ABB Drives - Software Tool

Drive Manager tool for ABB or Siemens engineering environment
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
Drive Manager Tool
Short introduction
Drive Manager Software Tool

Available for ABB and Siemens PLCs

- **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
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

<table>
<thead>
<tr>
<th></th>
<th>Siemens</th>
<th>ABB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System requirements</strong></td>
<td>Windows 7 (32 + 64 bit) - Windows XP - STEP 7 Basic V5.4 or later - TIA Portal Professional V11 up to V14</td>
<td>Windows 7, 8 and 10 (32 + 64 bit) - Automation Builder 11.0 or later</td>
</tr>
<tr>
<td><strong>Software package</strong></td>
<td>DM4S-01 is a plug-in device tool (need to be installed into the STEP 7 and TIA Portal) License key 3AXD50000012272</td>
<td>Included in Automation Builder “standard” license, free option, no installation</td>
</tr>
<tr>
<td><strong>CPUs</strong></td>
<td>CPU 300 and 400 series with DPV1, 1200 and 1500 series</td>
<td>AC500 V2 CPUs (Not for AC500-eCo)</td>
</tr>
<tr>
<td><strong>Protocols</strong></td>
<td>PROFIBUS DP, PROFINET IO</td>
<td>PROFIBUS DP, PROFINET IO</td>
</tr>
<tr>
<td><strong>Drives</strong></td>
<td>ACS355, ACS380, ACS480, AC5M1, ACS550*, ACS580, ACQ310, ACS850, ACS880 and DCS880</td>
<td>ACS355, ACS380, ACS480, AC5M1, ACS550, ACS580, ACQ310, ACS850, ACS880 and DCS880</td>
</tr>
</tbody>
</table>

*only with PROFIBUS
**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
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)

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

* 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)

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

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

** Available through parameters
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

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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  3rd party products

Open Connectivity and Communication: Modbus, DeviceNet, CANopen, Profinet, EtherCAT, Powerlink.
Automation Builder

Complete Automation Solution from ABB
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
ABB Drive Manager Tool
New Features in version V1.2.0
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
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 .dcparambak or .dsp
  - Selection of firmware's supported

- **Export** custom Drive Manager backup
  - Selection of firmware's supported
  - Save in backup file .dmbak
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

Software Version: Drive Manager for SIMATIC update package DM4S 1.2.0

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

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

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**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:
