                                  |              |          |               |                  |               |
| 😑 (0) UR                       |                                  |              |          | The da        | 7550             |               |
| 1                              |                                  | ~            |          | <u>F</u> ina: | 1,000            | <b>W</b> 1 W1 |
| 2 CPU313C-2 DI                 | ?(1)                             |              | _        | Profile:      | Standard         | -             |
| 122 $10P$                      |                                  | — <u> </u>   |          |               | \overline i-7550 | ~             |
| 2.4 Count                      |                                  |              |          |               | 📕 Universal mo   | dule          |
| 3                              |                                  |              |          |               | System settin    | g Z.          |
| 4                              |                                  | <u> </u>     |          |               | 2 Byte In        |               |
|                                |                                  |              |          |               | 3 Byte In        | _             |
| PF                             | ROFIBUS(1): DP maste             | r system (1) | _        |               | 🚦 4 Byte In      |               |
|                                | <b>35</b> (1) i-7550             |              |          |               | 5 Byte In        |               |
|                                |                                  | Ι.           |          |               | 7 Byte In        |               |
|                                | See 1                            |              |          |               | 🚦 8 Byte In      |               |
|                                | Second .                         |              | ~        |               | 9 Byte In        |               |
| <                              |                                  |              | >        |               | 10 Byte In       |               |
|                                |                                  |              |          |               | 12 Byte In       |               |
| (1) i-7550                     |                                  |              |          |               | 📕 13 Byte In     |               |
| Slot DP ID Order Nu            | umber / Designation              | I Q          | c [      |               | 14 Byte In       |               |
| 1 24DI System se               | tting                            | 02           | ~        |               | 16 Byte In       | <b>1</b> 3.   |
| 2 36> Syster                   | n setting                        | 04           |          | <             |                  |               |
| 3 47 16 Byte C                 | Jut                              | 520          | -        |               |                  | ٤.            |
| 5                              | ·•                               | 510          |          |               |                  |               |
| 6                              |                                  |              | <b>~</b> |               |                  |               |
| Press F1 to get Help.          |                                  |              |          |               |                  | Chg           |

11. You have complete I-7550's configuration already and you just need to download the configuration to Siemens PLC  $\,\circ\,$ 

