



Actuators

SGC/SVC

Profibus DP-V1

EDD (Electronic Device Description)

for Simatic PDM (Process Device Manager)

**Purpose of the document:**

This document describes the EDD handling for actuators SGC(R)/SVC(R) on the basis of Simatic PDM.

**Reference documents:**

- Operation instructions (Assembly, operation, commissioning) for actuator
- Manual (Device integration Fieldbus) Actuators SGC(R)/SVC(R)/SGM(R)/SVM(R) Profibus DP

Reference documents can be downloaded from the Internet ([www.auma.com](http://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](http://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 AUMA actuators SGC/SVC**, for free download from our website [www.auma.com](http://www.auma.com), with the following content:

<b>SxCEDD.ddl</b>	Electronic device description.
<b>SxCEDD.dct</b>	Electronic text dictionary of the device description.
<b>SxC.bmp</b>	BMP graphics for representation of AUMA actuators within the Simatic Step7 user interface
<b>SxCEDD.devices</b>	Devices file for installing AUMA actuators SGC/SVC in Simatic PDM.
<b>Documentation</b>	<p><b>hb_sgc1_svc1_profibus_v1_edd_geraeteintegration_de.pdf</b> Manual SGC/SVC device description with EDD for Simatic PDM in German.</p> <p><b>hb_sgc1_svc1_profibus_v1_edd_geraeteintegration_en.pdf</b> Manual SGC/SVC device description with EDD for Simatic PDM in English.</p>

### 2.2 Summary of SxCEDD 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 SxCEDD

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 SxCEDD installation

Special installation of the SxCEDD is not required.

Just copy the SxCEDD 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**

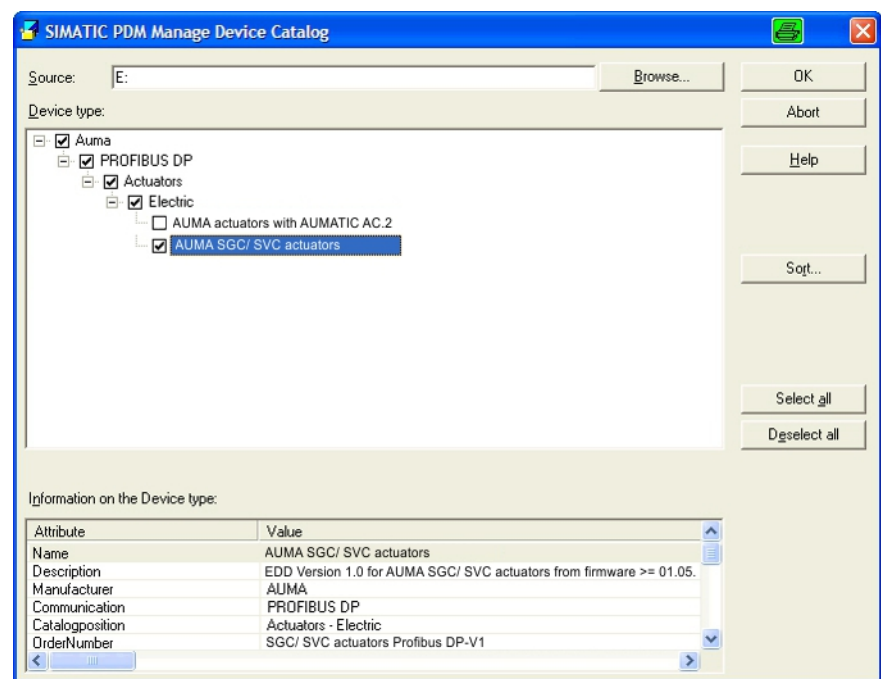
**Information:** Please refer to the Online help or to Simatic PDM manual for further descriptions and information regarding the creation of a new project.

#### 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 SxCEDD.devices file:
  - Click **Browse...** button and search for SxCEDD.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)

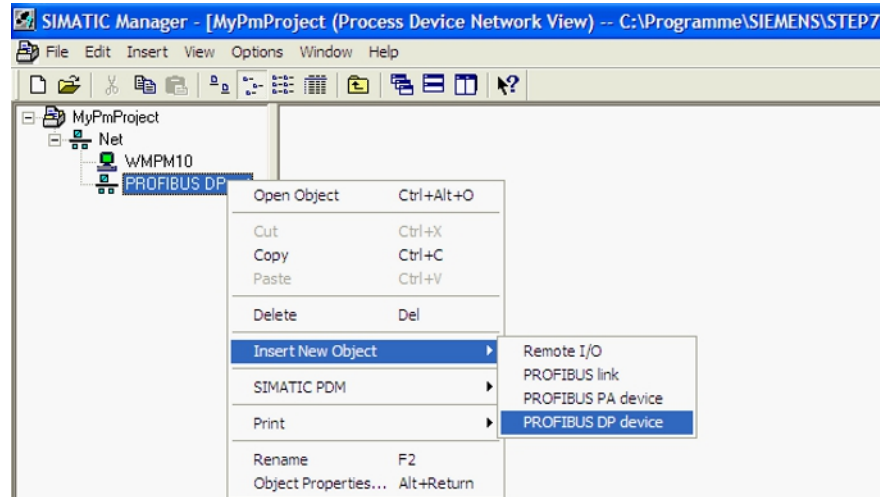


4. Click **OK** button to accept selection.

### 3.3 Insert AUMA actuator (new device) into a project

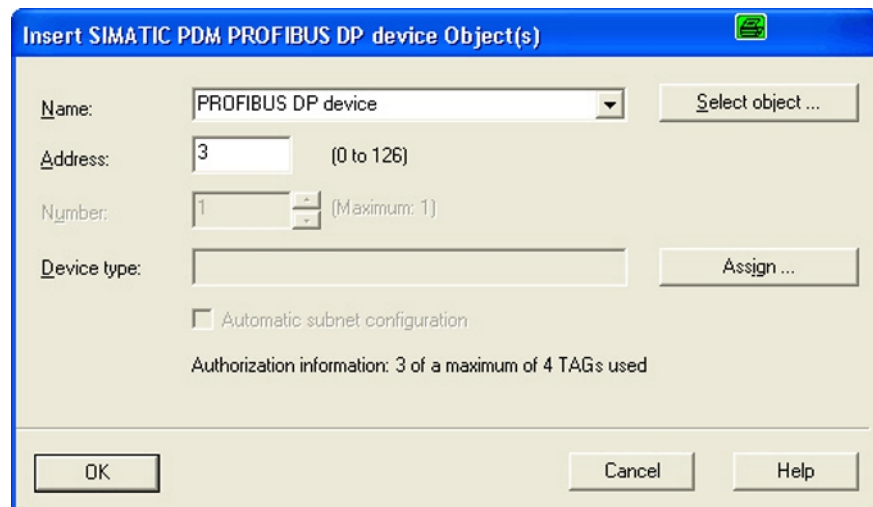
1. Mark network in the tree structure (e.g. "PROFIBUS DP network") and select a device suiting the network by clicking **Insert New Object** (here **PROFIBUS DP device**) with the right mouse button.

Figure 2: Select new device



2. Enter device address of connected AUMA actuator into the **Address** field.  
**Information:** For SGC/SVC actuators, the device address (slave address) is set via switches [S2–S4] within the device when leaving the factory (refer to actuator operation instructions).

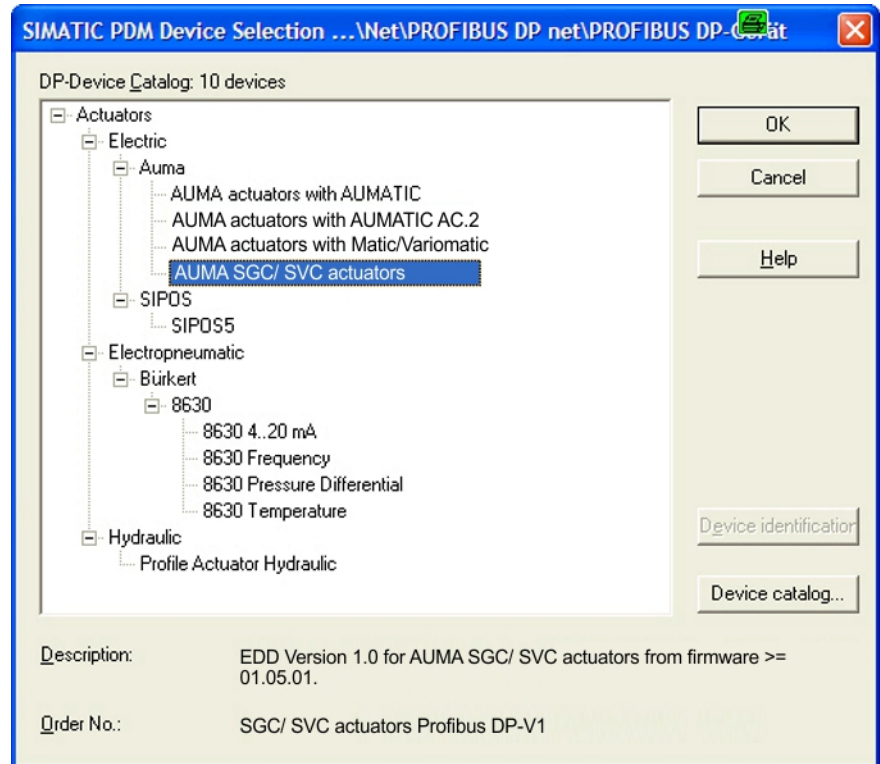
Figure 3: Enter device address



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

3. Select "AUMA SGC/ SVC actuators" 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:

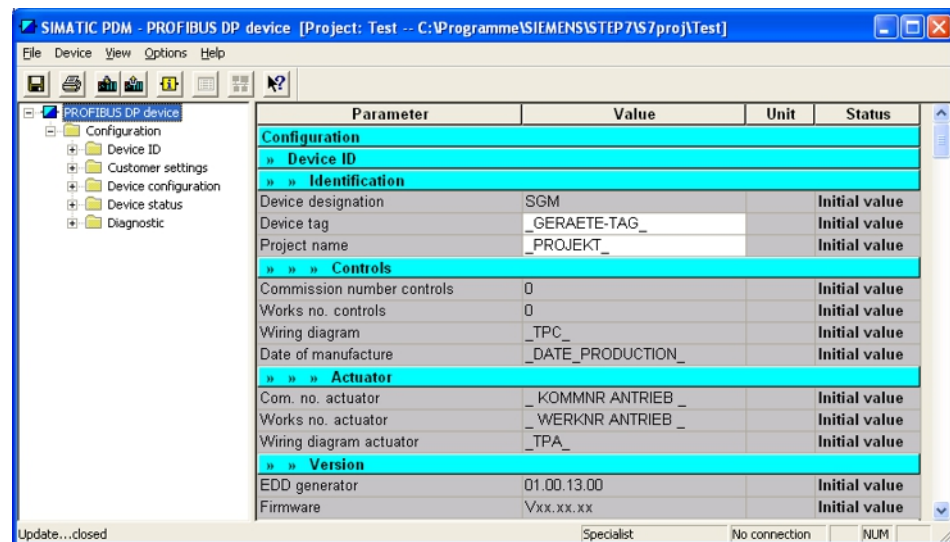
- Double-click on the device icon of the AUMA actuator, or
- Highlight object (AUMA actuator) and select **Open object** using the right mouse button.

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

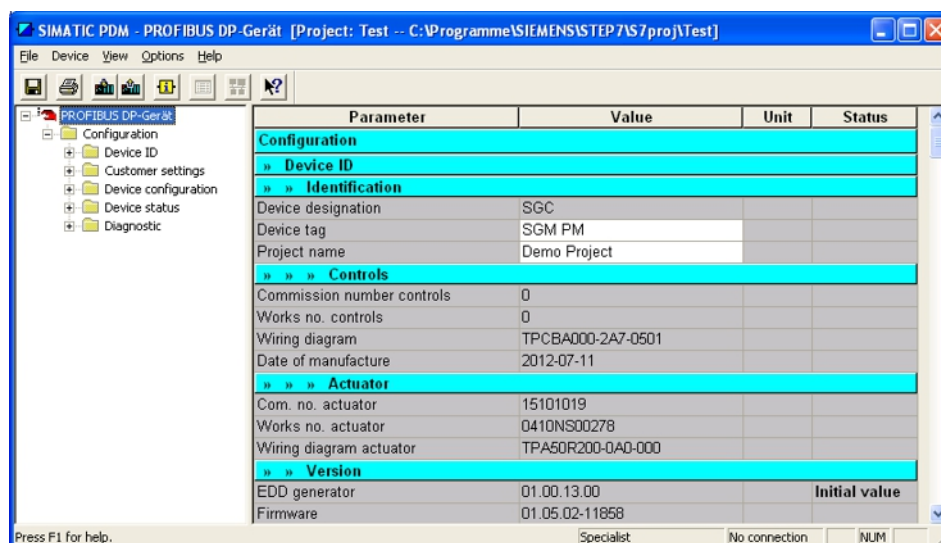
Before reading data from or writing data to the AUMA actuator, you have to establish a connection to the device.

#### 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

For AUMA SGC/SVC actuators, the following basic settings are directly made at the device via switches:

- Type of seating
- Limit switching
- Operating time or speed
- Bus address (slave address)

When leaving the factory, these actuator parameters can only be read via Simatic PDM but cannot be changed. To modify type of seating, torque switching and operating time or speed via Simatic PDM, the programming mode must be activated via switch [S5] (MODE) position "0" within the device. Please also refer to the actuator operation instructions.

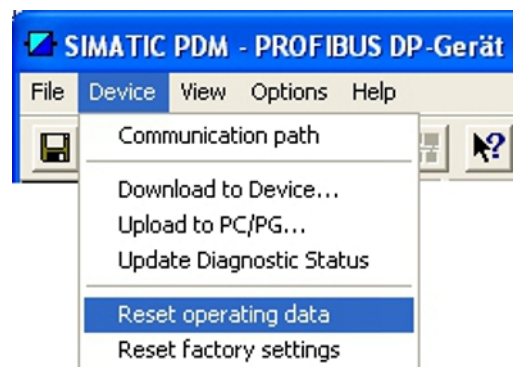
### 5.4 Special display

Certain information with regard to device status or diagnostic information is displayed as binary number whereby "true" or "1" or superior means that the signal is active, "false" or "0" means that the signal is not active or not available.

### 5.5 Additional functions

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

Figure 7: Device



#### 5.5.1 Reset operating data

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

#### 5.5.2 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](http://www.profibus.com)
- EDDL Electronic Device Description Language, Oldenbourg Verlag ISBN 3-486-27034-6
- AUMA reference documents

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## Europe

### AUMA Riester GmbH & Co. KG

Plant Müllheim  
**DE 79373 Müllheim**  
 Tel +49 7631 809 - 0  
 Fax +49 7631 809 - 1250  
 riester@auma.com  
 www.auma.com

Plant Ostfildern - Nellingen  
**DE 73747 Ostfildern**  
 Tel +49 711 34803 - 0  
 Fax +49 711 34803 - 3034  
 riester@wof.auma.com

Service-Center Köln  
**DE 50858 Köln**  
 Tel +49 2234 2037 - 900  
 Fax +49 2234 2037 - 9099  
 service@sck.auma.com

Service-Center Magdeburg  
**DE 39167 Niederndodeleben**  
 Tel +49 39204 759 - 0  
 Fax +49 39204 759 - 9429  
 Service@scm.auma.com

Service-Center Bayern  
**DE 85386 Eching**  
 Tel +49 81 65 9017- 0  
 Fax +49 81 65 9017- 2018  
 Riester@scb.auma.com

AUMA Armaturentriebe GmbH  
**AT 2512 Tribuswinkel**  
 Tel +43 2252 82540  
 Fax +43 2252 8254050  
 office@auma.at  
 www.auma.at

AUMA (Schweiz) AG  
**CH 8965 Berikon**  
 Tel +41 566 400945  
 Fax +41 566 400948  
 RettichP.ch@auma.com

AUMA Servopohony spol. s.r.o.  
**CZ 250 01 Brandýs n.L.-St.Boleslav**  
 Tel +420 326 396 993  
 Fax +420 326 303 251  
 auma-s@auma.cz  
 www.auma.cz

OY AUMATOR AB  
**FI 02230 Espoo**  
 Tel +358 9 5840 22  
 Fax +358 9 5840 2300  
 auma@aumator.fi  
 www.aumator.fi

AUMA France S.A.R.L.  
**FR 95157 Taverny Cedex**  
 Tel +33 1 39327272  
 Fax +33 1 39321755  
 info@auma.fr  
 www.auma.fr

AUMA ACTUATORS Ltd.  
**UK Clevedon, North Somerset BS21 6TH**  
 Tel +44 1275 871141  
 Fax +44 1275 875492  
 mail@auma.co.uk  
 www.auma.co.uk

AUMA ITALIANA S.r.l. a socio unico  
**IT 20023 Cerro Maggiore (MI)**  
 Tel +39 0331 51351  
 Fax +39 0331 517606  
 info@auma.it  
 www.auma.it

AUMA BENELUX B.V.  
**NL 2314 XT Leiden**  
 Tel +31 71 581 40 40  
 Fax +31 71 581 40 49  
 office@auma.nl  
 www.auma.nl

AUMA Polska Sp. z o.o.  
**PL 41-219 Sosnowiec**  
 Tel +48 32 783 52 00  
 Fax +48 32 783 52 08  
 biuro@auma.com.pl  
 www.auma.com.pl

OOO Priwody AUMA  
**RU 124365 Moscow a/ya 11**  
 Tel +7 495 221 64 28  
 Fax +7 495 221 64 38  
 aumarussia@auma.ru  
 www.auma.ru

ERICH S ARMATUR AB  
**SE 20039 Malmö**  
 Tel +46 40 311550  
 Fax +46 40 945515  
 info@erichsarmatur.se  
 www.erichsarmatur.se

GRØNBECH & SØNNER A/S  
**DK 2450 København SV**  
 Tel+45 33 26 63 00  
 Fax+45 33 26 63 21  
 GS@g-s.dk  
 www.g-s.dk

IBEROPLAN S.A.  
**ES 28027 Madrid**  
 Tel+34 91 3717130  
 Fax+34 91 7427126  
 iberoplan@iberoplan.com

D. G. Bellos & Co. O.E.  
**GR 13671 Acharnai Athens**  
 Tel+30 210 2409485  
 Fax+30 210 2409486  
 info@dgbellos.gr

SIGURD SØRUM AS  
**NO 1300 Sandvika**  
 Tel+47 67572600  
 Fax+47 67572610  
 post@sigum.no

INDUSTRA  
**PT 2710-297 Sintra**  
 Tel+351 2 1910 95 00  
 Fax+351 2 1910 95 99  
 industria@talis-group.com

Auma Endüstri Kontrol Sistemleri Limited  
 irketi  
**TR 06810 Ankara**  
 Tel+90 312 217 32 88  
 Fax+90 312 217 33 88  
 Servis@auma.com.tr  
 www.megaendustri.com.tr

AUMA Technology utomations Ltd.  
**UA 02099 Kiyiv**  
 Tel+38 044 586-53-03  
 Fax+38 044 586-53-03  
 auma-tech@aumatech.com.ua

## Africa

AUMA South Africa (Pty) Ltd.  
**ZA 1560 Springs**  
 Tel +27 11 3632880  
 Fax +27 11 8185248  
 aumasa@mweb.co.za

A.T.E.C.  
**EG Cairo**  
 Tel +20 2 23599680 - 23590861  
 Fax +20 2 23586621  
 contactus@atec-eg.com

CMR Contrôle Maintenance Régulation  
**TN 1002 Tunis**  
 Tel +216 71 903 577  
 Fax +216 71 903 575  
 instrum@cmr.com.tn  
 www.cmr-tunisie.net

MANZ INCORPORATED LTD.  
**NG Port Harcourt**  
 Tel +234-84-462741  
 Fax +234-84-462741  
 mail@manzincorporated.com  
 www.manzincorporated.com

## America

AUMA ACTUATORS INC.  
**US PA 15317 Canonsburg**  
 Tel +1 724-743-AUMA (2862)  
 Fax +1 724-743-4711  
 mailbox@auma-usa.com  
 www.auma-usa.com

AUMA Argentina Representative Office  
**AR 1609 Boulogne**  
 Tel/Fax +54 232 246 2283  
 contacto@aumaargentina.com.ar

AUMA Automação do Brasil Ltda.  
**BR São Paulo**  
 Tel +55 11 4612-3477  
 contato@auma-br.com

AUMA Chile Representative Office  
**CL 9500414 Buin**  
 Tel +56 2 821 4108  
 Fax +56 2 281 9252  
 aumachile@adsl.tie.cl

TROY-ONTOR Inc.  
**CA L4N 8X1 Barrie Ontario**  
 Tel +1 705 721-8246  
 Fax +1 705 721-5851  
 troy-ontor@troy-ontor.ca

Ferrostaal de Colombia Ltda.  
**CO Bogotá D.C.**  
 Tel +57 1 401 1300  
 Fax +57 1 416 5489  
 dorian.hernandez@ferrostaal.com  
 www.ferrostaal.com

PROCONTIC Procesos y Control  
 Automático  
**EC Quito**  
 Tel +593 2 292 0431  
 Fax +593 2 292 2343  
 info@procontic.com.ec

Corsusa International S.A.C.  
**PE Miraflores - Lima**  
 Tel +511444-1200 / 0044 / 2321  
 Fax +511444-3664  
 corsusa@corsusa.com  
 www.corsusa.com

PASSCO Inc.  
**PR 00936-4153 San Juan**  
 Tel +18 09 78 77 20 87 85  
 Fax +18 09 78 77 31 72 77  
 Passco@prtc.net

Suplibarca  
**VE Maracaibo Estado, Zulia**  
 Tel +58 261 7 555 667  
 Fax +58 261 7 532 259  
 suplibarca@intercable.net.ve

## Asia

AUMA Actuators (Tianjin) Co., Ltd.  
**CN 300457 Tianjin**  
 Tel +86 22 6625 1310  
 Fax +86 22 6625 1320  
 mailbox@auma-china.com  
 www.auma-china.com

AUMA INDIA PRIVATE LIMITED  
**IN 560 058 Bangalore**  
 Tel +91 80 2839 4656  
 Fax +91 80 2839 2809  
 info@auma.co.in  
 www.auma.co.in

AUMA JAPAN Co., Ltd.  
**JP 211-0016 Nakaharaku, Kawasaki-shi Kanagawa**  
 Tel +81 44 863 8371  
 Fax +81 44 863 8372  
 mailbox@auma.co.jp  
 www.auma.co.jp

AUMA ACTUATORS (Singapore) Pte Ltd.  
**SG 569551 Singapore**  
 Tel +65 6 4818750  
 Fax +65 6 4818269  
 sales@auma.com.sg  
 www.auma.com.sg

AUMA Actuators Middle East W.L.L.  
**AE 15268 Salmabad 704**  
 Tel +973 17877377  
 Fax +973 17877355  
 Naveen.Shetty@auma.com

PERFECT CONTROLS Ltd.  
**HK Tsuen Wan, Kowloon**  
 Tel +852 2493 7726  
 Fax +852 2416 3763  
 joeip@perfectcontrols.com.hk

DW Controls Co., Ltd.  
**KR 153-702 Seoul**  
 Tel +82 2 2624 3400  
 Fax +82 2 2624 3401  
 sichoi@actuatorbank.com  
 www.actuatorbank.com

Sunny Valves and Intertrade Corp. Ltd.  
**TH 10120 Yannawa Bangkok**  
 Tel +66 2 2400656  
 Fax +66 2 2401095  
 sunnyvalves@inet.co.th  
 www.sunnyvalves.co.th/

Top Advance Enterprises Ltd.  
**TW Jhonghe City Taipei Hsien (235)**  
 Tel +886 2 2225 1718  
 Fax +886 2 8228 1975  
 support@auma-taiwan.com.tw  
 www.auma-taiwan.com.tw

## Australia

BARRON GJM Pty. Ltd.  
**AU NSW 1570 Artarmon**  
 Tel +61 294361088  
 Fax +61 294393413  
 info@barron.com.au  
 www.barron.com.au



AUMA Riester GmbH & Co. KG  
P.O.Box 1362  
**D 79373 Muellheim**  
Tel +49 7631 809 - 0  
Fax +49 7631 809 - 1250  
riester@auma.com  
www.auma.com