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JANUARY 2019

# ABB Drives – Software Tool

Drive Manager tool for ABB or Siemens engineering environment



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# Drive Manager Tool for ABB drives

## Agenda

### Drive Manager Tool – Short introduction

- Used with Siemens S7 PLCs
- Used with ABB AC500 PLCs

### Drive Manager Tool

- Parametrization & Monitoring
- New features in version V1.2.0
- Documentation & Installation package

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# Drive Manager Tool

Short introduction

# Drive Manager Software Tool

## Available for ABB and Siemens PLCs

USB, Serial, LAN, WAN, 2G/3G/4G

**PI**  
PROFIBUS • PROFINET

ACS380 ACS480 ACS580 ACS880 DCS880

ACQ810 PROFINET IO  
ACS355 PROFINET IO  
ACS380 PROFINET IO  
ACS480 PROFINET IO  
ACS530 PROFINET IO  
ACS560 PROFINET IO  
ACS580 PROFINET IO  
ACS850 PROFINET IO  
ACS880 PROFINET IO  
ACS880-M04 PROFINET IO  
ACSM1 Motion PROFINET IO  
ACSM1 Speed PROFINET IO  
DCS880 PROFINET IO

Drive Management | Parameters (Filtered) | Monitoring

Configuration

Station name: acsm1-motion-pr  
Drive type: ACSM1 Motion  
Drive firmware: UMF1 1510  
Drive rating: ACSM1-02A5

Drive

Exit1 Stopped  
Speed: 0 rpm

Parameter name | Drive (connected) | Project | Min | Max | Default

6 DRIVE STATUS  
9 ALARMS & FAULTS  
9 SYSTEM INFO  
10 START/STOP  
11 START/STOP MODE  
12 DIGITAL IO  
13 ANALOGUE INPUTS  
15 ANALOGUE OUTPUTS

Monitor Controls  
Active Signal: NONE

Drive overview

Drive Name	Drive Type	Firmware Version	Status	Speed
ACS355_PROFINET_IO	ACS355 PROFINET IO	S040	✖	0
ACS850_PROFINET_IO	ACS850 PROFINET IO	UHF12200	✖	0
ACS880_PROFINET_IO	ACS880 PROFINET IO	AINF0 1.02.0.0	✖	0
ACSM1_Motion_PROFINET_IO	ACSM1 Motion PROFINET IO	UMF11600	✖	0
ACSM1_Speed_PROFINET_IO	ACSM1 Speed PROFINET IO	UMF11600	✖	0
ACS880_PROFINET_IO_1	ACS880 PROFINET IO	AINF0 1.02.0.0	✖	0
ACSM1_Motion_PROFINET_IO_1	ACSM1 Motion PROFINET IO	UMF11600	✖	0
ACS850_PROFINET_IO_1	ACS850 PROFINET IO	UHF12200	✖	0
ACS880_PROFINET_IO_2	ACS880 PROFINET IO	AINF0 1.02.0.0	✖	0
ACSM1_Motion_PROFINET_IO_2	ACSM1 Motion PROFINET IO	UMF11600	✖	0
ACSM1_Motion_PROFINET_IO_3	ACSM1 Motion PROFINET IO	UMF11600	✖	0

– Single access point for all Drives and PLC in network via PROFIBUS DP or PROFINET IO protocols

– Engineering online and offline modes

– Downloading Drive configuration, monitoring of Drive values, Backup of the whole project in one project archive

# Drive Manager for SIMATIC device tool

## Remote connection using third part device

Remote connection using third part device (i.e. Ewon, or Tosibox device)

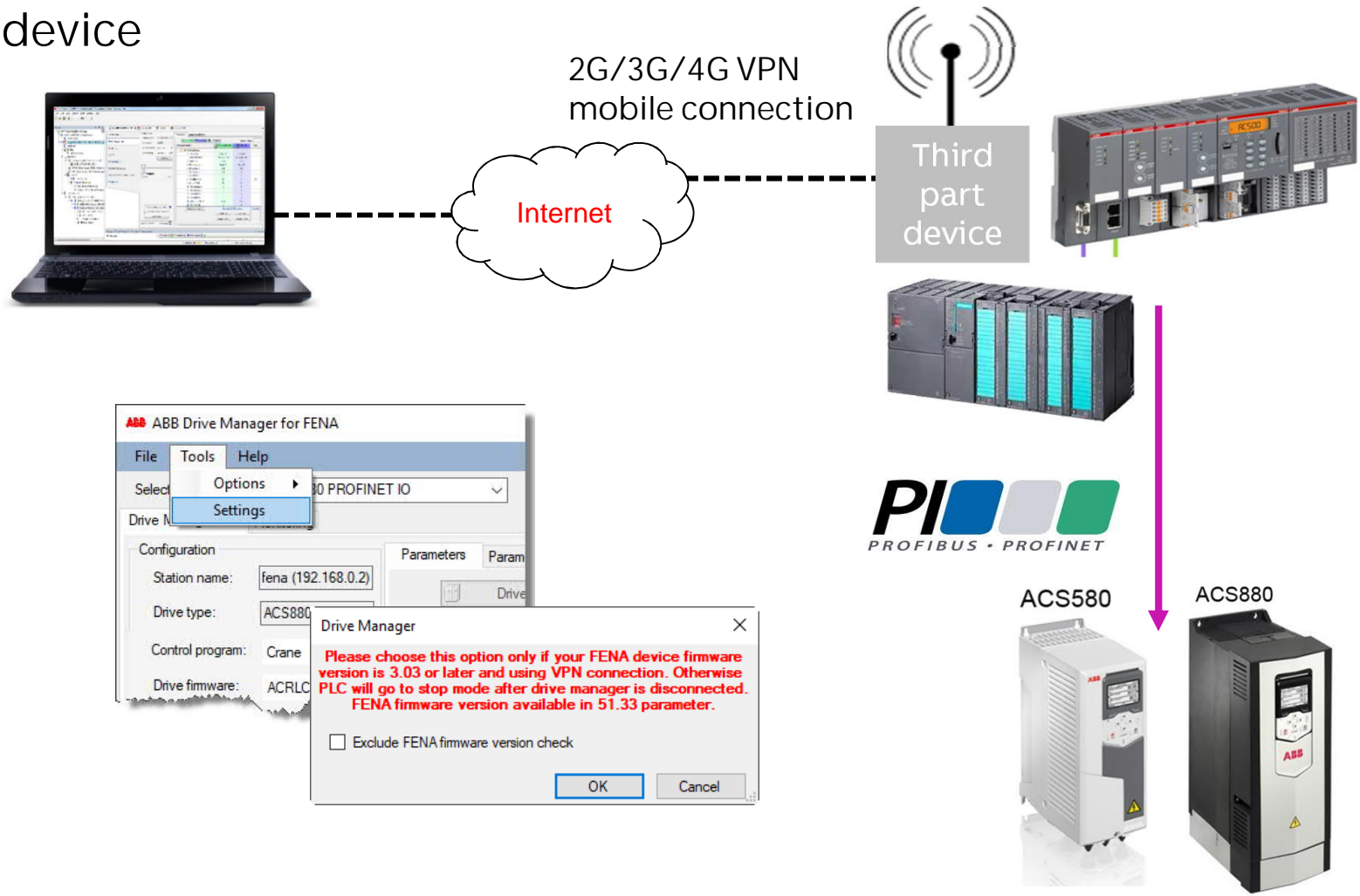
- Remote connection to all PLCs services
  - Programming, Diagnosis, FTP, Webserver...
- Remote connection to drives
  - Commissioning, monitoring, fault tracing

With Siemens PLC in PROFINET

- Drive Manager uses a UDP messages and it opens 2 connections to/from FENA module
- Need to ensure that remote connection or VPN tunnel allows UDP messages (de-activate RPC filtering or like) and that new connections are allowed from FENA

Excluding FENA firmware version check

- When using FENA In VPN connection



# Drive Manager Software Tool

Available for ABB and Siemens PLCs

		Siemens	ABB
	System requirements	Windows 7 (32 + 64 bit) - Windows XP <ul style="list-style-type: none"><li>- STEP 7 Basic V5.4 or later</li><li>- TIA Portal Professional V11 up to V14</li></ul>	Windows 7, 8 and 10 (32 + 64 bit) <ul style="list-style-type: none"><li>- Automation Builder 1.1.0 or later</li></ul>
	Software package	DM4S-01 is a plug-in device tool (need to be installed into the STEP 7 and TIA Portal) License key 3AXD50000012272	Included in Automation Builder "standard" license, free option, no installation
	CPUs	CPU 300 and 400 series with DPV1, 1200 and 1500 series	AC500 V2 CPUs ( Not for AC500-eCo)
	Protocols	PROFIBUS DP, PROFINET IO	PROFIBUS DP, PROFINET IO
	Drives	ACS355, ACS380, ACS480, ACSM1, ACS550*, ACS580, ACQ310, ACS850, ACS880 and DCS880	ACS355, ACS380, ACS480, ACSM1, ACS550, ACS580, ACQ310, ACS850, ACS880 and DCS880
		*only with PROFIBUS	

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# Drive Manager Software Tool

## Efficient Drive engineering (1)

### Engineering Drives and PLCs in one environment

- Inside Automation Builder (ABB), or with TCI common tools calling interface (Siemens)
- Same tool and interface for different ABB drives

### Simplifies work

- No changes needed to the PLC program and can be used independently

### Improves project engineering quality

- Saving drive parameter settings within the PLC project
- Add also the specific application parameters (SPC/Codesys) to standard parameters list

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# Drive Manager Software Tool

## Efficient Drive engineering (2)

### Saves commissioning time cost

- Online and offline configuration of Drives
- Monitoring of Drive actual values
- Graphical monitoring of Drive signals
- Parameter export to/import from the Drive

### Less communication cabling

- Parallel communication with PLC master
- One connection point for all Drives in network - Supervisor (PROFINET)
- Class 2 master (PROFIBUS) connections



# Drive Manager Software Tool

## Comparisons (1)

1. Drive composer entry
2. Drive composer pro
3. Automation Builder
4. DM4S-01 (Siemens)

Features	1. DCE	2. DCP	3. AB	4. DM4S
USB connection to a single drive	Yes	Yes	No	No
USB + panel bus connection to multiple drives	No	Yes	No	No
Ethernet Tool Network connection to multiple drives (dedicated network i.e. "two-wire" or shared with Ethernet-based fieldbus i.e. "one-wire", local connection only)	No	Yes	No	No
Connection over PROFIBUS / PROFINET through PLC to multiple drives (including remote connection)	No	No	Yes	Yes
Drive identification available in system level context	No	No	Yes	Yes
Parameter value integration to an engineering project	No	No	Yes	Yes
Local control of drive	Yes	Yes	No	No
Parameter view and edit online	Yes	Yes	Yes *	Yes *
Parameter values save to file	Yes	Yes	Yes	Yes
Offline parameter file viewing	Yes	Yes	Yes	Yes
Offline parameter file editing	No	Yes *	Yes *	Yes *
Download offline parameter values from file to drive	No	Yes	Yes	Yes
Parameter value printing	Yes	Yes	No	No
Parameter value comparison between drives or offline files	No	Yes	Yes	Yes

\* Excluding some dynamic parameters (e.g. I/O extensions and encoder settings)

\*\* Available through parameters

# Drive Manager Software Tool

## Comparisons (2)

1. Drive composer entry
2. Drive composer pro
3. Automation Builder
4. DM4S-01 (Siemens)

Features	1. DCE	2. DCP	3. AB	4. DM4S
Event logger view (faults, warnings)	Yes	Yes	No **	No **
System info view (FW version, modules, application)	Yes	Yes	No **	No **
Simple monitoring via parameter interface	No	No	Yes	Yes
Basic monitoring up to 8 synchronized signals and 100ms sample rate	Yes	Yes	No	No
Advanced monitoring up to 26 synchronized signals and 1ms sample rate	No	Yes	No	No
Drive backup / restore	Yes	Yes	No	No
Multiple drive backup over network	No	Yes	No	No
Support package creation	Yes	Yes	No	No
Manage data logger (configure, view)	No	Yes	No	No
Configuration of FSO modules	No	Yes	No	No
Control diagrams	No	Yes	No	No
Adaptive programming	Yes	Yes	No	No
Combined PLC / Drive process data management	No	No	Yes	No
User interface in multiple languages	Yes	Yes	Yes	Yes

\* Excluding some dynamic parameters (e.g. I/O extensions and encoder settings)

\*\* Available through parameters

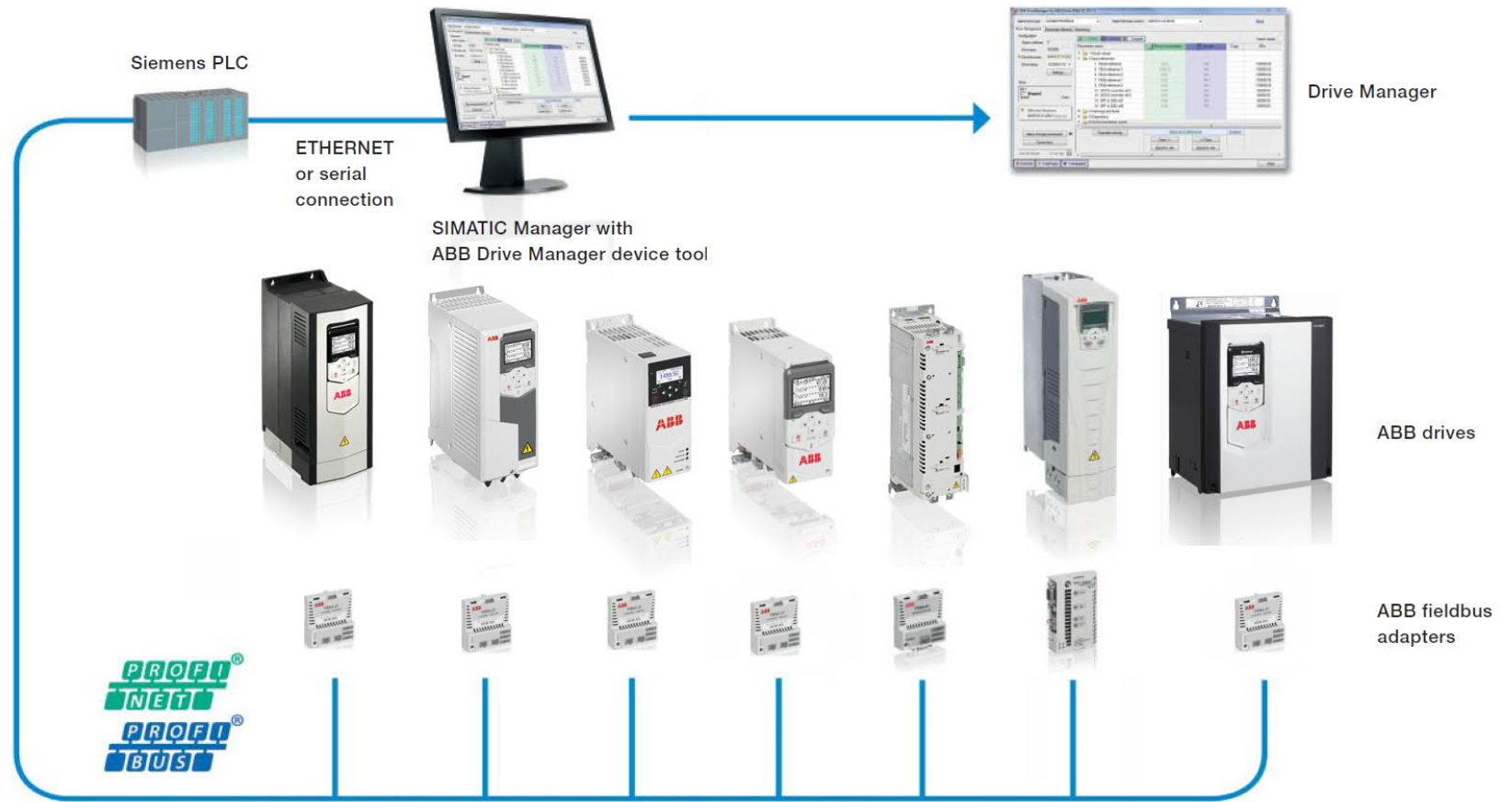
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# ABB Drive Manager Tool

Used with Siemens PLCs

# ABB Drive Manager Tool

## Used with Siemens PLCs



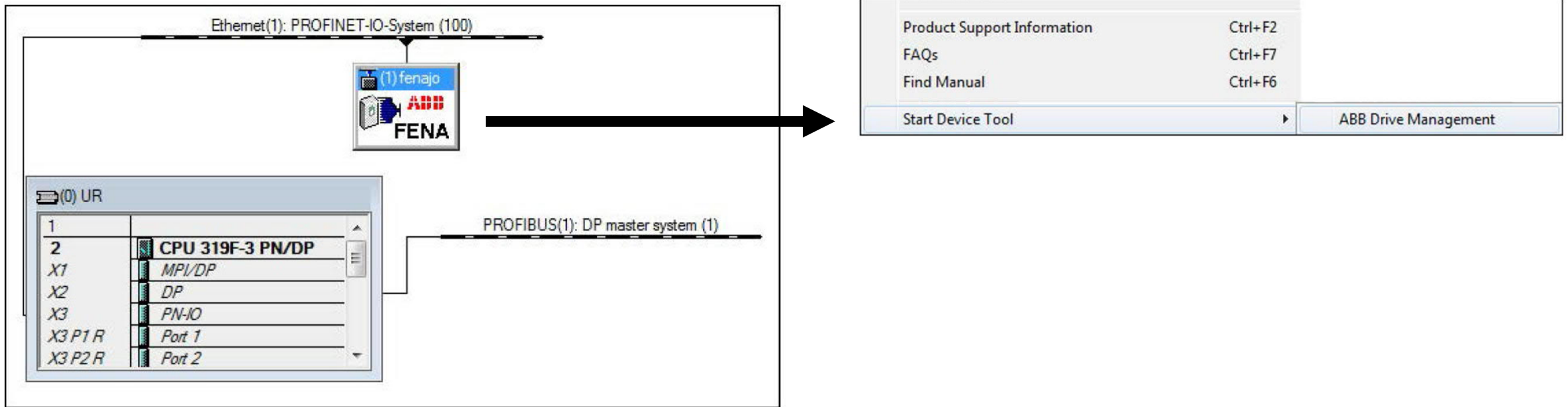
# Drive Manager for SIMATIC device Tool

## Integrated to engineering tool (1) – SIMATIC Manager

Add on tool easily previously installed into the Siemens Engineering tools

It will be started from the network (HW diagram) and Start device tool menu.

It can save the Drive parameter settings within the Step 7 project.



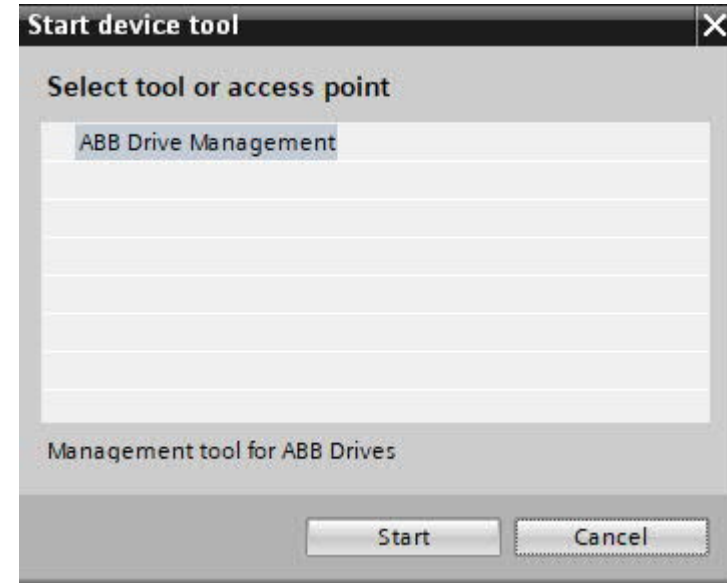
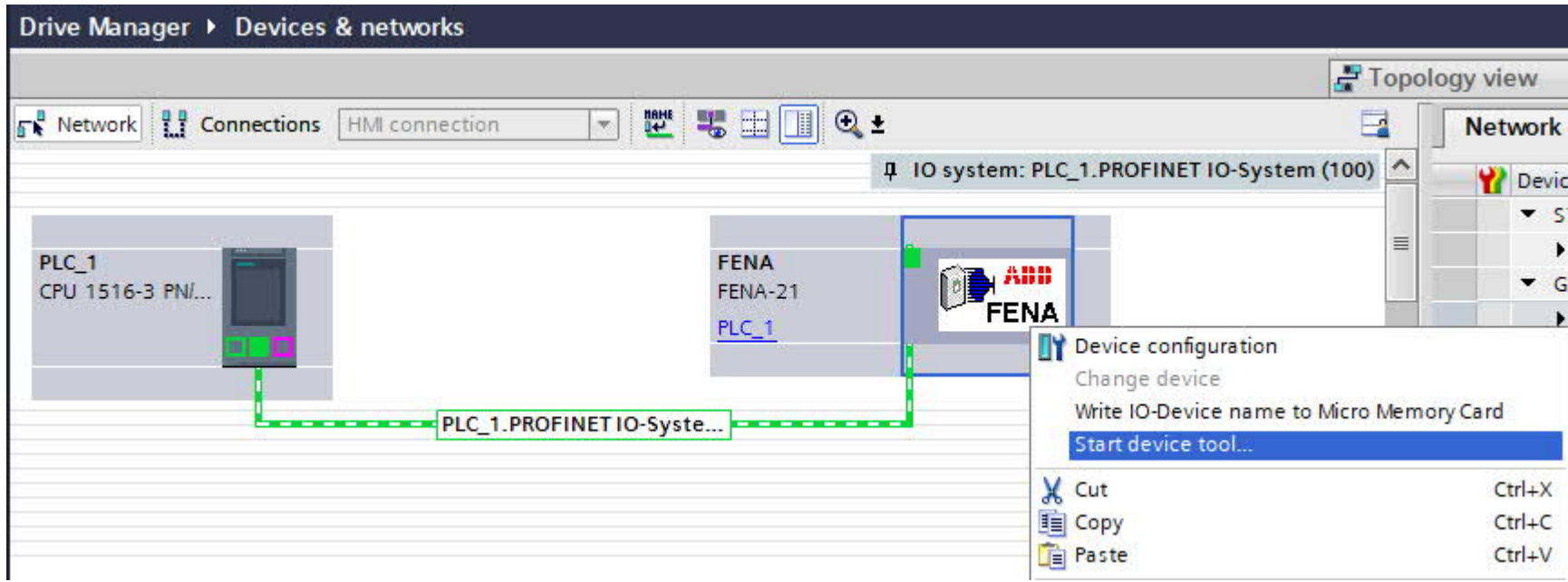
# Drive Manager for SIMATIC device Tool

## Integrated to engineering tool (2) – TIA Portal

Add on tool easily previously installed into the Siemens Engineering tools

It will be started from the Network view tab and Start device tool menu

It can save the Drive parameter settings within the Step 7 project



# Drive Manager for SIMATIC device Tool

ABB Drive Manager window displays

ABB Drive Manager for FENA

File Tools Help

Exit ACS580 PROFINET IO

Drive Management Monitoring

Configuration

Station name: fena (192.168.0.2)

Drive type: ACS580

Drive firmware: ASCK2 02.00.0

Drive rating:

Settings...

Drive

Ext 1

**Faulted**

Different firmware

ASCK2 02.02.00.01 [More info](#)

Parameters Parameters (filtered)

Drive Project Compare

Parameter name	Drive (connected)	Project	Copy	Min	Max	Default
1 Actual values						
3 Input references						
4 Warnings and faults						
5 Diagnostics						
6 Control and status words						
7 System info						
10 Standard DI, RO						
11 Standard DIO, FI, FO						
25 DI6 configuration	?	Digital input	<input type="checkbox"/>			Digital input
38 Freq in 1 actual value	0 Hz	N/A		0	16000	
39 Freq in 1 scaled value	0,000	N/A		-32768,000	32767,000	
42 Freq in 1 min	0 Hz	0 Hz		0	16000	0
43 Freq in 1 max	16000 Hz	16000 Hz		0	16000	16000
44 Freq in 1 at scaled min	0,000	0,000		-32768,000	32767,000	0,000
45 Freq in 1 at scaled max	1500,000	1500,000		-32768,000	32767,000	1500,000
12 Standard AI						
13 Standard AO						

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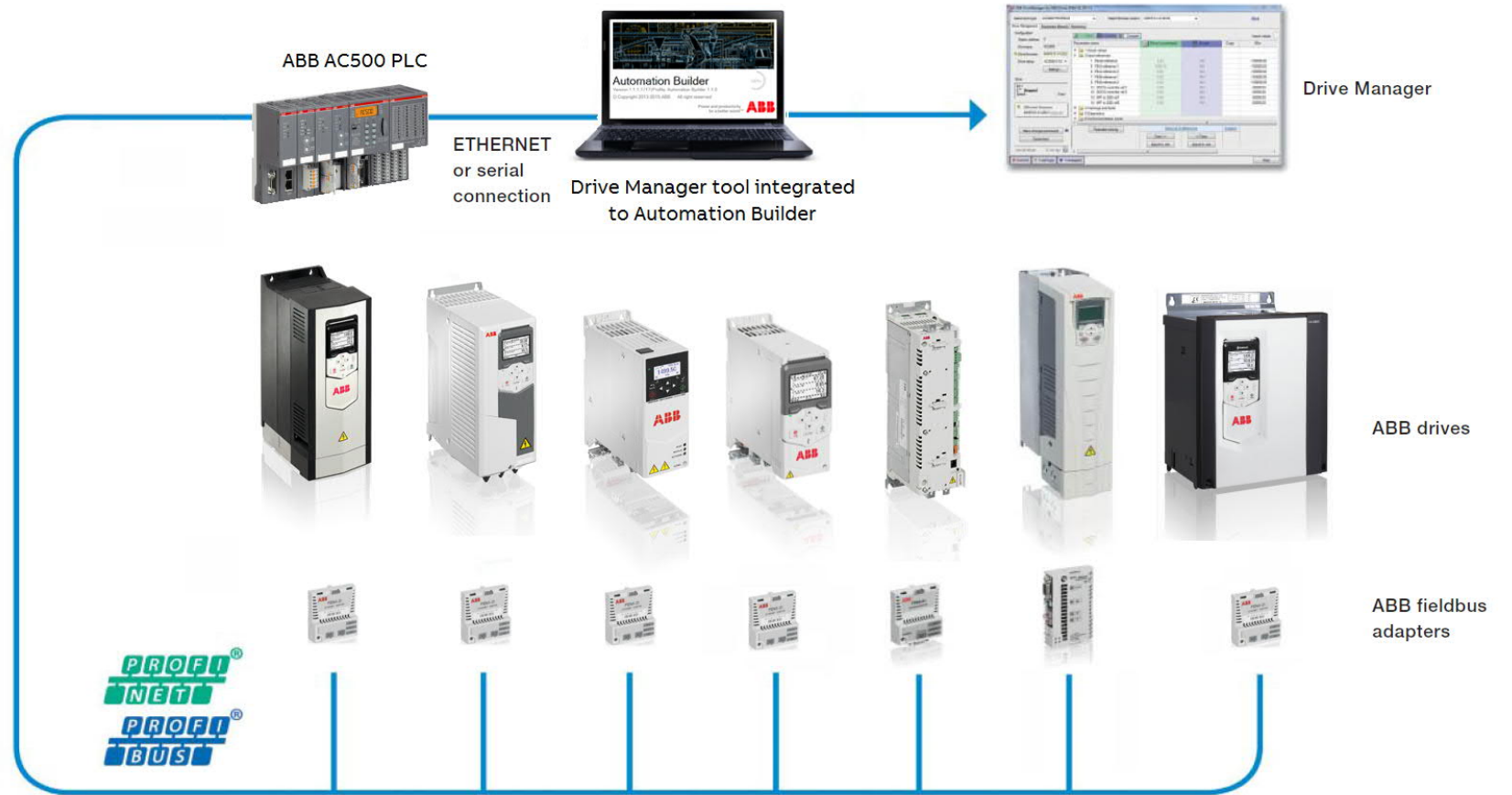
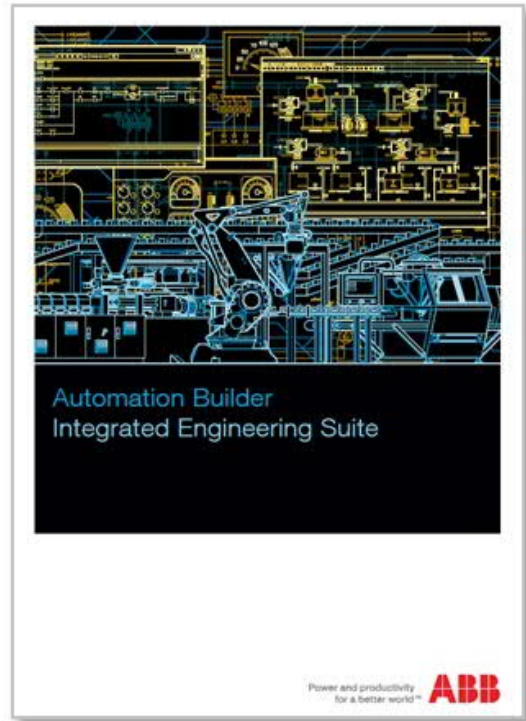
# ABB Drive Manager Tool

Used with ABB AC500 PLCs



# ABB Drive Manager Tool

## Used with ABB AC500 PLCs



<http://new.abb.com/plc/automationbuilder>

# Automation Builder

Complete Automation Solution from ABB

Advanced services  
Packages and solutions  
Common engineering environment

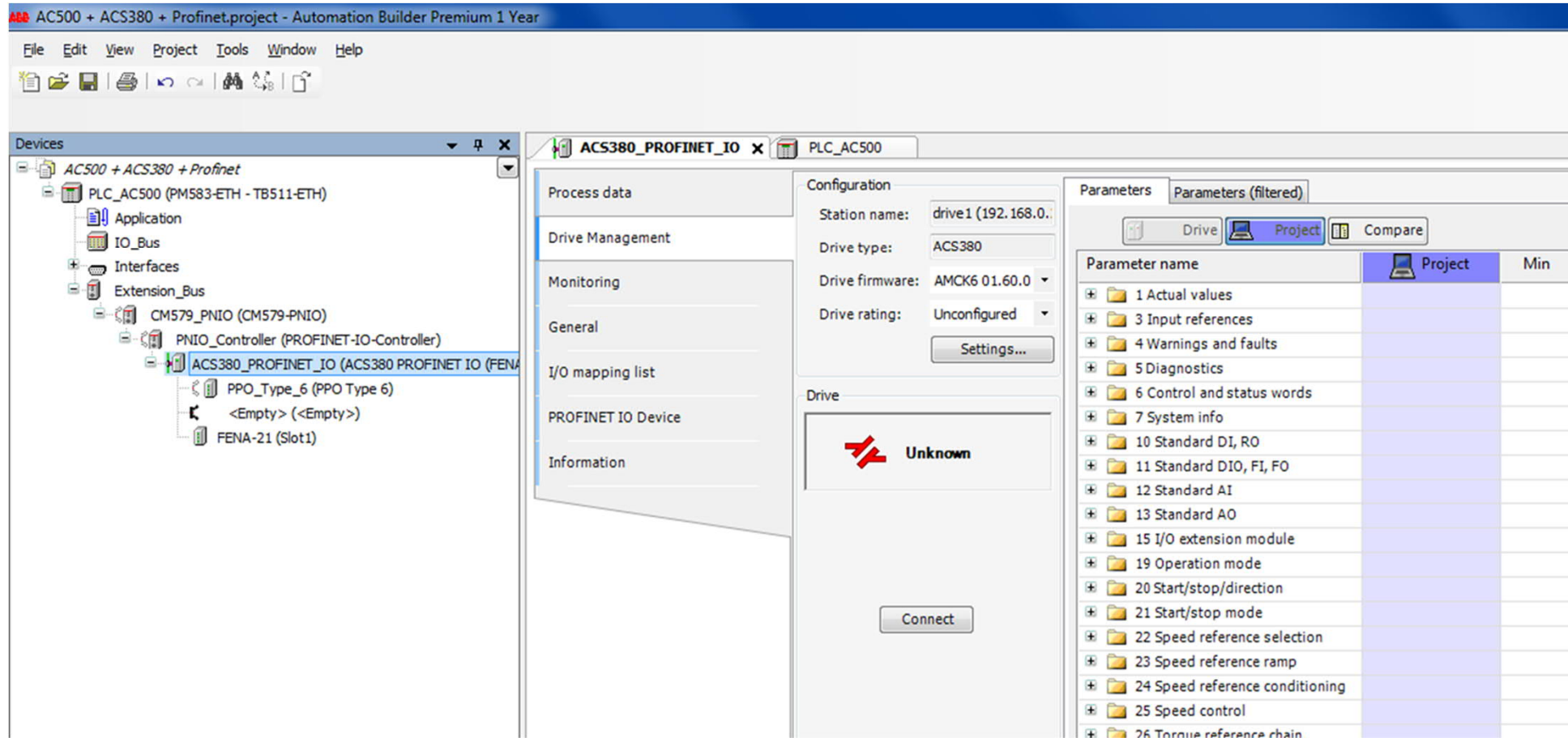
PLC	Drives	HMI	Safety	Motors & Transmission	Motion Control	Robots	3 <sup>rd</sup> party products
							
							

Open Connectivity and Communication



# Automation Builder

## Complete Automation Solution from ABB



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# ABB Drive Manager Tool

## Overview – Parametrization & Monitoring

# ABB Drive Manager Tool

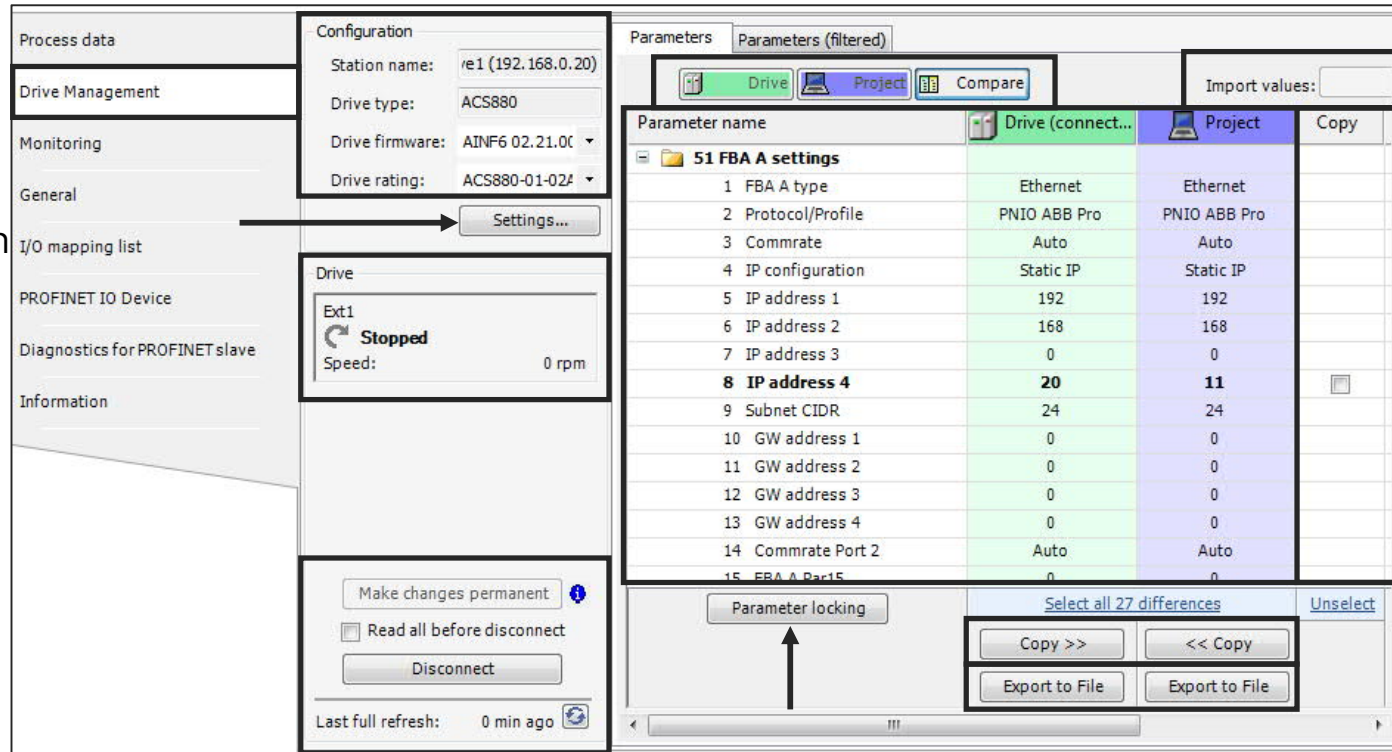
## Drive Parametrization

Monitor Drive firmware version, rating, properties

Drive analog input settings for current/voltage configuration

Monitor Drive status Running, stopped, direction, speed value...

Save parameters Changes are not persistent, need manual action



Drives parameters locking  
Select option for motor or/and fieldbus

Copy parameter(s)  
Allow to write from drive to project or project to drive

Import values  
Write from computer to project (file format .dsp, .dwp...)

Parameters view  
3 option views:

- From drive connected
- Save in project
- Compare between drive & project

Export to file  
Store drive or project parameters in file (format .dsp, .dwp...)

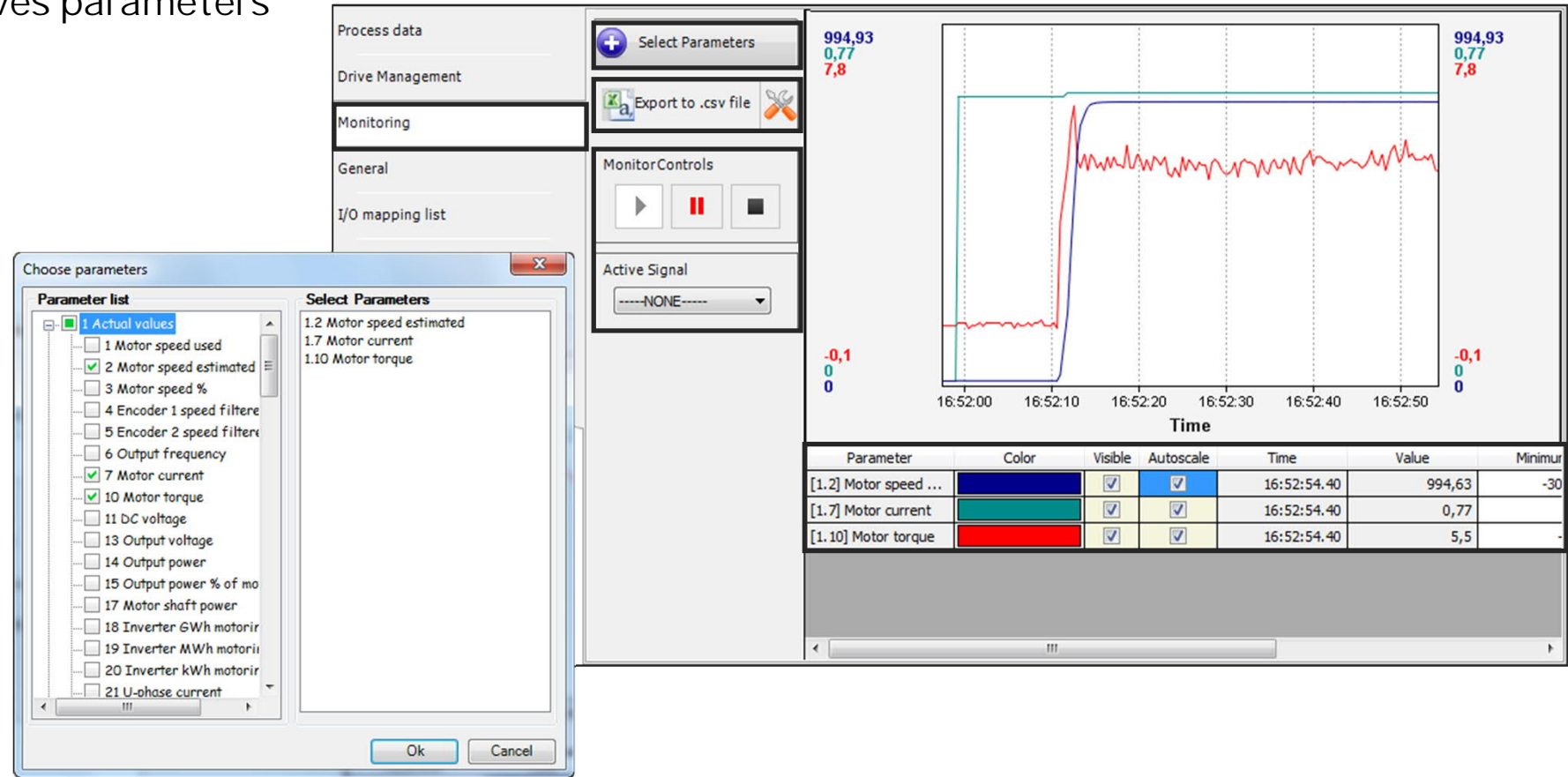


# ABB Drive Manager Tool

## Drives Monitoring

Graphical monitoring of the drives parameters

- Select maximum 12 signals
- Configure properties of signals:
  - Color, visible, auto scale, min, max,
  - Low, High limits
- Start and control monitoring
  - Scan time 250ms
- Save data in CSV format to file



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# ABB Drive Manager Tool

New Features in version V1.2.0

# Drive Manager for SIMATIC device tool

ACS880 crane firmware's are supported

Selection of control program for ACS880 drives

- ACS880 Firmware grouping based on application type
  - Primary Control
  - Crane Control

According to selection of Control Program

- The drive firmware list is updated automatically in the Drive firmware selection
- And the specific parameters groups associated are available for handling



Parameter name	Project	Min	Max	Default
60 DDCS communication				
74 Speed matching				
75 Hoist speed optimization				
76 Conical motor control				
77 Antisway				
1 Antisway enable	Disable			Disable
2 Enable auto on function	Disable			Disable
3 Auto on at maximum pendul...	100,00 m	0,00	100,00	100,00
4 Auto on at minimum pendulu...	0,00 m	0,00	100,00	0,00
5 Antisway enable minimum s...	0,00 rpm	0,00	32000,00	0,00
6 Antisway enable in slowdown	Normal ramp			Normal ramp
7 Sway tracking enable	Enable			Enable
8 Antisway ramp time	3,00 s	0,00	1800,00	3,00
9 Antisway gain	1,00	0,00	5,00	1,00
10 Short rope mode enable	Disable			Disable
11 Antisway timeout	0 s	0	32000	0
20 Pendulum length source 1	D2D			D2D
21 Active length from source	N/A	0,00	2147483,00	
22 Up position swing time	4,00 s	1,00	20,00	4,00
23 Up position length value	20000,00	-32768,00	32768,00	20000,00
24 Down position swing time	4,00 s	1,00	20,00	4,00
25 Down position length value	20000,00	-32768,00	32768,00	20000,00
26 Maximum pendulum length	100,00 m	1,00	100,00	100,00
27 Pendulum arm length	N/A	0,00	2147483,00	
28 Pendulum length source 2	Not selected			Not selected
29 Pendulum length source sel	Source 1			Source 1
30 Load signal source	N/A			All



# Drive Manager for SIMATIC device tool

Auto update selected firmware in Drive Manager while connecting to drive device

## Automatic detection of firmware version

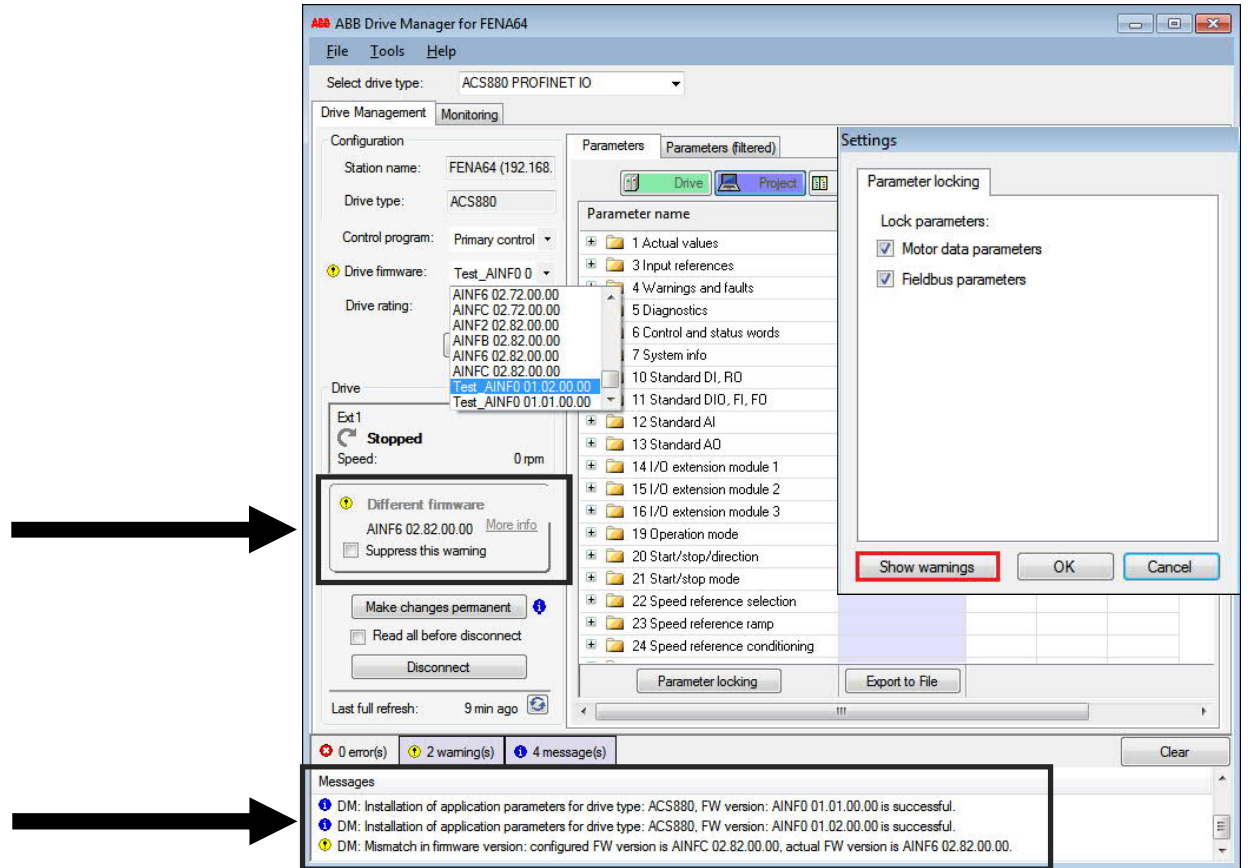
- If the selected drive firmware version is different from the actual drive firmware
  - The connection will be established...
  - and warning message will indicate the difference and the actual drive firmware version

## Auto update selected firmware

- While connecting to drive device, Drive Manager is updated with the actual firmware version, if the configured firmware version is different

## Suppress warning message option

- Firmware mismatch warnings
- Enable again messages by using settings menu



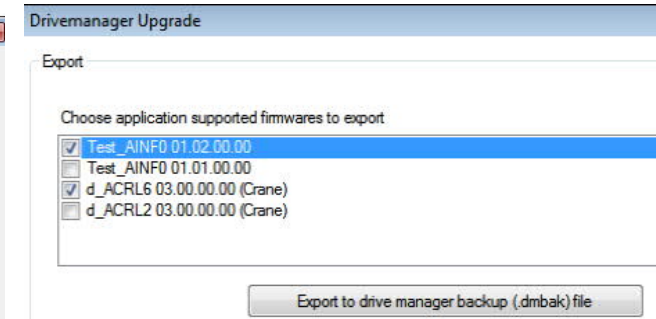
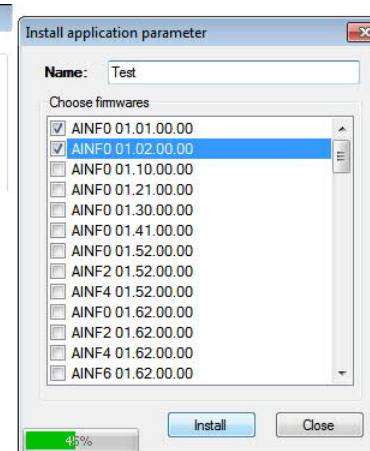
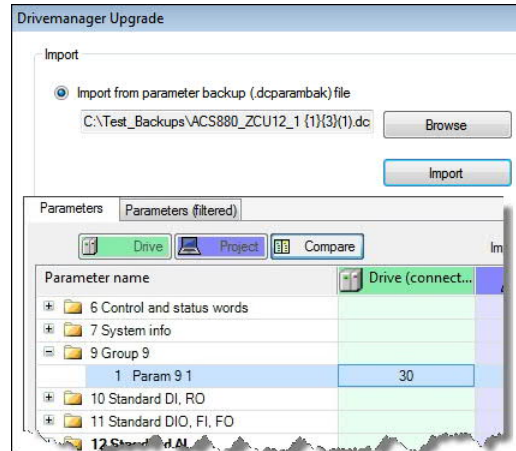
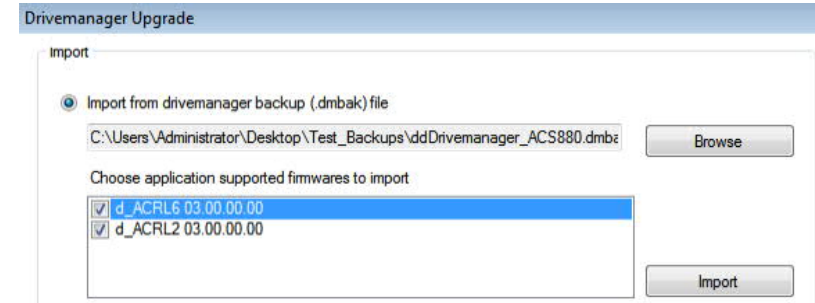
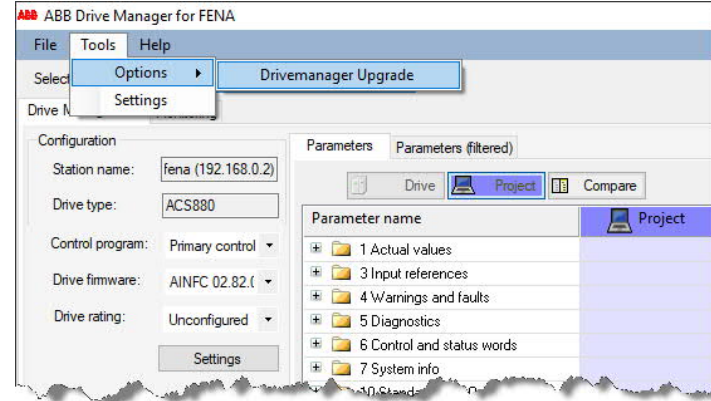
# Drive Manager for SIMATIC device tool

## Import/Export of firmware's to / from Drive Manager tool

### Drive Manager Upgrade functionality

Only supported by ACS880, ACS850, ACSM1

- Import from Drive Manager backup
  - Backup file .dmbak
  - Selection of firmware's supported
- Import from parameter backup
  - Backup file .dcpambak or .dsp
  - Selection of firmware's supported
- Export custom Drive Manager backup
  - Selection of firmware's supported
  - Save in backup file .dmbak



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# ABB Drive Manager Tool

Documentation & Installation package

# Drive Manager for SIMATIC device tool

## Documentation & Installation package & Ordering reference

### Documentation in ABB Library

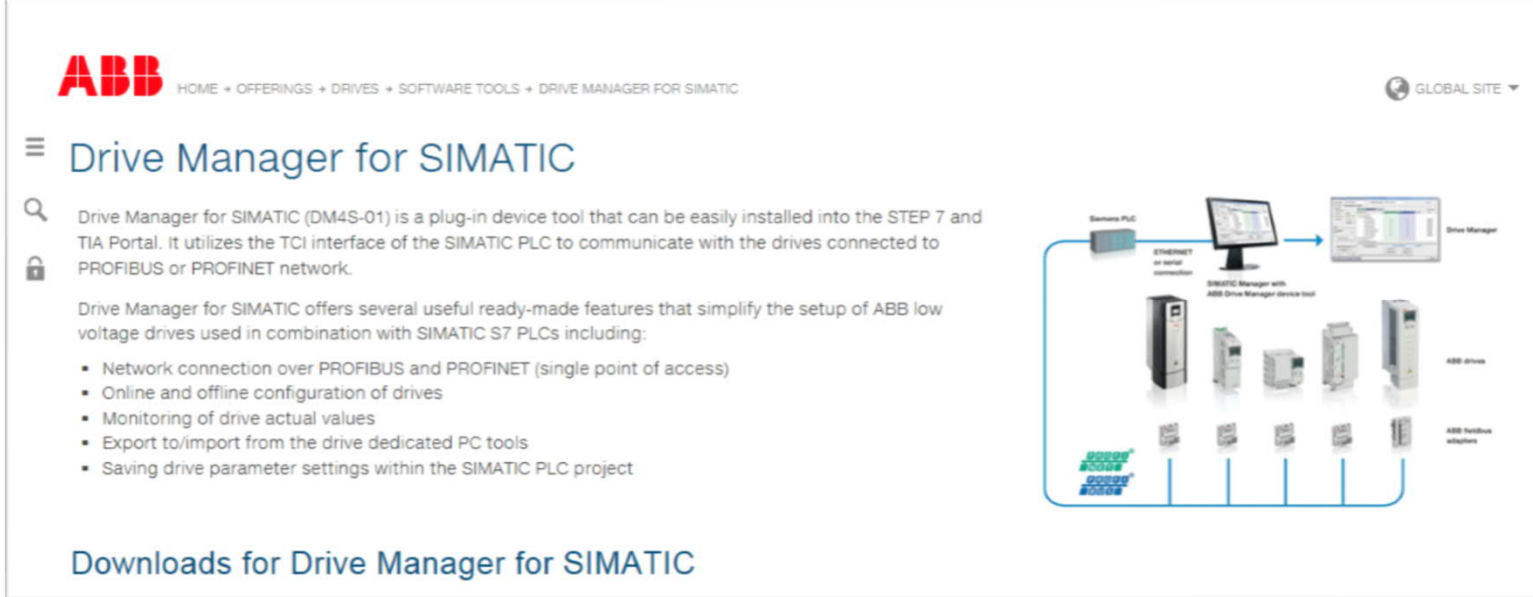
- Quick start-up guide
- Product flyer
- Software updates

### Plastic box containing

- USB stick
- Quick installation guide
- End User License Agreement (EULA)
- License code ( on the back side...)

### Ordering reference

- DM4S-01
- 3AXD5000001227



The screenshot shows the ABB website page for 'Drive Manager for SIMATIC'. The page features the ABB logo, a navigation menu, and a main heading. Below the heading, there is a search icon and a lock icon, followed by a description of the tool and its features. A diagram on the right illustrates the system architecture, showing a SIMATIC PLC connected to a SIMATIC Manager with ABB Drive Manager software tool, which in turn manages ABB drives and ABB feedback systems.

**ABB** HOME + OFFERINGS + DRIVES + SOFTWARE TOOLS + DRIVE MANAGER FOR SIMATIC GLOBAL SITE

### Drive Manager for SIMATIC

Drive Manager for SIMATIC (DM4S-01) is a plug-in device tool that can be easily installed into the STEP 7 and TIA Portal. It utilizes the TCI interface of the SIMATIC PLC to communicate with the drives connected to PROFIBUS or PROFINET network.

Drive Manager for SIMATIC offers several useful ready-made features that simplify the setup of ABB low voltage drives used in combination with SIMATIC S7 PLCs including:

- Network connection over PROFIBUS and PROFINET (single point of access)
- Online and offline configuration of drives
- Monitoring of drive actual values
- Export to/import from the drive dedicated PC tools
- Saving drive parameter settings within the SIMATIC PLC project

**Downloads for Drive Manager for SIMATIC**

Software Version: Drive Manager for SIMATIC update package DM4S 1.2.0

<http://new.abb.com/drives/software-tools/drive-manager-for-simatic>

# Drive Manager for SIMATIC device tool

## Quick Start-up Guide and Online Help

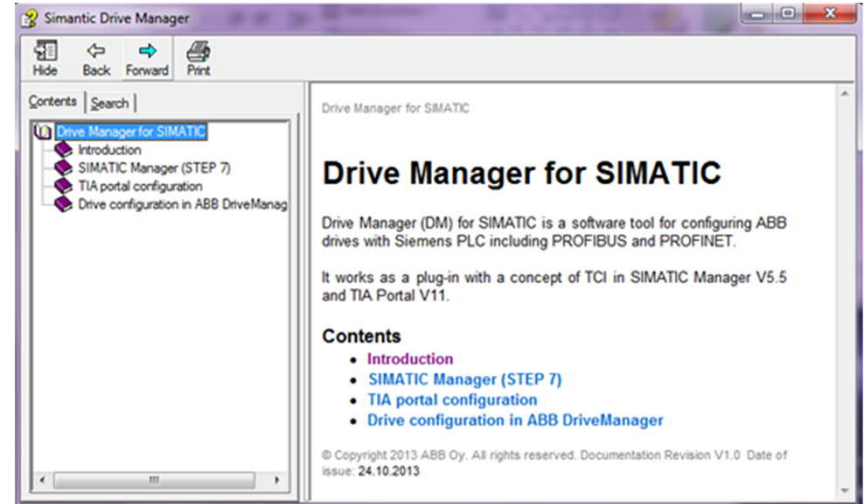
Comprehensive instructions on installation and usage of the tool  
Guides to set-up a project both for TIA Portal and SIMATIC Manager

ABB Industrial drives  
Quick start-up guide  
Drive Manager for SIMATIC



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<https://search.abb.com/library/Download/DocumentID=3AXD50000012364>

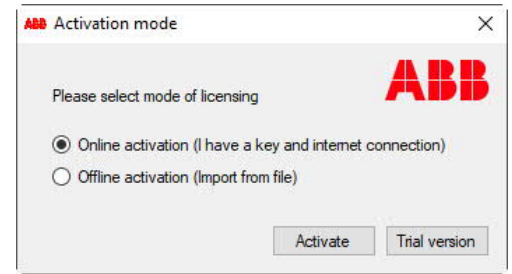
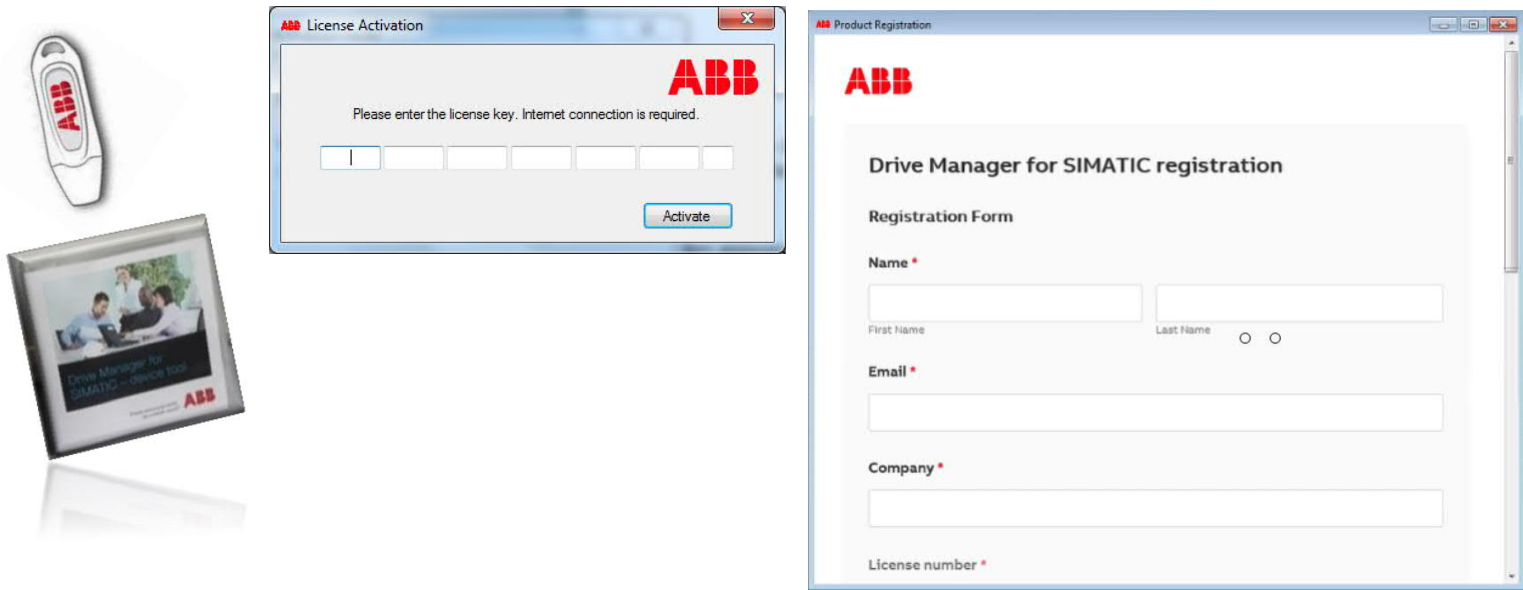
# Drive Manager for SIMATIC device tool

## Installation and registration – New user registration process

Prerequisites: Need already SIMATIC Manager (STEP 7) or TIA Portal installed on computer before to launch installation of ABB Drive manager tool

The application can run in trial version for a specific period of 30 days

Or activate the licensing mechanism for online or offline registration



### New user registration process

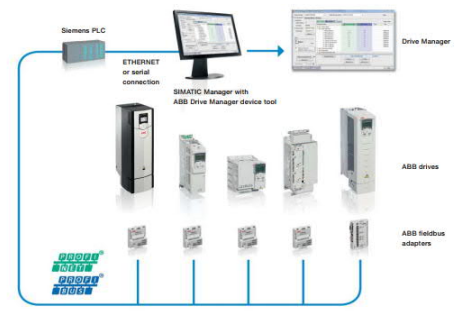
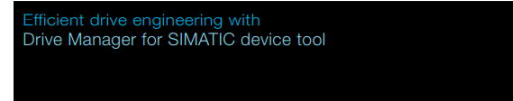
- ABB is fully committed to protecting the privacy and respecting the rights to control how the personal data is used
- An information during installation explain why and how ABB collects and uses the personal data and the rights that user have in relation to that data



# Drive Manager for SIMATIC device tool

## Product Flyer (Brochure)

Document available in ABB Library:



**Drive Manager for SIMATIC (DM45-01)** offers machine builders and system integrators a device tool to configure and monitor ABB's low voltage AC drives in the SIMATIC STEP 7 engineering environment. Engineering drives and PLCs in one environment simplifies work, and saves commissioning time and cost.

Drive Manager for SIMATIC is a plug-in device tool that can be easily installed into the STEP 7 and TIA Portal. It utilizes the TCI interface of the SIMATIC PLC to communicate with the drives connected to PROFIBUS or PROFINET network.

The setup enables engineering ABB's low voltage AC drives from the SIMATIC environment without the need for a separate ABB specific PC tool. Drive Manager is also available with ABB's ACS500 PLC and included in the Automation Builder engineering environment.

**Function block library**  
ABB offers a function block library to enable easy integration of ABB low voltage drives in the SIMATIC S7 environment. The function block library is available from the ABB website (document number: 3AUJ0000090358). The ZIP package includes manuals, examples and GSD files that can be imported to the SIMATIC S7 environment.

**Ready-made features to your advantage**  
Drive Manager for SIMATIC offers several useful features that simplify the setup of ABB low voltage drives used in combination with SIMATIC S7 PLCs including:

- Network connection over PROFIBUS and PROFINET (single point of access)
- Online and offline configuration of drives
- Monitoring of drive actual values
- Export to/import from the drive-dedicated PC tools
- Saving drive parameter settings within the SIMATIC PLC project

Power and productivity for a better world™ **ABB**

**System requirements**

- Windows 7, 32 + 64 bit
- STEP 7 V5.5 SP3 or later
- TIA Portal version 11.0 SP2 or later
- Windows XP
- STEP 7 V5.4 SP5

**Supported fieldbus networks**

- PROFIBUS
- PROFINET

**Supported CPUs**

- CPU 300 series with DP-V1
- CPU 400 series with DP-V1

**Supported drive products**

- ACS355
- ACS550
- ACSM1
- ACS880
- ACQ8 10
- ACS550

**Language support**

- English and German

**Delivery includes**

- USB stick with the software and quick startup guide
- Quick installation guide
- License key

For more information please contact your local ABB representative or visit:

[www.abb.com/drives](http://www.abb.com/drives)  
[www.abb.com/drivespartners](http://www.abb.com/drivespartners)

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<http://new.abb.com/drives>

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