



Actuator controls

AUMATIC AC 01.2/ACExC 01.2

Profibus DP-V1

EDD (Electronic Device Description)

for Simatic PDM (Process Device Manager)

Purpose of the document:

This document describes the EDD handling for actuator controls AC 01.2/ACExC 01.2 on the basis of Simatic PDM.

Reference documents:

- Operation instructions (Assembly, operation, commissioning) for actuator
- Manual (Operation and setting) AUMATIC AC 01.2 Profibus DP
- Manual (Device integration Fieldbus) AUMATIC AC 01.2 Profibus DP

Reference documents can be downloaded from the Internet (www.auma.com) or ordered directly from AUMA (refer to <Addresses>).

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1. Introduction

Process data DP-V0 Extended functions DP- V1

The field devices used in the industrial process automation today have, aside from the compulsory main functions, a variety of more detailed application functions to adapt their performance optimally to the process requirements. In addition to this, most field devices have even more functions and methods to diagnose their own field device status. When using open, internationally standardised fieldbus systems such as Profibus DP-V1, access to these device-specific application and diagnostic functions is made through the same fieldbus cables also used for process data exchange between field device and control system. Beside cyclic process data exchange via Profibus DP-V0, an additional acyclic communication via Profibus DP-V1 can hereby be established, without additional wiring. It serves for adapting parameters of application functions or reading status and diagnostic data during operation.

By means of the optional acyclic Profibus DP-V1 services, AUMA field devices offer access to

- Status and diagnostic data in compliance with NAMUR NE 107
- Parameters of application functions to adapt to process requirements
- Data within the electronic device ID for detailed device identification
- Operational data for preventive maintenance

Furthermore, detailed device status information can be transferred for diagnostics.

Access

Device access to all connected field devices is thereby made via a central operation and monitoring software, located e.g. in the control room.

Simatic PDM

In Siemens control systems Simatic PDM (Process Device Manager) as operation and monitoring software is generally used for all connected field devices. Such tools are also called EDD interpreters as they interpret and visualise the device-specific EDD.

Device integration with EDD

An EDD (Electronic Device Description) of the field device is a device-specific electronic description required to integrate a field device of a manufacturer into the Simatic PDM operation and monitoring software. EDDs as free download for AUMA field devices are available on our website: **www.auma.com**.

With the EDD, the user does no longer have to worry about the details regarding Profibus DP-V1 communication, but can use device-specific application and diagnostic functions immediately after installation and assignment of the device address.

2. Installation

2.1 AUMA scope of delivery

Installation package **Electronic Device Description (EDD) for AUMATIC AC 01.2 /ACExC 01.2**, for free download from our website www.auma.com, with the following content:

AC2EDD.ddl	Electronic device description.
AC2EDD.dct	Electronic text dictionary of the device description.
AUMATIC.bmp	BMP graphics for representation of AUMA actuators within the Simatic Step7 user interface
AC2EDD.devices	Devices file for installing AUMA actuators with AUMATIC actuator controls in Simatic PDM.
Documentation	<p>hb_ac2_profibus_v1_edd_geraeteintegration_de.pdf Manual AUMATIC device description with EDD for Simatic PDM in German.</p> <p>hb_ac2_profibus_v1_edd_geraeteintegration_en.pdf Manual AUMATIC device description with EDD for Simatic PDM in English.</p>

2.2 Summary of AC2EDD functions

The AUMA EDD provides the following functions:

- Reading and writing of actuator parameters.
- Reading and writing the electronic device ID for detailed identification of the actuator.
- Reading and clearing the operating data for diagnosis and preventive maintenance.
- Online diagnostics regarding current actuator and controls status.

2.3 Prerequisites for device integration with AC2EDD

The following programs/hardware must be available on PC/laptop:

- Simatic PDM V6.x or V7.x (operation and monitoring software)
- Interface card, e.g. Siemens PCMCIA CP5511 or CP5512

2.4 Software AC2EDD installation

Special installation of the AC2EDD is not required.

Just copy the AC2EDD installation package on the PC/laptop and then integrate into the device catalog of the SIMATIC manager (please refer to the description below).

3. Projecting (add AUMA actuator to Simatic PDM)

Information For detailed information as well as instructions and manuals on Simatic PDM, please refer to the Siemens websites. The following description is based on Simatic PDM V6.0.

3.1 Simatic PDM: start

1. Start the Simatic manager:
 - by double-clicking the desired icon on the desktop
 - or via the Windows start menu.

Information: The Simatic manager is the graphic user interface for Simatic users to manage projects.

2. Open existing project or create new project:
 - existing project via menu command **File > Open**
 - new project via menu command **File > New**

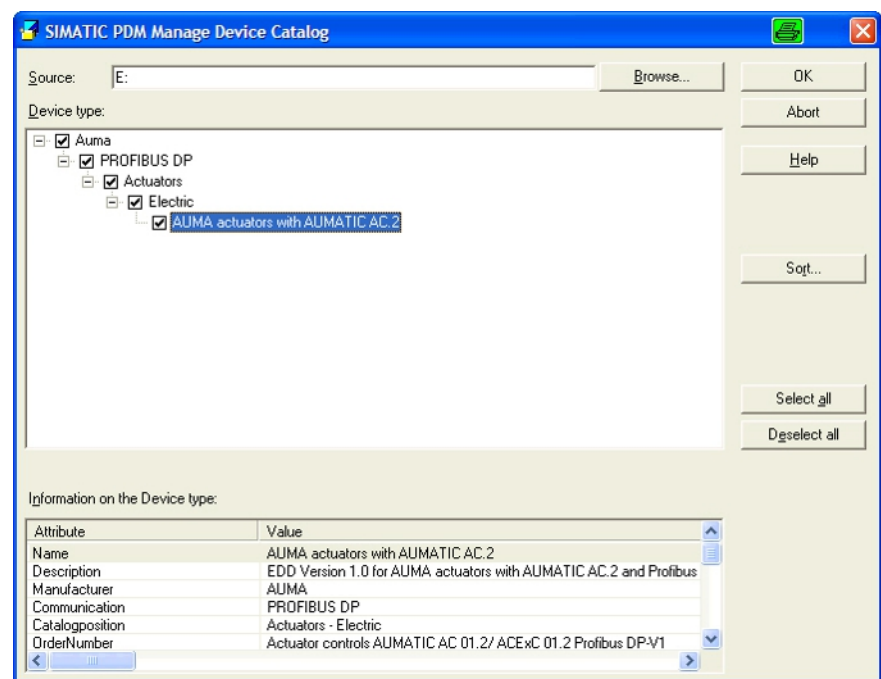
Information: Please refer to the Online help or to Simatic PDM manual for further descriptions and information regarding the creation of a new project.

3.2 New device type (AUMA actuator): integrate into the device catalog

The device catalog is used to import or newly assign devices. Only proceed with this section if the device catalog of Simatic manager does not yet comprise the AUMA EDD.

1. Open device catalog
 - Use menu command **Options > Simatic PDM > Manage Device Catalog...**
2. Select the folder containing the AC2EDD.devices file:
 - Click **Browse...** button and search for AC2EDD.devices file.
- ➔ The selected directory is shown in the **Source:** field.
3. Select device(s) by checking the respective box.

Figure 1: Select device(s)

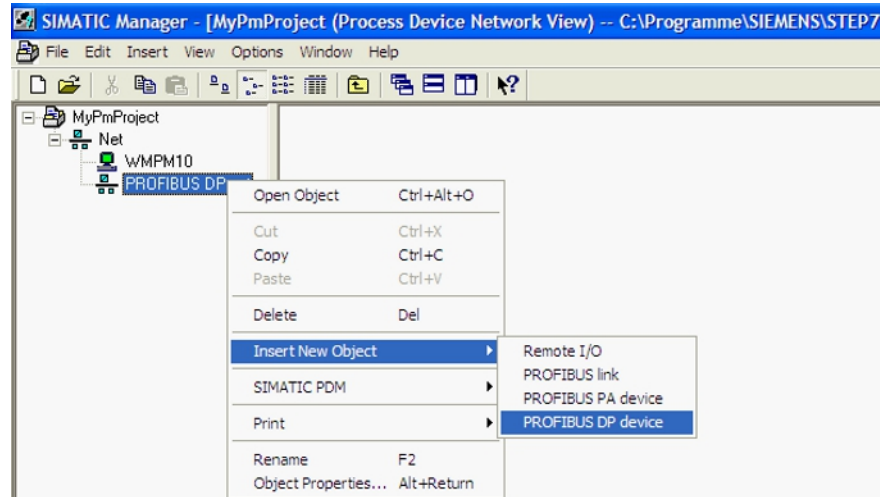


4. Click **OK** button to accept selection.

3.3 Insert AUMA actuator (new device) into a project

1. Mark network in the tree structure (e.g. "PROFIBUS DP network") and select a device suiting the network by clicking **Insert New Object** (here **PROFIBUS DP device**) with the right mouse button.

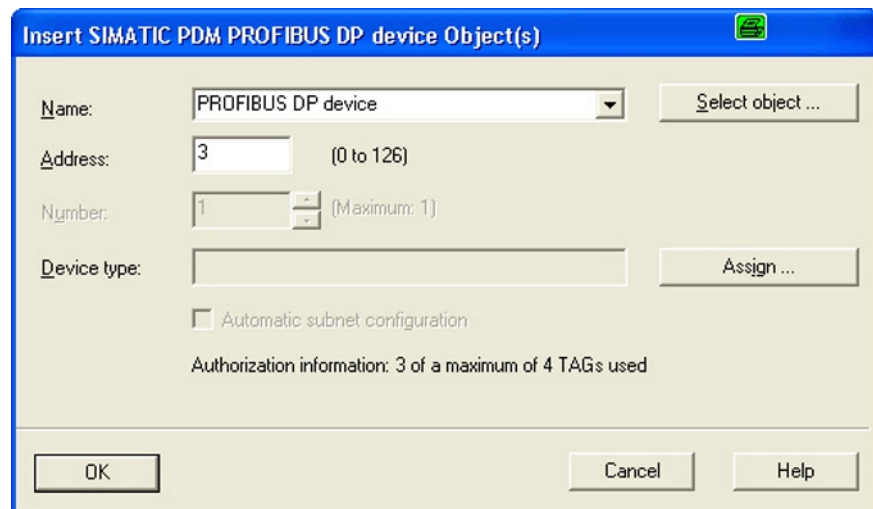
Figure 2: Select new device



2. Enter device address of connected AUMA actuator into the **Address** field.
Information: You may request the device address at the AUMATIC local controls display as follows:

Customer settings M0041
 Profibus DP M0016
 DP1 slave address M0098
 DP2 slave address M0295

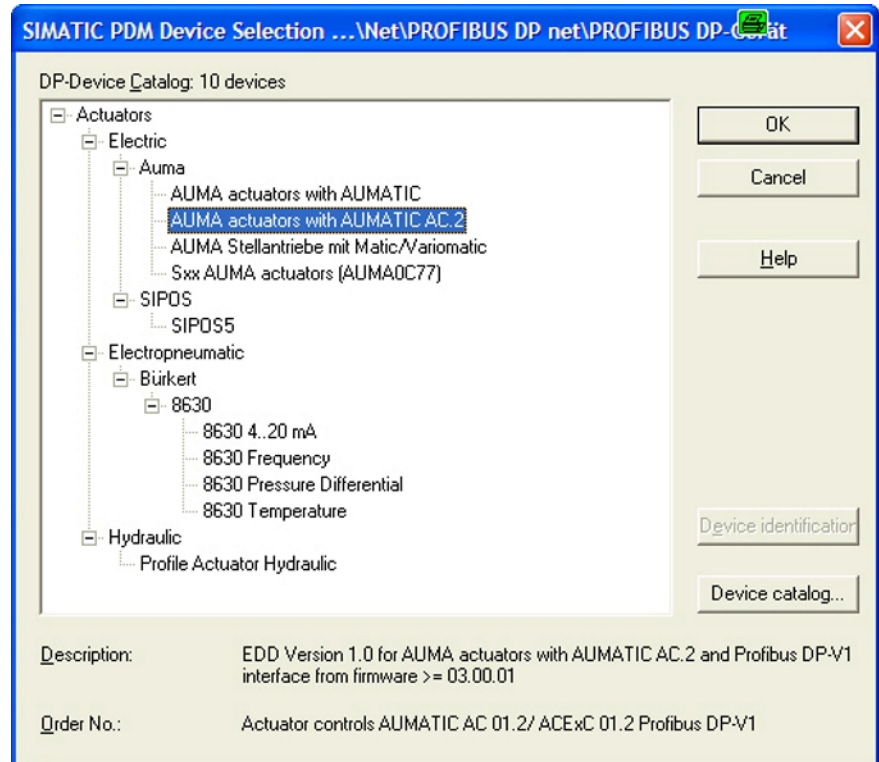
Figure 3: Enter device address



- ➔ The device address may be subsequently modified using the **Object properties** dialog box in the **Connection** tab.

3. Select "AUMA actuators with AUMATIC AC2" from device catalog using the **Assign...** button.

Figure 4: Select device



4. Confirm entry with **OK**.

4. Working with Simatic PDM

This section is a basic help for the initial steps to start Simatic PDM. The manual "The Process Device Manager" by Siemens supplies a comprehensive overview on programming with SIMATIC PDM.

4.1 Simatic PDM: start

Start Simatic PDM, either by:

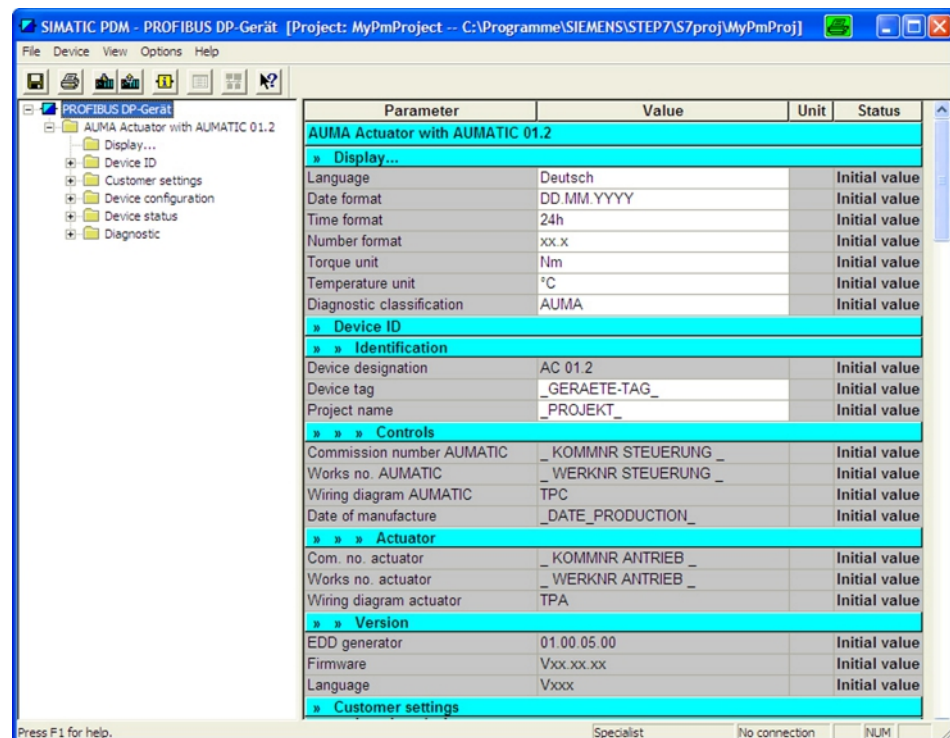
- Double-click on the device icon of the AUMA actuator, or
- Highlight object (AUMA actuator) and select **Open object** using the right mouse button.

Simatic PDM distinguishes two user groups: Maintenance engineer and Specialist. There are no functional differences with reference to the EDD device description.

After the Maintenance engineer/Specialist selection, the general default settings of the AUMA actuator are displayed.

Before reading data from or writing data to the AUMA actuator, you have to establish a connection to the device. Please refer to chapter <AUMA actuator data: load from device/store to device>.

Figure 5: Default setting



Information If the device has never been used in combination with Simatic PDM, the Simatic PDM device catalog is displayed (see above).

5. Functions for data communication with Simatic DTM

5.1 AUMA actuator data: load from device/store to device

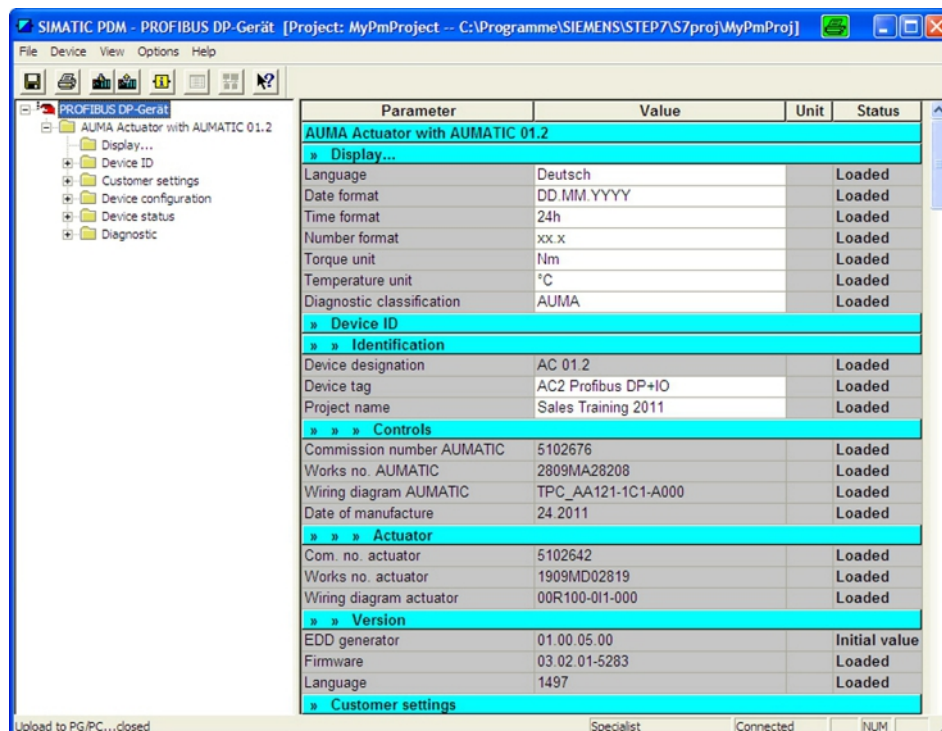
Before reading data from or writing data to the AUMA actuator, you have to establish a connection to the device.

Reading data from the AUMA actuator

→ Click the following menu **Device > Upload to PG/PC...**, or click the respective icon in the toolbar.

The data displayed on your screen change to the actual device data. The status changes from “No connection” to “Connected” in the status bar.

Figure 6: Reading/storing data



Some information or parameters of the AUMA actuator are combined with optional functions and features and can only be read via Profibus DP-V1 and displayed in Simatic PDM if these functions are available in the actuator.

Consequently, we recommend that prior to a writing process, the available configuration of the AUMA actuator is read out using a single reading process via Profibus DP-V1. Thus the currently available actuator parameter options are also provided for Simatic PDM.

Store data to AUMA actuator

→ Click the following menu **Device > Download to Device...**, or click the respective icon in the toolbar.

The data available in the device is overwritten by the modified data.

5.2 Changing parameter values

All parameters with a white background can be changed and transmitted to the AUMA actuator subsequently.

For manually changed values, the status changes from “Initial val” or “Loaded” to “Changed”.

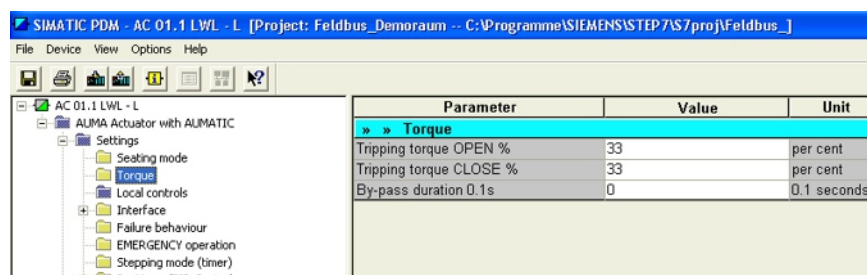
Information Only parameter values within the stated minimum and maximum values are permitted. The permissible minimum and maximum values can be displayed via the context menu (right mouse button) after a parameter has been selected. Additionally, the default values are also displayed in this context menu and a short explanation for each parameter can be found under "Help".

5.3 Special features of parameterization

Parameters for setting intermediate positions

Setting of tripping torques in directions OPEN or direction CLOSE is only available in combination with Non-intrusive actuators (Tripping torque OPEN or Tripping torque CLOSE parameters).

Figure 7: Parameters for setting intermediate positions

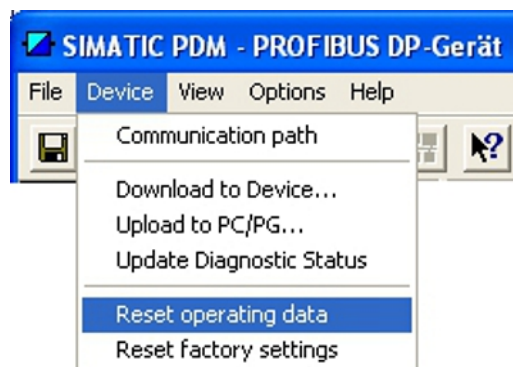


Parameter	Value	Unit
» » Torque		
Tripping torque OPEN %	33	per cent
Tripping torque CLOSE %	33	per cent
By-pass duration 0.1 s	0	0.1 seconds

5.4 Additional functions

The **Device** menu in the toolbar offers access to further functions.

Figure 8: Device



5.4.1 Reset operating data

The **Reset operating data** command is used to reset the AUMA actuator operating data.

5.4.2 Reset factory settings

The **Reset factory settings** command resets the current settings to factory settings.

Information The command also reboots AUMA actuator controls.

6. Appendix: Literature

- Specification for PROFIBUS Device Description and Device Integration, Volume 2: EDDL Specification, Release 1/2001, Version: 1.1 Order No. 2.152, www.profibus.com
- EDDL Electronic Device Description Language, Oldenbourg Verlag ISBN 3-486-27034-6
- AUMA reference documents

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