List of related manuals

<table>
<thead>
<tr>
<th>Drive firmware manuals and guides</th>
<th>Code (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPBA-01 PROFIBUS DP adapter module user’s manual</td>
<td>3AFE68573271</td>
</tr>
<tr>
<td>RPBA-01 PROFIBUS DP Adapter Module User’s Manual</td>
<td>3AFE64504215</td>
</tr>
<tr>
<td>FENA-01/-11 Ethernet adapter module User’s Manual</td>
<td>3AU000093568</td>
</tr>
<tr>
<td>ABB Drives Profibus DP control SimaticS7</td>
<td>3AU000099358</td>
</tr>
<tr>
<td>ABB Drives function blocks for Siemens PLC’s Quick start-up guide</td>
<td>3AXD50000037864</td>
</tr>
</tbody>
</table>

You can find manuals and other product documents in PDF format on the Internet. See section Document library on the Internet on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.
Drive Manager for SIMATIC

Quick start-up guide
# Table of contents

1. Introduction  
About this guide ........................................... 7  
Intended audience ........................................... 7  
Compatibility .............................................. 7  
Contents of the manual .................................... 7  
Related documents ......................................... 8  
Cyber security disclaimer ................................ 8  

2. Drive Manager for SIMATIC setup  
About this chapter .......................................... 9  
Basic overview of PROFIBUS and PROFINET setup ........ 10  
ABB drive compatibility with Siemens SIMATIC environment  
SIMATIC Manager V5.4 compatibility ...................... 11  
SIMATIC Manager V5.5 compatibility ...................... 11  
TIA Portal V13.0 SP2 compatibility ....................... 11  
Drive Manager compatibility .............................. 12  
Siemens PLC CPU 300 series compatibility .............. 12  
Siemens PLC CPU 400 series compatibility .............. 13  
Siemens PLC CPU 1200 series compatibility ............ 14  
Siemens PLC CPU 1500 series compatibility ............ 15  

3. Drive configuration in ABB Drive Manager  
About this chapter .......................................... 17  
Installing ABB Drive Manager ............................ 17  
Drive configuration ........................................ 21  
Connecting and disconnecting drive ...................... 24  
Error and warning messages ............................. 26  
Drive status display ...................................... 28  
Handling parameters ...................................... 29  
Drive parameter view ..................................... 29  
Project parameter view ................................... 32  
Comparing drive parameters .............................. 33  
Exporting parameters .................................... 35  
Importing parameters .................................... 36  
Updating parameters ..................................... 38  
Refresh parameters ...................................... 40  
Filtering drive parameters ............................... 41  
Selecting parameters to monitor ......................... 43  
Monitoring controls ...................................... 45  
Exporting monitored parameters ......................... 47  
Installing application parameters ....................... 50  
File Permissions .......................................... 52  
Troubleshooting ........................................... 53  
Connection not established .............................. 53  
Drive not reachable ....................................... 53  
No response from drive .................................. 54
Unsupported FENA firmware ........................................ 55
Drive (FENA device) not reachable .................................. 55
Excluding FENA firmware version check ......................... 56
Feature not supported ................................................. 56

4. Appendix - SIMATIC Manager (STEP 7)

About this chapter .................................................. 59
Summary of SIMATIC Manager setup ............................... 59
Installing SIMATIC Manager ....................................... 59
Software configuration ............................................. 60
Configuring SIMATIC for ABB Drive Manager ................. 60
Setting PG/PC interface ........................................... 62
Changing IP address .................................................. 65
Hardware configuration ............................................. 67
Adding rack and CPU to hardware ................................ 67
Installing GSD file (SIMATIC) ..................................... 70
Adding drives to PROFIBUS DP line ............................. 71
Adding drives to PROFINET ....................................... 77
Downloading hardware configuration ............................ 79
Starting device tool ................................................ 82

5. Appendix - TIA Portal configuration

About this chapter .................................................. 85
Installing TIA Portal ................................................ 85
Basic configuration of TIA portal ................................ 86
Installing GSD file (TIA Portal) ................................... 93
Adding Drives to PROFIBUS ....................................... 95
Adding drives to PROFINET ..................................... 103
Starting device tool ................................................ 114

Further information

Product and service inquiries ................................... 117
Product training ..................................................... 117
Providing feedback on ABB manuals ............................ 117
Document library on the Internet ................................ 117
Introduction

About this guide
This guide provides the procedure to configure ABB drives with Siemens SIMATIC S7 PLC environment using PROFIBUS and PROFINET network.

Intended audience
The reader of this manual is expected to have a basic knowledge of ABB products, terminologies, standard electrical wiring practices, electronic components and electrical schematic symbols.

Compatibility
This manual is compatible with SIMATIC Manager V5.4, V5.5, TIA Portal V13.0 and Drive Manager 1.1.

Contents of the manual
This quick start-up guide consists of the following chapters:
• Drive Manager for SIMATIC setup provides the basic overview of PROFIBUS and PROFINET setup and the compatibility limitations of ABB drive library.
• Drive configuration in ABB Drive Manager describes the procedure to install ABB Drive Manager and to configure drives in ABB Drive Manager.
• Appendix - SIMATIC Manager (STEP 7) describes the procedure to configure SIMATIC Manager with ABB Drive Manager.
• Appendix - TIA Portal configuration describes the procedure to configure TIA Portal with ABB Drive Manager.
Related documents

A list of related manuals is printed on the inside of the front cover.

Cyber security disclaimer

This product is designed to be connected to and to communicate information and data via a network interface. It is Customer’s sole responsibility to provide and continuously ensure a secure connection between the product and Customer network or any other network (as the case may be). Customer shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.
Drive Manager for SIMATIC setup

About this chapter

This chapter provides the basic overview of PROFIBUS and PROFINET setup and the compatibility limitations of ABB drive compatibility with Siemens CPU.
Basic overview of PROFIBUS and PROFINET setup

PROFIBUS is an open serial communication standard that enables data exchange between automation components. The FENA-x1 ethernet adapter module is an optional device for ABB drives which enables the connection of the drive to an ethernet network. The following picture shows the overview setup of Siemens PLC and ABB Drives integration using PROFIBUS and PROFINET.

ABB drive compatibility with Siemens SIMATIC environment

The following limitations are valid for ABB drive compatibility with Siemens CPU:

- **SIMATIC Manager V5.4 compatibility**
- **SIMATIC Manager V5.5 compatibility**
- **TIA Portal V13.0 SP2 compatibility**
- **Drive Manager compatibility**
- **Siemens PLC CPU 300 series compatibility**
- **Siemens PLC CPU 400 series compatibility**
- **Siemens PLC CPU 1200 series compatibility**
- **Siemens PLC CPU 1500 series compatibility**
**SIMATIC Manager V5.4 compatibility**

The following limitations are valid for SIMATIC Manager V5.4 SP5 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.
- ABB_DRIVE_LIB function block is supported only for PROFIBUS DP.

**SIMATIC Manager V5.5 compatibility**

The following limitations are valid for SIMATIC Manager V5.5 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.
- ABB_DRIVE_LIB function block is supported only for PROFIBUS DP.

**Note:** PPO types without consistent data, example, PPO-06, 0 PKW + (2+2+2+2+2) PZD or PPO-06, 0 PKW +NoCons. 10 PZD are not supported.

**TIA Portal V13.0 SP2 compatibility**

The following limitations are valid for TIA Portal V13.0 compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: All PROFIBUS compatible ABB drives.
- Application types: Speed/frequency control or torque control.
- PPO types: Only PPO types with consistent data are supported.
- For example, PPO-06, 0 PKW + 10 PZD are supported.

**Note:** PPO types without consistent data, example, PPO-06, 0 PKW + (2+2+2+2+2) PZD or PPO-06, 0 PKW +NoCons. 10 PZD are not supported.
Drive Manager compatibility

The following limitations are valid for Drive Manager compatibility.

- PROFIBUS DP protocol: DP-V1.
- PROFINET IO communication profile: ABB drives.
- Drive types: ACS355, ACS380, ACS550 (only for PROFIBUS), ACS580, ACQ810, ACS850, ACS880, ACSM1 Speed, ACSM1 Motion.
- Application types: Speed/Frequency control, Torque control or Motion control.
- PC to PLC online interface: Ethernet and serial communication.
- PC operating system for SIMATIC Manager V5.5 are Windows XP 32 bit, Windows 7 32 bit and Windows 7 64 bit.
- PC operative system for TIA Portal V13.0 are Windows XP 32 bit and Windows 7 32 bit.

Siemens PLC CPU 300 series compatibility

The following S7-300 CPU’s are compatible.

<table>
<thead>
<tr>
<th>CPU</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU 313C-2 DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 314C-2 DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 314C-2 PN/DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 315-2 DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 315F-2 DP</td>
<td>V3.0</td>
</tr>
<tr>
<td>CPU 315-2 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>CPU 315F-2 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>CPU 317-2 DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 317F-2 DP</td>
<td>V3.3</td>
</tr>
<tr>
<td>CPU 317-2 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>CPU 317F-2 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>CPU 319-3 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>CPU 319F-3 PN/DP</td>
<td>V3.2</td>
</tr>
<tr>
<td>IM154-8 PN/DP CPU</td>
<td>V3.2</td>
</tr>
<tr>
<td>IM154-8F PN/DP CPU</td>
<td>V3.2</td>
</tr>
<tr>
<td>IM154-8FX PN/DP CPU</td>
<td>V3.2</td>
</tr>
<tr>
<td>IM151-8 PN/DP CPU</td>
<td>V3.2</td>
</tr>
<tr>
<td>IM151-8F PN/DP CPU</td>
<td>V3.2</td>
</tr>
</tbody>
</table>
### Siemens PLC CPU 400 series compatibility

The following S7-400 CPU's are compatible.

<table>
<thead>
<tr>
<th>CPU</th>
<th>Version</th>
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</thead>
<tbody>
<tr>
<td>CPU 412-1</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 412-2 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 412-2 PN</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 414-2 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 414-3 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 414-3 PN/DP</td>
<td>V5.1</td>
</tr>
<tr>
<td>CPU 414F-3 PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 416-2 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 416-3 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 416F-2 DP</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 416-3 PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 416F-3 PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 417-4</td>
<td>V5.3</td>
</tr>
<tr>
<td>CPU 412-5H PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 414-5H PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 416-5H PN/DP</td>
<td>V6.0</td>
</tr>
<tr>
<td>CPU 417-5H PN/DP</td>
<td>V6.0</td>
</tr>
</tbody>
</table>
## Siemens PLC CPU 1200 series compatibility

The following S7-1200 CPU’s are compatible

<table>
<thead>
<tr>
<th>CPU</th>
<th>Version</th>
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<tbody>
<tr>
<td>CPU 1211C AC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1211C DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1211C DC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1212C AC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1212C DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1212C DC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1214C AC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1214C DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1214C DC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1215C AC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1215C DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1215C DC/DC/Rly</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1217C DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1214FC DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1214FC DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1215FC DC/DC/DC</td>
<td>4.1</td>
</tr>
<tr>
<td>CPU 1215FC DC/DC/DC</td>
<td>4.1</td>
</tr>
</tbody>
</table>
## Siemens PLC CPU 1500 series compatibility

The following S7-1500 CPU’s are compatible.

<table>
<thead>
<tr>
<th>CPU</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU 1511-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1511C-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1512C-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1513-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1515-2 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1516-3 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1517-3 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1518-4 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1511F-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1513F-1 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1515F-2 PN</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1516F-3 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1517F-3 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1518F-4 PN/DP</td>
<td>1.8</td>
</tr>
<tr>
<td>CPU 1511-1 PN SIPLUS</td>
<td>1.7</td>
</tr>
<tr>
<td>CPU 1513-1 PN SIPLUS</td>
<td>1.7</td>
</tr>
<tr>
<td>CPU 1516-3 PN/DP SIPLUS</td>
<td>1.7</td>
</tr>
</tbody>
</table>
Drive Manager for SIMATIC setup
Drive configuration in ABB Drive Manager

About this chapter
This chapter provides the procedure to install ABB Drive Manager and to configure drives through PROFIBUS and PROFINET interface.

Prerequisites:
- Install SIMATIC Manager (STEP 7).
- Install TIA portal as an administrator to start ABB Drive Manager.
- Before starting ABB Drive Manager installation, close all the applications.

Installing ABB Drive Manager
To install ABB Drive Manager, follow these steps:
1. Double-click ABB Drive Manager setup file.
2. In DriveManager for SIMATIC window, click Next.
3. Read the licence agreement of ABB Drive Manager for SIMATIC. Select **Accept** check box and click **Next**.

![Image of licence agreement](image1)

4. Select appropriate folder to install DriveManager for SIMATIC and click **Next**.

![Image of folder selection](image2)
5. Click **Install** to start the installation.

![Confirm Installation]

The installer is ready to install DriveManager for SIMATIC on your computer. Click “Install” to start the installation.

![Install Complete]

6. DriveManager for SIMATIC is installed. Click **Close**.
Drive configuration

Before launching ABB Drive Manager, ensure *Appendix - SIMATIC Manager (STEP 7)* and *Appendix - TIA Portal configuration* are configured.

The ABB Drive Manager menu bar contains the following:

- **File:** To exit ABB Drive Manager window.
- **Tools:** To install application parameters to different firmwares and to exclude FINA firmware version.
- **Help:** To view contents, import license file and the product information.

To configure ABB Drive Manager, follow these steps:

1. In the **ABB Drive Manager** window, click **Drive Management** tab.
2. To configure the drive analog input channel settings for current/voltage configuration based on the hardware settings of the drive, click Settings.

3. Select the required **Analog inputs** from the drop-down list and click **OK**.

![Analog inputs settings](image)

**Note:** Analog inputs settings are applicable for ACQ810, ACS850 and ACSM1 drives. Whereas in ACS355 drives, localization settings are available. For ACS380, ACS580 and ACS880 drives, only Parameter locking settings are available.

4. Select the check boxes to disable editing of the motor data and fieldbus parameter and click **OK**.

![Parameter locking settings](image)
5. Click **Parameter locking** to prevent accidental changes of the motor data and fieldbus parameters.

ABB Drive Manager is configured.
Connecting and disconnecting drive

To connect (online) and disconnect (offline) drive from the ABB Drive Manager user interface, follow these steps:

1. In the Drive Management tab click **Connect**.

   ![Drive Management Interface](image)

   The configured drive connects.

2. To disconnect the drive, click **Disconnect**.

   ![Disconnecting Drive Interface](image)
If you activate **Read all before disconnect** check-box, ABB Drive Manager reads all the parameters before disconnecting the drive.

3. On disconnecting, the ABB Drive Manager checks the changes to drive parameters which have not been stored to permanent memory. Click **Yes** to complete uploading all the parameter values.
Error and warning messages

The following errors are noticed when you try to connect to a drive:

- **Different drive type**: If the configured drive type is different from the actual drive connected, an error Different drive type is displayed and shows the actual drive type.

![Drive configuration in ABB Drive Manager](image.png)
• **Different firmware version**: If the configured drive firmware version is different from the actual drive firmware version, the drive may be connected but the ABB Drive Manager displays a warning message Different firmware and also displays the actual drive firmware version.
Drive status display

The ABB Drive Manager shows the following drive status messages:

- **Stopped**: Drive is in stop mode.

- **Running forward**: Drive is running in the forward direction.

- **Running reverse**: Drive is running in the reverse direction.

- **Faulted**: Drive fault status and fault code.
Handling parameters

This section provides instructions to handle parameters in the ABB Drive Manager.

- **Drive parameter view**

  Parameter types can be numeric, enumerated list, bit pointer and value pointer.
  - In the **Drive Management** tab, click **Drive** to display the connected drive parameter groups and parameter values.
• To edit a numeric parameter value, double-click parameter value and change the required value.

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Speed reference</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>conditioning</td>
<td></td>
</tr>
<tr>
<td>25 Speed control</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>26 Torque reference</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>chain</td>
<td></td>
</tr>
<tr>
<td>28 Frequency reference</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>chain</td>
<td></td>
</tr>
<tr>
<td>30 Limits</td>
<td></td>
</tr>
<tr>
<td>1 Limit word 1</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>2 Torque limit status</td>
<td>0b000000000000000</td>
</tr>
<tr>
<td>11 Minimum speed</td>
<td>-1500.00</td>
</tr>
<tr>
<td>12 Maximum speed</td>
<td>1500.00 rpm</td>
</tr>
<tr>
<td>13 Minimum frequency</td>
<td>-50.00 Hz</td>
</tr>
<tr>
<td>14 Maximum frequency</td>
<td>50.00 Hz</td>
</tr>
<tr>
<td>15 Maximum start current</td>
<td>Disable</td>
</tr>
<tr>
<td>16 Maximum start current</td>
<td>0.00 A</td>
</tr>
<tr>
<td>17 Maximum current</td>
<td>0.00 A</td>
</tr>
<tr>
<td>18 Minimum torque sel</td>
<td>Minimum torque 1</td>
</tr>
<tr>
<td>19 Minimum torque 1</td>
<td>-300.0 %</td>
</tr>
<tr>
<td>20 Maximum torque 1</td>
<td>0.00 A</td>
</tr>
</tbody>
</table>

• To change a enumerated parameter value, select a value from the drop-down list.

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 I/O extension module</td>
<td>In1 Start, In2 Dir</td>
</tr>
<tr>
<td>19 Operation mode</td>
<td></td>
</tr>
<tr>
<td>20 Start/stop/direction</td>
<td></td>
</tr>
<tr>
<td>1 Ext1 commands</td>
<td></td>
</tr>
<tr>
<td>2 Ext1 start trigger type</td>
<td>Not selected</td>
</tr>
<tr>
<td>3 Ext1 in 1 source</td>
<td>In1 Start</td>
</tr>
<tr>
<td>4 Ext1 in 2 source</td>
<td>In1 Start fWD: In2 Start rev</td>
</tr>
<tr>
<td>5 Ext1 in 3 source</td>
<td>In1P Start: In2 Dir</td>
</tr>
<tr>
<td>6 Ext2 commands</td>
<td></td>
</tr>
<tr>
<td>7 Ext2 start trigger type</td>
<td></td>
</tr>
<tr>
<td>8 Ext2 in 1 source</td>
<td>Fieldbus A</td>
</tr>
<tr>
<td>9 Ext2 in 2 source</td>
<td>Embedded fieldbus</td>
</tr>
<tr>
<td>10 Ext2 in 3 source</td>
<td>M/I link</td>
</tr>
<tr>
<td>11 Run enable stop mode</td>
<td></td>
</tr>
<tr>
<td>12 Run enable 1 source</td>
<td></td>
</tr>
<tr>
<td>15 Enable start command</td>
<td>Selected</td>
</tr>
<tr>
<td>22 Positive speed enable</td>
<td>Selected</td>
</tr>
</tbody>
</table>

Parameter locking        | Export to File
• To change bit pointer parameter value, double-click bit pointer value field and select the bit pointer parameter and then click **OK**.

![Diagram showing Drive configuration in ABB Drive Manager]

• To change value pointer parameter value, double-click value pointer field and select the parameter value and then click **OK**.

![Diagram showing Drive configuration in ABB Drive Manager]
**Project parameter view**

The ABB Drive Manager allows to view, change and save the drive parameters of the configured drive in the offline/project view mode. This set of parameters are visible even when the drive is not connected. You can select required parameters from the list and download to the drive which is connected.

- In the Drive Management tab, click Project to open the offline/project parameter view.
Comparing drive parameters

Compare operation displays the difference in parameter settings of the Project in offline mode and Drive in online mode.

1. In the **Drive Management** tab, click **Compare** to compare drive parameter values and project parameter values.
The groups and parameters appear in bold when values of Project in offline mode and Drive in online mode are different. A check box appears against the parameter with difference in values.

2. Click Copy >> to write parameters to offline Project view from online Drive view.
3. Click << Copy to write parameters to online Drive view from offline Project view.
 ■ Exporting parameters

The ABB Drive Manager allows to export the parameter values to the respective drive parameter file format (.dsp, .dwp, .dcparams). The file format for saving the file is automatically selected based on the drive configuration.

1. In the ABB Drive Manager window, select Drive or Project view.

2. Click Export to File (represents appropriate file format) and save the file to the desired location.
**Importing parameters**

The ABB Drive Manager allows to import the parameter values from the computer only in these file formats .dsp, .dwp, .dcparams.

**Note:** Import function works only in Project view.

1. In the **Project** view, click **Import values** drop-down and click Browse file to select the appropriate parameter file.
2. To copy imported parameter values to project parameter view, select the parameter value and click **Copy**.

The imported values are copied to the Project view.
Updating parameters

To update and save the parameter changes to the drive, follow these steps:

1. Right-click on a parameter group and select either **Update all parameters** or **Update parameters in this group**.
2. Click **Make changes permanent** to save the parameter changes to the drive.

The parameter values are saved in the ABB Drive Manager.
### Refresh parameters

- In the **Drive Management** tab, click ![Refresh Button](image) to refresh the drives parameters.
Filtering drive parameters

The ABB Drive Manager allows to filter the parameters and create subset views. You can create up to three subsets.

1. In the ABB Drive Manager window, click Parameters (filtered).

2. Select the required parameter subset in the Choose subset filter list.

3. Click Customize subset to configure the selected subset.
4. Select the required parameters from **Parameter list** to **Selected parameters** screen and click **Ok** to create subset.

5. In the **Parameter (filtered)** tab, select the required subset to monitor.
Selecting parameters to monitor

To select the parameters to monitor, follow these steps:

1. In the ABB Drive Manager window, click Monitoring tab and then click Select Parameters to add required parameters.

2. Select the required parameters from Parameter list to Selected parameters screen and click Ok.

Note: Maximum of 12 parameters are allowed.
After adding Parameters list to Selected parameters screen, the Visible check boxes are selected by default.

3. In the Monitoring tab, select the required parameter color from the drop-down list.

4. To remove parameters from monitoring, deselect the specific check boxes.

5. Minimum, Maximum, Alarm Low and Alarm High values can be edited based on preferences.
Monitoring controls

To understand the monitoring controls, follow the steps:

- After selecting required parameters, click to start monitoring parameters.

- Click to pause monitoring parameters.
• Click to stop monitoring the parameters.

• From the **Active Signal** drop-down list, select a parameter to monitor as active signal.
Exporting monitored parameters

1. Click Export to.csv file to export monitored parameter file.

2. Select the desired file location in the file system. The default file name will be Projectname_drivename.csv.

3. Click  to select parameter Export settings. An Export Options window is displayed.
In the Export Options window, you can do the following settings:

- You can check or uncheck the desired parameters in **Select Parameters To Export** pane.
- Select **Full set of samples from start of plotting to stop** option and click **Ok** to filter the graph.
- If you select **Always latest samples based on count** option, the tool displays number of samples already in the memory and the Latest Samples text box with the same number.

**Note:** You are not allowed to select more than 65500 samples and the value automatically changes to 65500 in the Latest Samples text box.
• If you select **Samples based on time stamp** option, the tool displays Start and Stop Plotting Duration of samples present in the memory. You can edit Sample Range with Start and Stop duration of samples present in the memory and click **Ok**.

![Export Options](image)

**Note:** If you change the duration time more than the available time, system prompts a message Value not in the range.

After plotting is stopped, click **Select Parameters** to change the parameter selection. System prompts to save the monitored data.
Installing application parameters

The ABB Drive Manager allows to install application specific parameters to the Drive Manager.

1. In the Automation Builder main menu, click **Tools -> Options -> Install application parameters**.

2. Select the application parameters file (.dsp or .dcparamsbak) in the file system.

3. Select the required firmwares to which these parameters are installed and click **Ok**.
After installing application parameters to ABB Drive Manager, a success message is displayed in the Messages.

4. Restart ABB Drive Manager to get the updated list of firmware to which applications parameters are installed.
After selecting CustomProgrammed firmware, you can see the application parameters. For example, group 9.

File Permissions

Ensure all actual users have the appropriate access permissions to use the PC or application.

For example: C:\ProgramFiles\DriveWare\DriveManagement\data\devdesc\Profibus_Drives\ACS_880\ACS880_PB.devdesc.xml. Check the actual fieldbus and drive type.
Troubleshooting

- **Connection not established**

The ABB Drive Manager displays an error message `Connection request rejected` when SIMATIC and TIA portal does not run as administrator or if the project has an invalid data.

![Connection request rejected](image)

By clicking on **More info** displays the workarounds to resolve this issue.

![More info](image)

1. Please remove the device from hardware configuration and add again to hardware configuration with same configuration details.
2. You may consider Export & Import of configuration in hardware configuration.
3. If TIA portal is in use, please choose proper interface and check your network cable is plugged in or not.

- **Drive not reachable**

The ABB Drive Manager displays an error message **Drive not reachable** when a connection request receives timeout response.

![Drive not reachable](image)
Drive configuration in ABB Drive Manager

By clicking on More info displays the workarounds to resolve this issue.

No response from drive

The ABB Drive Manager displays an error message **Unable to reach drive** when there is no response from the drive after connection request.

By clicking on More info displays the workarounds to resolve this issue.
- **Unsupported FENA firmware**

The ABB Drive Manager displays an error message **Unsupported FENA firmware** when a FENA device which is configured on the drive has a firmware version lower than version 3.03.

By clicking on **More info** displays the workarounds to resolve this issue.

- **Drive (FENA device) not reachable**

The ABB Drive Manager displays an error message **Drive (FENA device) not reachable** when I&M (identification and maintenance) request which is used to identify the firmware of FENA device does not get any response.
By clicking on More info displays the workarounds to resolve this issue.

Excluding FENA firmware version check

The ABB Drive Manager allows you to activate Exclude FENA firmware version check when you are using FENA device firmware in VPN connection.
- In the ABB Drive Manager menu bar, click Tools -> Settings.

Feature not supported

The ABB Drive Manager displays an error message Feature not supported when this feature is not supported by online interface which is set in SIMATIC or TIA portal.
By clicking on **More info** displays the workarounds to resolve this issue.

This feature is not supported by the online interface that is set.

Connection to a drive using profinet via MPI interface is not supported by Simatic Manager.
Appendix - SIMATIC Manager (STEP 7)

About this chapter
This chapter describes the procedure to install SIMATIC Manager (STEP 7) and to configure SIMATIC Manager with ABB Drive Manager.

Summary of SIMATIC Manager setup
The SIMATIC manger setup includes the following steps:
1. Installing SIMATIC Manager
2. Software configuration
3. Hardware configuration
4. Starting device tool
5. Starting device tool
For detailed steps, refer the individual sections.

Installing SIMATIC Manager
To install SIMATIC Manager (STEP 7) V5.4 or V5.5, refer Installation procedure in the SIMATIC installation manual (referring Siemens website).
Software configuration

Configuring SIMATIC for ABB Drive Manager

To configure SIMATIC Manager for the ABB Drive Manager, follow these steps:

1. Launch SIMATIC Manager. In the STEP 7 Wizard: "New Project" window click Next.

2. Select appropriate CPU (for example CPU315-2 PN/DP) and click Next.
3. Block name **OB1** is selected by default. Click **Next**.

4. Enter the project name and click **Finish**.
Setting PG/PC interface

PG/PC interface is a programming cable to connect PC to PLC.

To set PG/PC interface for online connection between PC and PLC using ethernet connection, follow these steps.

1. Select the Local Area Connection to which PLC is connected.
3. Enter the default IP address of a Siemens PLC 192.168.0.100. The default values of other fields are updated. Click **OK**.

![General Settings](image)

**Note**: To change the IP address, refer to *Changing IP address*.

4. From the menu bar, click **Options** and select **Set PG/PC Interface**.
5. Select the connected interface and click **OK**.

The PG/PC interface between PC and PLC using ethernet connection is configured.
Changing IP address

To change IP address of a Siemens PLC, follow these steps:

1. From the hardware configuration window, click PLC and select Ethernet > Edit Ethernet Node option.
2. Browse to select **MAC address**. Click **Assign Configuration** and close the window.

IP address of the selected Siemens PLC is changed.
Hardware configuration

Adding rack and CPU to hardware

To add rack and CPU to hardware, follow these steps:

1. In the SIMATIC Manager window, select SIMATIC 300 Station and double-click Hardware.

2. In the hardware configuration window, expand SIMATIC 300 project structure and open Rack-300 folder. Drag and drop Rail to the SIMATIC configuration screen.
3. In the hardware configuration section, expand **CPU315F-2 PN/DP** folder and select the specific version. Drag and drop required version to the slot 2 of the rack.

**Note:** Slot 1 is not supported for CPU configuration.

4. In the Ethernet interface window, enter the **IP address** of the CPU and click **New**.
5. In the **New subnet Industrial Ethernet** window, click **OK** to activate the new subnet.

The rack, CPU and the Ethernet connections are configured.
Installing GSD file (SIMATIC)

The following GSD files for ABB drives are available in ABB library or from the package.
- **ABB 10959.gsd** for FPBA-01 PROFIBUS DP-V1
- **ABB 10812.gsd** for RPBA-01 PROFIBUS DP-V1
- **ABB-FENA-20130603** for PROFINET

After adding rack and CPU to hardware, install the GSD file.

To install the GSD file for ABB drives PROFIBUS and GSDML file for ABB drives PROFINET, follow these steps:

1. In the hardware configuration window, click **Options** and select **Install GSD File**.

![Hardware Configuration Window]

---

**Install GSD File...**
2. Browse and select the appropriate folder. Select the GSD file for PROFIBUS or GSDML file for PROFINET and click Install. After the installation is complete close the window.

The GSD or GSDML file for ABB drives PROFIBUS or for PROFINET are installed respectively.

- **Adding drives to PROFIBUS DP line**

After the GSD file installation, a new PROFIBUS DP module displays in the hardware library.

To add drives to PROFIBUS DP line, follow these steps:

1. Double-click **MPI/DP** in the hardware configuration window.
2. Select PROFIBUS from the Interface drop-down list and click Properties.

3. In the Properties window, click New.
4. In the **New subnet PROFIBUS** window, enter new subnet **Name** and click **OK**.

![Properties - New subnet PROFIBUS](image)

5. In the hardware library, expand **PROFIBUS DP** and select the required **ABB Drive**. Drag and drop the selected drive (example ABB Drives FPBA-01 DP-V1) module with DP-V1 mode to your actual fieldbus module type.

![Profile: Standard](image)

**Note:** Other DP modes are not supported by drive manager.
6. Set the PROFIBUS node address for the fieldbus module and click **OK**.

7. With the **Drive** node selected, drag and drop desired **PPO** type to slot 1 of the module.

**Note:** PPO types with consistent data, example, PPO-06, 0 PKW + 10 PZD are only supported by ABB_DRIVE_LIB.
Drive receives peripheral memory areas for data input and output (process data will be sent between the PLC and the drive). In this example, 20 byte long peripheral memory area starts from 256. Double-click PPO type of actual drive to change the value.

<table>
<thead>
<tr>
<th>Parameter identification</th>
<th>Process data</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUT area</td>
<td>IN area</td>
</tr>
<tr>
<td>ID</td>
<td>IND</td>
</tr>
<tr>
<td>PKW</td>
<td></td>
</tr>
</tbody>
</table>

Type 1

Type 2

Type 3

Type 4

Type 5

Type 6

**OUT area** – Data sent from Master to Slave (control data)

**IN area** – Data sent from Slave to Master (actual data)

**Parameter Identification:**
- ID – Parameter Identification
- IND – Index for Arrays
- VALUE – Parameter Value (Max. 4 bytes)
- PKW – Parameter ID/Value

**Process Data:**
- CW – Control Word
- SW – Status Word
- REF – Reference
- ACT – Actual Value
- PZD – Process Data (application-specific)
- DW – Data Word
8. If you want to change the name of the node, right-click **Drive**, select **Object Properties**.

9. Repeat the procedure to add more drives if needed.

10. Click **Save and Compile**.

   ABB Drive is configured and added to PROFIBUS.
Adding drives to PROFINET

To add drives to PROFINET, follow these steps:

1. In the hardware library, expand PROFINET and select the required ABB Drive. Drag and drop the selected drive (example FENA PPO types) module to your actual fieldbus module type.

2. Double-click on ABB drive (FENA). In the Properties - FENA window, rename the Device name if needed. Select the check box Assign IP Address via IO controller. Select the required Node Device number and click OK.
3. With the ABB drive (FENA) node selected, drag and drop desired PPO type to slot 1 of the module.

4. Repeat the procedure to add more drives if needed.

5. Click **Save and Compile**.

ABB Drive is configured and added to PROFINET.
**Downloading hardware configuration**

To download hardware configuration, follow these steps:

1. From the hardware library, click **PLC** and select **Download**.

2. In the **Select Target Module** window, select the required **PLC** and click **OK**.
3. In the Select Node Address window, click View to select the IP address. Click OK.

4. PLC is to set to RUN mode and Stop Target Modules message displays, click OK.
5. Click **OK** in the Download pop-up window to set the PLC in RUN mode.

Hardware configuration for SIMATIC Manager is downloaded.
Starting device tool
Start device tool option is used to launch the ABB Drive Manager.

1. To start device tool, right-click on Drive node.

2. Click Start Device Tool and click ABB Drive Management.
3. If you are activating the application for the first time, the **License Activation** pop-up window appears. Enter the license activation key and click **Activate**.

**Note:** If you do not have a license activation key, close the **License Activation** pop-up window and click **OK** in the **Drive Manager for Simatic** pop-up window to run the application in trial version for a specific period of 30 days. Only one ABB Drive Manager can be opened in trial period. To open ABB Drive Manager for a different drive, close the existing ABB Drive Manager.

or

If you already activated the application, ABB Drive Manager window displays.
Appendix - TIA Portal configuration

About this chapter
This chapter provides the procedure to configure Siemens PLC with ABB Drive Manager using TIA Portal V13.0.

Installing TIA Portal
To install TIA Portal V13.0, refer *Installation procedure* in the TIA Portal V13.0 installation manual (referring Siemens website).
Basic configuration of TIA portal

To configure TIA Portal with the PLC and ABB Drive Manager, follow these steps:

1. Launch **TIA Portal V13**.
2. Click **Create new project** and enter the project name and path. Click **Create**.
3. Select **Configure a device** from the **Start** options.

---

![Create new project dialog](image)

![Start options](image)

---

**Project: “Test” was opened successfully. Please select the next step:**

- **Devices & networks**
- **PLC programming**
- **Visualization**
- **Project view**

- **Configure a device**
- **Write PLC program**
- **Configure an HMI screen**
- **Open the project view**
4. In the TIA Portal V13 window, select Add new device.

5. From the Add new device screen, select required PLC and click Add.
6. Go to Project view and double-click Devices & networks. In the Network view, select PLC_1 and double-click Ethernet.

7. From the Network view screen, click General tab and select Ethernet addresses.
8. In the **Ethernet address** screen, click **Add new subnet** to add the subnet. Set **IP Address** in the IP protocol.

<table>
<thead>
<tr>
<th>Ethernet addresses</th>
<th>Interface networked with</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subnet: <strong>Not networked</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Add new subnet</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IP protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set IP address in the project</td>
</tr>
<tr>
<td>IP address: 192.168.0.1</td>
</tr>
<tr>
<td>Subnet mask: 255.255.255.0</td>
</tr>
<tr>
<td>Use IP router</td>
</tr>
<tr>
<td>Router address: 0.0.0.0</td>
</tr>
</tbody>
</table>

A new **Subnet** is added.
9. In the **Network view**, select **PLC_1** and double-click **MPI/DP**.

10. From the **Network view**, click **General** tab and select **PROFIBUS address**.
11. In the PROFIBUS address screen, select required Interface type and Address parameters from the drop-down list. Click **Add new subnet**.

12. Interface networked with subnet is added and configured.
After completing the basic configuration, a TIA Portal window displays with PLC connections.
Installing GSD file (TIA Portal)

This topic provides step by step procedure to install the GSD file.

1. In the Devices & Networks screen, click Options. Select Install general station description file (GSD).

2. Browse and select the appropriate folder. Select the GSD files for PROFIBUS or GSDML files for PROFINET and click Install. After the installation is complete close the window.
3. Click **YES** in the popup window.

4. After GSD file installation, system prompts to close the TIA Portal application, click **Close TIA Portal**.
Adding Drives to PROFIBUS

1. Launch TIA Portal. In the main screen, click Open existing project. Select the existing project and click Open.

2. Click Open the project view from the Start options.
3. Double-click **Device & networks** in **Project tree** screen.

4. From the **Hardware catalog** screen, select the required **ABB Drive**. Drag and drop to the PLC screen.
5. In the **Slave_1** screen, select **Drive**.

6. From the **General tab**, click **PROFIBUS address**. Select **PROFIBUS_1** in Subnet drop-down menu and select the required value in **Address** drop-down field.
7. In the ABB Drive, click **Not assigned** and select **PLC_1.MP/DP interface_1**.

The selected PLC is assigned to the ABB Drive.
8. From the **Device view**, select **Slave_1** in the **Device selection** drop-down menu.

9. In the **Hardware catalog**, double-click the required **PPO type**. The selected PPO type appears in the Device overview pane.
10. In the **Device overview**, select PPO type and in the menu bar click **Compile**.

11. Click **Download to device**.
12. From the **Extended download to device** window, select **PG/PC interface** and **Connection to subnet** from the drop-down list. The **Load preview** window displays the PLC ready for loading.

```
<table>
<thead>
<tr>
<th>Device</th>
<th>Device type</th>
<th>Type</th>
<th>Address</th>
<th>Subnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLC_1</td>
<td>CPU 317F-2 PN/DP</td>
<td>PNIE</td>
<td>192.168.0.1</td>
<td>PNIE_1</td>
</tr>
<tr>
<td>PLC_1</td>
<td>CPU 317F-2 PN/DP</td>
<td>PROFIBUS</td>
<td>2</td>
<td>PROFIBUS_1</td>
</tr>
</tbody>
</table>
```

13. Select the required PLC device and click **Load**.
14. In the **Load results** screen, select **Start all** and click **Finish**.

The selected ABB drives are added to PLC.
Adding drives to PROFINET

1. Launch **TIA Portal**. In the main screen, click **Open existing project**. Select the existing project and click **Open**.

2. Click **Open the project view** from the **Start** options.
3. In the **Hardware catalog** section, select the required PLC. Drag and drop to the **Network view**.

4. In the **Network view**, select **PLC_1** and double-click **Ethernet**.
5. From the **Network view**, click **General** tab and select **Ethernet addresses**.

6. In the **Ethernet address** screen, click **Add new subnet** to add the subnet. Set **IP Address** in the IP protocol.
After adding PLC and the Ethernet address, TIA Portal window displays PLC connections.

7. From the **Hardware catalog** section, select the required ABB Drive. Drag and drop to the **PLC** screen.
8. In the ABB Drive, click **Not assigned** and select **PLC_1.PROFINET interface_1**.

The selected PLC is assigned to the ABB Drive.

9. Select FENA drive (PROFINET).
10. From the **General** tab, click **Ethernet address**. Select **PN/IE_1** in **Subnet** drop-down menu and set **IP address** in the **IP protocol**.

11. In the **Device view**, right-click **DP_NORM** and select **Assign device name**. **Assign PROFINET device name** window displays.
12. In the **Assign PROFINET device name** window, select the appropriate accessible devices in the network list and click **Assign Name**.
13. From the main menu, click **Online** and select **Download to device**. A *Load preview* window displays.

**Note:** A load preview window starts compiling before downloading a device.

14. In the **Load preview** window, select the required PLC device and click **Load**.
15. In the **Load results** screen, select **Start all** and click **Finish**.
16. In the Project tree, expand **PLC_1 (CPU xxx) > PLC tags** folder and double-click **Default tag table**. Add a new default tag to the table. For example, “cw”.

17. In the Project tree, expand **PLC_1 (CPU xxx) > Watch and force tables** folder and double-click **Watch table_1**. Select the default tag value “cw” in the right pane and click **Monitor all**.
18. To modify watch table value, double-click the value in **Modify value** field and add the new values.
Starting device tool

Start device tool option is used to launch the ABB Drive Manager.

1. In the **Network view**, right-click on Drive and select **Start device tool**.

2. In the **Start device tool** window, select **ABB Drive Management** and click **Start**.
3. If you are activating the application for the first time, the License Activation pop-up window appears. Enter the license activation key and click Activate.

**Note:** If you do not have a license activation key, close the License Activation pop-up window and click OK in the Drive Manager for Simatic pop-up window to run the application in trial version for a specific period of 30 days. Only one ABB Drive Manager can be opened in trial period. To open ABB Drive Manager for a different drive, close the existing ABB Drive Manager.

or

If you already activated the application, ABB Drive Manager window displays.
Further information

Product and service inquiries
Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to www.abb.com/searchchannels.

Product training
For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB manuals
Your comments on our manuals are welcome. Navigate to new.abb.com/drives/manuals-feedback-form.

Document library on the Internet
You can find manuals and other product documents in PDF format on the Internet at www.abb.com/drives/documents.