

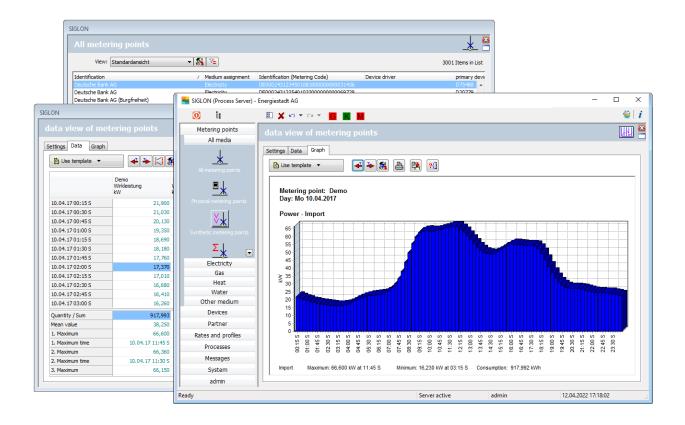
Data Acquisition System

(AMR Automated Meter Reading)



System Description

Doc.-No.: E01120050000



Baer Energy Automation GmbH Siemensstr. 3 D-90766 Fürth Germany

> Phone: +49 (0)911 741455 10 Fax: +49 (0)911 741455 19 E-Mail: info@baer-ea.com Internet: www.baer-ea.com



Revision History

Version	Date	Comments
1.00	18.11.2003	Initial release
1.04	11.03.2005	Driver reference updated
2.05	17.05.2006	New Layout
2.32	18.12.2009	Reference number systems and messages extends Driver reference updated
2.41	23.06.2010	Driver reference updated
3.10	22.03.2011 09.06.2011 18.10.2011	New Layout Driver reference updated Driver reference updated
3.20	22.02.2012 14.05.2012	Driver reference updated Driver reference updated
4.00	01.07.2013 29.08.2013 20.09.2013	EEG functionality: control on device, operational monitoring Quick selection Driver reference updated Driver reference updated Driver reference updated
4.10	18.03.2014	Driver reference updated
4.20	29.09.2014	Driver reference updated
4.21	06.02.2015 20.03.2015	Driver reference updated Driver reference updated
4.30	05.08.2015	Driver reference updated
4.40	16.09.2015	Driver reference updated
4.50	26.08.2016	Driver reference updated
4.60	29.09.2016	New security guidelines Driver reference updated
4.70	09.12.2016	New forecast and correction system Driver reference updated
4.80	09.08.2017	Database management changes Driver reference updated
	27.09.2017	Driver reference updated
	06.11.2017	Driver reference updated
	09.02.2018	New layout
	12.03.2018	Driver reference updated
	11.05.2018	Driver reference updated
	05.07.2018	Update system requirements (OS, DB)
	10.05.2019	Driver reference updated
	03.07.2019	Driver reference updated
	31.10.2019	Driver reference updated
	03.04.2020	Driver reference updated
	04.05.2022	Driver reference updated
	16.09.2022	Driver reference updated
5.00	16.09.2022	New option: Internet Security Update system requirements (OS, DB) New logo



Features

SIGLON is a client/server system that was specially designed for the tasks of collecting and processing metering data. **SIGLON** presents the responsible managers with a fast and efficient tool that captures meter data in a simple and automated manner and surrenders the necessary data to other involved partners in the required format.

Due to the fact that various parties have different interest in the data and, from a legal perspective, may only have access to certain areas of data, an access right management system is an integral part. This ensures that independent of the number of users and terminals each user is presented with "his/her" surface and only has access to "his/her" data.

The recent tendency towards "horizontally wide" suppliers puts new demands on the collaboration in the enterprise. Data can be captured and processed from all meter types such as electricity, gas, heat and water. Standard protocols are available as readily integrated components and many device variants are already implemented.

Many functions are available for the management of the meters themselves, thus making the handling of meters easier.

The **SIGLON** software supports the following functions:

- Automatic collection of billing data or load profiles (incl. reset or synchronization) from meters and tariff devices;
- Multi terminal configuration with specifically tailored terminals for different tasks (e.g. meter management, sales, broker, etc.);
- Title management for each participant (technician, broker, procurer, sales, etc.);
- Apart from electricity all other carriers of energy or mass can be used: gas, heat, water;
- Easy modeling of process images for an energy supply company in a deregulated market;
- Creation and administration of physical, virtual and synthetic metering points for measurement circuits, calculation circuits, balancing circuits and control circuits;
- Uses standard databases (e.g. MS SQL Server);
- Import of data from other systems;
- Flexible configuration of data export (content, configuration, protocol and transmission path);
- General administration of meters and other devices (manufacturer, serial number, calibration periods, etc.);
- Future extensions supported by modular design;
- Menu controlled user interface with MS Outlook or tree navigation;
- Integrated Windows service program (option);
- Remote control via TeamViewer (option);
- Multilingual menus;
- EEG functionality (German Renewable Energies Act): control on device, operational monitoring;
- Mixed-Mode authentication: SIGLON or Windows authentication (local or active directory);
- Forecast and correction system;

Depending on the functionality **SIGLON** uses various types of computers:

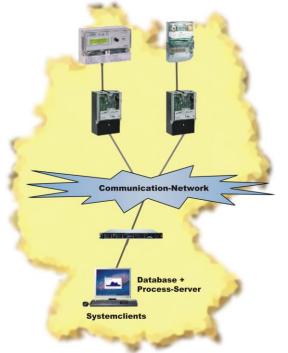
- **Process server**: PC (or virtual machine) with **SIGLON** main program or **SIGLON** service with connection to LAN (only one per system). On this PC all physical communication interfaces (COM ports with modems or TCP/IP) for the connection to meters and other devices are installed.
- Database server: PC with the system database (only one per system);
- Work terminal (client): PC used by individual users to operate the system (several terminals are possible in one system);

In a standalone version the process server and the database server are integrated with the local work terminal. In a networked system the process server and the database server can be installed on separate computers.



Stand Alone System

In a standalone system the process server and the database server are combined with the local (and only) workstation.



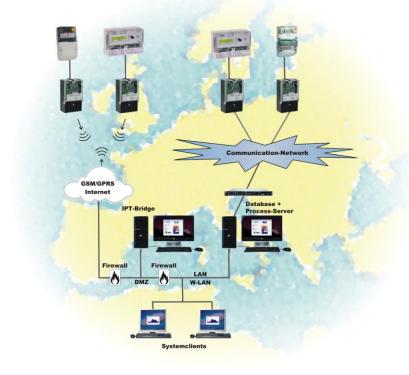
This configuration is suitable as entry solution for the remote data capture is designed for small or medium size utility companies or industrial energy consumers. Several hundred metering points can be managed with this system configuration. The user has the option to expand this system into a multi terminal configuration at any time in the future. Standalone systems are recommended to use the Microsoft SQL Server; however Oracle, PostgreSQL or MySQL can be used optionally.

Figure 1 Standalone system (basic implementation)

Medium Size System (client server)

In multi terminal configurations the process server and the database server can be installed on separate computers (client server architecture).

In a medium size system the process server and the database server are located on a computer connected to a LAN. This server can then be accessed by individual local work stations (clients).



This configuration is suggested as the standard solution for remote data capture and is suitable for medium size utility companies or large industrial consumers having an energy network of their own. This system configuration can handle from several hundred to several thousand metering points. Future expansions are possible.

Figure 2 Medium size system



Large System (client server)

In a large system the process server and the database server each are located on individual networked computers. The individual communication server can operate up to 1024 communication lines (e.g. with modems, interfaces or TCP/IP lines) in parallel. Both servers can be accessed by the individual local work stations (clients).

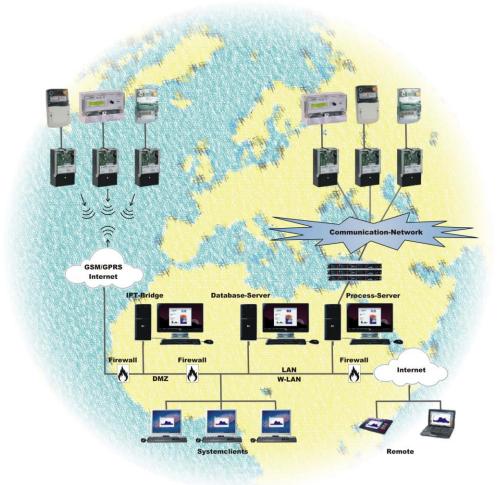


Figure 3 Large system

This configuration is provided as the solution for highly demanding applications and is suitable for national utility companies or very large industrial consumers with extensive energy networks. It can manage several hundred thousand metering points. This requires a professional database as well as external internet and printing services.

Redundant computer systems (i.e. where failing individual components can be swapped during operation) are recommended. The optimum configuration has to be tailored specifically for each project.



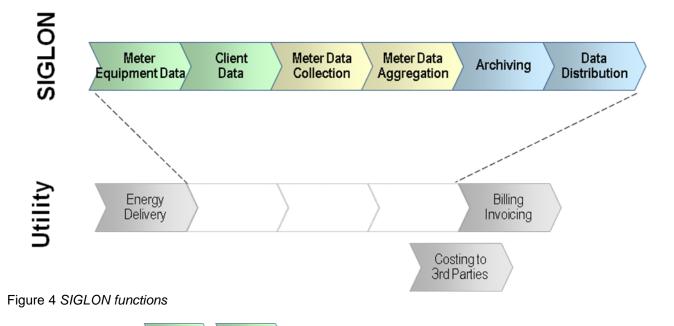
Functions

All of the software functionality is accessible via the menu controlled graphical user interface.

The following process steps are required between the supply of energy and invoicing:

- The utility company provides the metering equipment;
- **SIGLON** captures, processes and exports the data;
- The utility company creates the invoice with other software and forwards it to the customer.

In this chain **SIGLON** performs the process steps illustrated below:



Administration:
 Administration:
 Administration:

- All information related to metering points is stored in the meter data administration ((e.g. device driver name, telephone number, data channels, calculation parameters, etc.).

- Device related information can be stored optionally (e.g. serial number, shipping date, current location, certification period);

- Customer data can be stored optionally (e.g. customer address);

Client



Data collection and processing: A

- Communication to the metering point is established via communication channels (e.g. telephone, GSM, leased line, TCP/IP, etc.);

- Storage of data from the metering point (billing data and/or load profiles);
- Storage of raw metering data in the database;
- Processing of data: Conversion of raw data into actual measurement values (primary values);
- Calculation of virtual data channels;
- Presentation of data in tables and graphics;



Archives and data distribution:

- Storage of primary values in the database (long time storage);

- Export of data into customer specific invoicing software (e.g.: MS EXCEL, MSCONS, Schleupen, ...)



System Requirements

Computer:	PC, min. Intel Pentium 2 GHz or comparable PC
Main memory:	≥ 4 GB (RAM)
Hard disk:	ca. 20 MB for installation and \geq 10 GB for operation with database (at the database server)
CD-ROM/RW, DVD-RW:	required for installation, recommended for backups (CD or DVD write drive in the database server)
RS232 / USB:	required for process server, recommended: port server
DCF77 / GPS receiver:	highly recommended
Monitor:	mind. 19", recommended 22" or 24" (mind. 85 Hz)
	TM
Operating system:	Microsoft Windows 711 or Microsoft Windows Server 20082022
System.	Recommendation of the manufacturer: Microsoft Windows 11 or 2019/2022 Server
	File system: NTFS (for database > 4GB)
Database:	MS SQL Server 20082019 Oracle 9i PostgreSQL MySQL 5.0
	For smaller systems it is possible to use the free MS SQL Server 2019 Express Edition database: max. 1 GB RAM and 10 GB database size (1 phys. processor).
Ancillary:	Installed version of Microsoft Office (20072021 and up)
Network:	Multi terminal systems (client server architecture) require a LAN with TCP/IP connections, recommended is a minimum of 100 Mbit/s
Modems:	Analogue/PSTN: full duplex, mind. V.32 ISDN: X.75 and V.110 GSM: mind. Dual band (900/1800MHz)
Printer:	Colour laser printer



Data View

In the data view physically read data and virtual calculated data can be displayed as tables or charts. Both tables and charts can be transferred for further processing into Microsoft Word or Excel by means of the Windows clipboard.

Up to three charts can be created, and one channel can be shown on several charts at the same time. After the definition of the display parameters the table view or the chart view can be activated immediately. The table view shows additional markers indicating whether this is captured, calculated or synthetic data. Other markers are added for e.g. errors or faults.

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Gas	05.05.22 12:45 S	0,000	0,49	5 0,092	0,000	Time changed
Heat	05.05.22 13:00 S	0,000	0,43	5 0,128	0,000	Power failure
Water	05.05.22 13:15 S	0,000	0,54	0 0,139	0,000	Range error
Other medium	05.05.22 13:30 S	0,000	0,57	3 0,090	0,001	Comparison error
Devices	05.05.22 13:45 S	0,000	0,60	2 0,066	0,000	Change
	05.05.22 14:00 S	0,000	0 0,56	1 0,094	0,001	(not saved)
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ates and profiles	05.05.22 14:30 S	0,000	0,45	9 0,133	0,000	
Processes	05.05.22 14:45 S	0,000	0,45	7 0,134	0,000	
	05.05.22 15:00 S	0,000	0 0,54	7 0,095	0,001	
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Figure 5 Data view: Data in table view

Simple basic functions can be executed with the "Quick evaluation", e.g. totals, averages, maximum (+ time stamp), minimum (+ time stamp).

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nthetic metering points	05.05.22 11:45 S	0,000	0,493	0,122	0,000	not acquired
<u> </u>	05.05.22 12:00 S	0,000	0,509	0,101	0,001	Substitute value
<u>∠</u> ¥ ⊡	05.05.22 12:15 S	0,000	0,474	0,096	0,000	Temporary value
Electricity	05.05.22 12:30 S	0,000	0,434	0,122	0,001	Value not correct
Gas	05.05.22 12:45 S	0,000	0,495	0,092	0,000	Time changed
Heat	05.05.22 13:00 S	0,000	0,435	0,128	0,000	Power failure
Water	05.05.22 13:15 S	0,000	0,540	0,139	0,000	Range error
Other medium	05.05.22 13:30 S	0,000	0,573	0,090		Comparison error
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Processes	1. Maximum time	05.05.22 00:15 S	•	•	•	
Messages	2. Maximum	0,000	- · · · · · · · · · · · · · · · · · · ·			
	2. Maximum time	05.05.22 00:30 S	05.05.22 13:45 S	05.05.22 22:15 S	05.05.22 10:30 S	Quick evaluation
System	<				>	C quarter addition
Admin						
,			Admin	06.05.2022 10:20:		

Figure 6 Data view: Data in table form with quick evaluation activated

Measurement data can also be manipulated in this view. The manipulated data are then used for charts, table calculations and export functions.



Depending on the definition a variety of charts can be displayed:

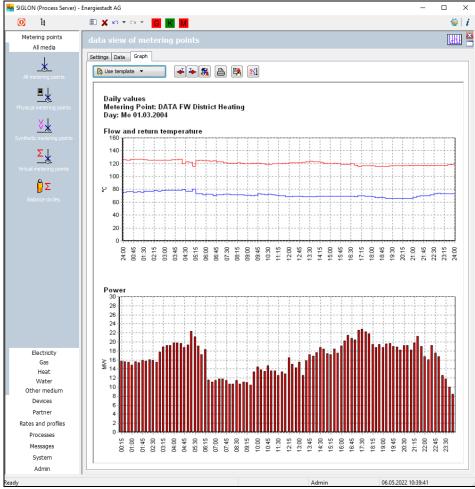


Figure 7 Data view: Daily chart

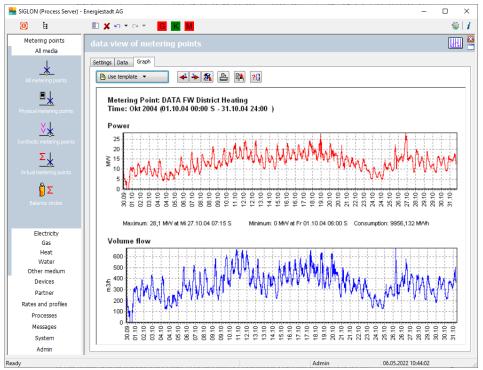


Figure 8 Data view: Monthly chart



Data Acquisition System SIGLON

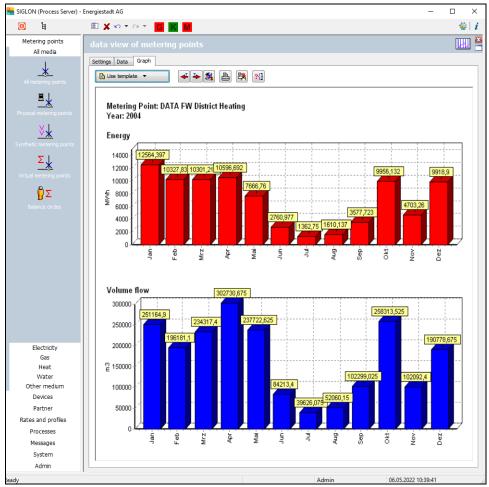


Figure 9 Data: Annual chart of monthly values

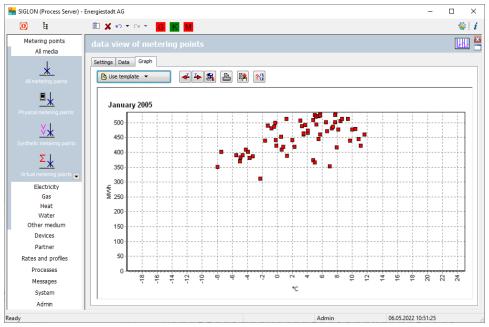


Figure 10 Data view: monthly chart - daily consumption in correlation to outside temperature



EEG Functionality (German Renewable Energies Act)

From **SIGLON**-Version 4 is it possible to define meter specific control commands, e.g. derating of PV power and calculation of compensation.

The menu **Operational monitoring** shows all events and status massages that were read from the system (alarms, warnings, remarks). It is possible to confirm or revoke the messages.



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Rates and profiles	/ Class oc	ured N	letering point		Message	4	Additional text revo
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		ual revoke					
e 19		iual revoke		Co.KG			
	G 📘 🖪 📇 prin	t all			Change of communicatio		
* *	GLA prin	t selection		ost Partyservice GmbH	Change of communicatio		
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Job messages		y selected to clip!		lahnhofstraße)	Change of communicatio		
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7 65.67 11	K _ Remark 31			AG (OVST)	Change of communication		
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	K _ Warning 30				Change of communication		31.0
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Operating messages		.01.13 12:57:06 A			Change of communicatio		010
	G Alarm 31	01.1304:07:38 A	GRAVIS (Raiffeiser	n Neubau)	Change of communicatio	n state - successful	
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Figure 11 Operational monitoring

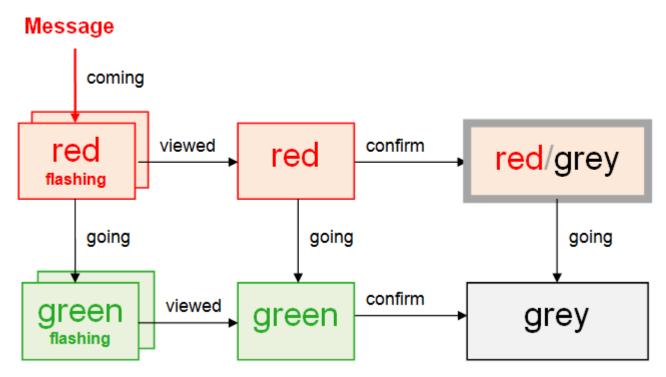


Figure 12 Operational monitoring: possible actions



User Specific Menus

From **SIGLON**-Version 4 is it possible to create user specific menus. It is permissible to define up to 99 submenus:

SIGLON (Process Server) -	Energiestadt AG	– 🗆 X
i E	🖹 🗶 🗠 🖛 🧧 🔣 🕅	谷 <i>i</i>
Metering points Devices	Quick selection - Start menu	Start menu 🔹 🔶 😽
Partner Rates and profiles	Operational monitoring	EEG Controls
Processes Messages System	Operational monitoring	 Execute the job - Control 100% Execute the job - Control 60%
admin Personal settings	Operating messages Operational monitoring - Group G Operational monitoring - Group K Operational monitoring - Group M	Execute the job - Control 30% Execute the job - Control 0% Execute the job - Control set
	Data	System System System messages System messages System messages System messages Submenu 1 Submenu 2 Submenu
Ready		admin 06.05.2022 11:07:02

Figure 13 Quick selection - Overview

Remote Control

For remote control Baer uses the program **TeamViewer**. TeamViewer establishes connections to any PC or server all around the world within just a few seconds. The support engineers can remotely control your PC as if they were sitting right in front of it.

Baer Telemaintenance	
energy auto	
Allow Remote Contro	a 🌣
Please tell us the following II your desktop:	D to connect to
Your ID 165	823 835
Password	****
www.teamviewer.com	Cancel
Ready to connect (secure	connection)

Figure 14 Remote control



Driver Reference

The following device drivers are available (activation via license key):

The following device	ce drivers are ava	liable (activa	ation via	icense key):						
independent	ed → ⊢ universal universal Meter2SCADA	Variant	All Medium	O O <t< td=""><td>< < < < Read billing data</td><td>- - - Read profile data</td><td><</td><td> ✓ I I Set device time </td><td> Remote reset</td><td></td></t<>	< < < < Read billing data	- - - Read profile data	<	 ✓ I I Set device time 	Remote reset	
energy automation Baer Energy Automation	DLC32 DataFW4		All	SCTM SCTM	>	× ×	 ✓ ✓ 	>	-	-
BAER Energie & Messtechnik	7FMS1/DataLog DLX	All ≥ 1.04.00 ≥ 1.05.00	All All All	SCTM SCTM IEC 60870-5-102 ModBus RTU	 - 	✓✓✓	< </td <td>× ×</td> <td></td> <td>-</td>	× ×		-
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Manufacturer	Type	Variant	Medium	Protocol	Read billing data	Read profile data	Read event log	Set device time	Remote reset	Control (option)
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		Internal		IEC 62056-21	×	-	-	-	-	-
		modem	_	(Password: data)						
Actaris	DC3	Fw < 2.20	E	IEC 62056-21	✓	\checkmark	~	\checkmark	~	-
(Schlumberger)		VDEW	_	VDEW2						
		PLC	E	IEC 62056-21	✓	✓	✓	-	-	-
		Fw ≥ 2.20	Е	IEC 62056-21	\checkmark	\checkmark	✓	\checkmark	~	-
		VDEW		VDEW2						
	DC4		E	VDEW-FNP	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
	DC3/4 (ENC)	8N1	E	IEC 62056-21	~	✓	<	~	~	-
	SL7000		All	DLMS	\checkmark	~	\checkmark	\checkmark	✓	-
	Sparklog		All	VDEW2	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
	CF-Sensor,		Heat	M-Bus	\checkmark	-	-	-	-	-
	CF50,									
	Corus		Gas	IEC 62056-21	\checkmark	\checkmark	\checkmark	\checkmark	-	-
ABB	ABB / SVM F2		Heat	M-Bus	✓	-	-	-	-	-
1.00	SensyCal		Heat	M-Bus	✓	-	\checkmark	-	-	-
Aqua Metro	Calec MB		Heat	M-Bus	· •	_	-	✓	-	_
	Calec ST		Heat	M-Bus	· ✓	_	-	√	-	_
Brodersen-ABB	RTU8				• •	-	-	•	-	-
			All E	BCSRAC	▼ ✓	▼ √	▼ √	▼ √	- ✓	-
CEWE	ProMeter			IEC1107			▼ √			-
	D M / (00		All	DLMS	✓ ✓	✓	✓ ✓	✓ ✓	✓	-
	ProMeter 100		All	DLMS	✓	✓		√	✓	-
	Elite 440		All	ModBus RTU	√	✓	-	✓	✓	-
Dr. Neuhaus DNT	MUC-Controller		All	SML (MUC)	✓	✓	✓	✓	-	-
DZG	MM30		E	IEC 62056-21vdew2	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
Elgama	DLC-200		All	DLMS	\checkmark	\checkmark	-	-	\checkmark	-
	G1B/G3B		E	DLMS	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
Elster (ABB)	AEM500	Fw < 3.00	E	IEC 62056-21	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
		Fw ≥ 3.00	Е	VDEW2	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	-
	AEM500 (ENC)	8N1	E	VDEW-FNP	~	✓	~	~	~	-
	Axxxx		E	(/2! only A1500	\checkmark	~	\checkmark	\checkmark	✓	\checkmark
	(A1350, A1440,			and A2500)						
	A1500, A2500)			,						
	Axxxx (ENC)	8N1	E	VDEW-FNP	\checkmark	~	\checkmark	\checkmark	✓	-
	A1800		E	DLMS	\checkmark	\checkmark	\checkmark	\checkmark	-	-
Elster TETRA	EVU114		E	IEC 1107	✓	-	-	-	-	-
Elster	EK260/280	7E1 / 8N1	Gas	LIS 200	\checkmark	\checkmark	\checkmark	\checkmark	-	-
	EK280 (DLMS)		Gas	DLMS	\checkmark	\checkmark	\checkmark	\checkmark	-	-
	DL2xx (210/220/240)	7E1 / 8N1	All	LIS 200	\checkmark	\checkmark	\checkmark	\checkmark	-	-
	EK 88	,	Gas	LIS 100	✓	✓	-	\checkmark	-	-
	enCore ZM1		Gas	DSfG	-	✓	\checkmark	✓	-	-
	DS 100 A/B/E/V		All	LIS 100	\checkmark	√	-	√	-	-
EMH	LZ (VDEW)		E	IEC 62056-21	\checkmark	√	✓	√	✓	-
	LZ (Standard-		E	IEC 62056-21	· ✓	· √	· •	√	-	_
	Kombi-Meter)			1EC 02050-21	•	•	•	•	-	-
	LZQJ, DMTZ		A 11		✓	✓	-	✓		
	LZQJ, DIVITZ		All	DLMS	▼ ✓	▼ √	- ✓	▼ √	- ✓	-
		014	E	IEC 62056-21	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	v
	LZQJ DMTZ (ENC)	8N1	E	VDEW-FNP						-
	NXT4 (VDEW)		E	IEC 62056-21	✓ ✓	✓	✓	✓	✓	-
	DIZ	Gen. G	E	M-Bus	✓ ✓	✓	-	✓ ✓	-	-
		Gen. H	E	M-Bus	✓	✓	-	√	-	-
	MUC-Controller		All	SML (MUC)	✓	\checkmark	\checkmark	\checkmark	-	\checkmark



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SymBA All SML (SyMP) ✓				_						
SymBA All SML (SyMP) ✓	-	Ð	b	ata	ata					
SymBA All SML (SyMP) ✓	Remote reset	tim	t lo	e d	g g					e
SymBA All SML (SyMP) ✓	Remote reset	e	ent	ofile	ling					tur
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SymBA All SML (SyMP) ✓	mo	t de	ad	ad	ad	oto	dic	riar	e	nu
Endress+Hauser RH33, RS33 All CDI (TCP/IP) ✓	Re	Se	Re	Re	Re	Pro	Me	Va		Ma
Endress-Hauser RH33, RS33 All CDI (TCP/IP) v		✓			✓	SML (SyM ²)				
Discontip Lick Disconting Disconting V <th< td=""><td></td><td>\checkmark</td><td>\checkmark</td><td>\checkmark</td><td>\checkmark</td><td></td><td>All</td><td></td><td>RH33, RS33</td><td>Endress+Hauser</td></th<>		\checkmark	\checkmark	\checkmark	\checkmark		All		RH33, RS33	Endress+Hauser
N. Ostime Inc. Docusion (Construction) No. Construction (Construction) No. Construction (Construction) Görlitz ENC380(E) PSTN (All FNP · · · ENC400(F), PLC All FNP · · · · ENC400(P), PLC All FNP · · · · BVGroupY Water M-Bus · · · DYfin-E Water M-Bus · · · Hydrometer ScampY Water M-Bus · · · DYfin-E Water M-Bus · · · · · Iskra MT85 E IEC 62056-21 voll voll · ·<		-	-	\checkmark	-	DSfG	Gas			FlowComp
Görlitz ENC380(E) PSTN All FNP ✓ Image: Constraint of the second s		-	\checkmark	\checkmark	\checkmark	IEC 62056-21	All		PLC-Modem	FW Systeme
ENC400(E,G) PSTN/GSM All FNP ✓						VDEW2				Klein & Partner
ENC400(P) PLC All FNP ✓ <	- 🗸	\checkmark	-	-					ENC380(E)	Görlitz
ENC 400(PT,PG) PLC All FNP ·	- 🗸	\checkmark	-				All		ENC400(E,G)	
Hydrometer ScampY Water M-Bus ✓ - <td>- 🗸</td> <td>-</td> <td>-</td> <td>\checkmark</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	- 🗸	-	-	\checkmark						
DYlfin-E Water M-Bus ✓ I <thi< th=""> I I</thi<>		\checkmark	-	-	\checkmark	FNP		PLC	ENC400(PT,PG)	
Bit Note Mater		-	-	-	\checkmark	M-Bus	Water		ScampY	Hydrometer
IZAR Center All M-Bus (IZAR) <th< td=""><td></td><td>-</td><td>-</td><td>-</td><td>\checkmark</td><td>M-Bus</td><td></td><td></td><td>DYIfin-E</td><td></td></th<>		-	-	-	\checkmark	M-Bus			DYIfin-E	
Iskra MT85 E IEC 62056-21vpewz V <td></td> <td>-</td> <td>-</td> <td>-</td> <td>\checkmark</td> <td>M-Bus</td> <td>Water</td> <td></td> <td>FIYpper-E</td> <td></td>		-	-	-	\checkmark	M-Bus	Water		FIYpper-E	
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	✓ ✓	\checkmark	\checkmark	\checkmark	\checkmark	DLMS	All			
MT880 E DLMS inkl. HLS ✓	✓ -	\checkmark	\checkmark	\checkmark	\checkmark					
Kamstrup Maxical III Multical Heat M-Bus ✓ - - 162, 282, 382 Ass.1 All DLMS ✓	✓ -	\checkmark	\checkmark	\checkmark	\checkmark					
Multical Image: Multical field, 282, 382 Ass. 1 All DLMS Image: Multical field, 282, 382 Gen J/K/L All DLMS Image: Multical field, 282, 382 Gen J/K/L All DLMS Image: Multical field, 282, 382 Gen J/K/L All DLMS Image: Multical field, 282, 382 Gen J/K/L All DLMS Image: Multical field, 283 <		-	-	-	\checkmark					Kamstrup
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	✓ ✓	\checkmark	\checkmark	\checkmark	\checkmark	DLMS	All	Ass.1		
351B E DLMS ✓ </td <td>✓ ✓</td> <td>\checkmark</td> <td>\checkmark</td> <td>\checkmark</td> <td>\checkmark</td> <td></td> <td></td> <td></td> <td></td> <td></td>	✓ ✓	\checkmark	\checkmark	\checkmark	\checkmark					
M, 351C, Omnip. E DLMS ✓	✓ ✓	\checkmark	\checkmark	\checkmark	\checkmark					
Köhler (TR) Tr2 E IEC 1107 ✓ - ✓ L+T (India) ER300P E IEC 1107 ✓ ✓ - ✓ Luna (TR) LUN5 E IEC 1107 ✓ ✓ - - Makel (TR) T300 E IEC 1107 ✓ ✓ - - MetCom MCS301 E IEC 62056-21 votewa ✓ <t< td=""><td>✓ ✓</td><td>\checkmark</td><td>\checkmark</td><td>\checkmark</td><td>\checkmark</td><td></td><td></td><td></td><td></td><td></td></t<>	✓ ✓	\checkmark	\checkmark	\checkmark	\checkmark					
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Luna (TR) LUN5 E IEC 1107 ✓ ✓ - - Makel (TR) T300 E IEC 1107 ✓ ✓ - - MetCom MCS301 E IEC 62056-21 vDEW2 ✓<		\checkmark	-	\checkmark	\checkmark					
Makel (TR) T300 E IEC 1107 ✓ ✓ - - MetCom MCS301 E IEC 62056-21vdew2 ✓<		-	-	\checkmark	\checkmark					· · · · ·
MetCom Solutions MCS301 E IEC 62056-21 \vdot DEW2 \vdots \vdots< \vdots< </td <td></td> <td>-</td> <td>-</td> <td>\checkmark</td> <td>\checkmark</td> <td></td> <td></td> <td></td> <td></td> <td></td>		-	-	\checkmark	\checkmark					
Solutions E DLMS inkl. HLS ✓	✓ -	\checkmark	\checkmark	\checkmark	\checkmark					· · · ·
Metra ERW 700A All ModBus RTU ✓	✓ -	\checkmark	\checkmark	\checkmark	\checkmark					
ModBus ASCII V <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
NZR MUC-Controller All SML (MUC) ✓ </td <td></td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td> <td>All</td> <td></td> <td>ERW 700A</td> <td>Metra</td>			-	-			All		ERW 700A	Metra
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Power Measurement ION 7500, ION 7600, ION 8000 All ModBus ✓ <		v	-	v						NZR
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ION 8000 ION 8000 IEC 60870-5-102 IEC 60250-5-102 IEC 60870-5-102 IEC 60250-5-102 IEC 60250-5-11 IEC 60250-5-		v	-	v	v	ModBus	All			
SAE ZFA-2, ZFA-4, ZFA-10 All IEC 60870-5-102 - ✓ ✓ - Schneider ION9000 E DLMS ✓ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Measurement</td>										Measurement
ZFA-10 Image: Mark and the second secon			./	./			A 11			SVL.
Schneider ION9000 E DLMS ✓		-	v	v	-	IEC 00070-5-102	All			SAE
Schweitzer Engineering Laboratories SEL 734 SEL 735 All ModBus RTU ✓		./		<i>.</i>			С			Sabaaidar
Engineering Laboratories SEL 735 ModBus TCP ✓	· ·									
Laboratories Image: colored co	▼ - ✓ -						All			
Tritschler K902/VC2 Gas IEC 62056-21 ✓ ✓ ✓ Weidmüller DL550 All ModBus RTU ✓		*	-	*	۲					
Weidmüller DL550 All ModBus RTU ✓ <td></td> <td>~</td> <td>_</td> <td>✓</td> <td>\checkmark</td> <td>IEC 62056-21</td> <td>Gas</td> <td></td> <td>K002/VC2</td> <td></td>		~	_	✓	\checkmark	IEC 62056-21	Gas		K002/VC2	
ModBus TCP ✓	\checkmark		-							
RMG MRG910 All MRG V V - V	▼ - √ -		-						01000	vvelumuller
	· ·						A11		MPC010	PMC
		▼ ✓	-	▼ √	▼ √					RMG Messtechnik
MesstechnikERZ2200,GasDSfGI(Wieser)MRG910,GasI		v	-	v	v	DSIG	Gas			
(Wieser) MRG910, MRG2100D,										
MRG2100D, MRG2200,										
MRG2200, MRG2201										
ZennerMultidataHeatM-Bus \checkmark -		_	_	_	\checkmark	M-Bus	Heat			Zenner

Note: IEC 62056-21 is alternative to IEC 61107 and IEC 1107



Export Drivers

The following export drivers are available (activation requires an additional license key):

Driver number	Format / Function
100001	DEMS database interface
100002	TRANSCO database interface
100003	Specific database interfaces
100004	Universal database interface
100010	SIGLON PowerTrend
100011	Switching Output Alerting
100051	SCHLEUPEN BASIC/CS.VA billing data interface
100101	SAP billing case (1)
100102	AlphaSet Format (SaLZa)
100103	Spectrum C Format
100104	Flat ASCII Format
100105	Landis+Gyr Text Format (DGC300/DGC2000)
100106	CSV Format
100107	SAP IS-U billing data interface (1)
100108	Frankendata EBM Format
100109	FWB-Export
100110	Wilken ENER:GY billing data
100111	Görlitz ENerGO
100112	Görlitz LpEx2
100120	MSCONS (UN/EDIFACT) load profile data 1.6b
100121	MSCONS (UN/EDIFACT) load profile data 2.0cd
100122	MSCONS (UN/EDIFACT) load profile data 2.1
100123	MSCONS (UN/EDIFACT) load profile data 2.1g3 for gas
100124	MSCONS (UN/EDIFACT) load profile data 2.1a for electricity and gas
100125	MSCONS (UN/EDIFACT) load profile data 2.1b for electricity and gas
100126	MSCONS (UN/EDIFACT) load profile data 2.1cd for electricity and gas
100127	MSCONS (UN/EDIFACT) load profile data 2.2abcdefg for electricity and gas
100128	MSCONS (UN/EDIFACT) load profile data 2.2hi for electricity and gas
100129	MSCONS (UN/EDIFACT) load profile data 2.3 / 2.3bc for electricity and gas
100130	SAP IS-U IDoc Builder
100140	MSCONS (UN/EDIFACT) load profile data 2.4a for electricity and gas
100201	EXCEL generator for synthetic load profiles
100210	EXCEL M2/M3 Evaluation
100300	KISS Format
200001	HTML report: missing data
200002	HTML report: data quality
300001	EXCEL documentation interface
300100	EXCEL universal KISS-Export
300200	Generator of temperature-dependent profiles (for gas)
300210	Forecast (Prognosis) / Replacement values / Temporary values
600001	Universal export for messages (ASCII, HTML)
700001	Universal export for counter values (ASCII, HTML)
700051	Export for counter values SCHLEUPEN BASIC/CS.VA
700110	Export for counter values Wilken ENER:GY



700127	Export for counter values MSCONS (UN/EDIFACT) 2.2abcdefghi
Driver number	Format / Function
700128	Export for counter values MSCONS (UN/EDIFACT) 2.3 / 2.3bc
700129	Export for counter values MSCONS (UN/EDIFACT) 2.4a
800001	DELTA Flat ASCII Format
800120	DELTA MSCONS (UN/EDIFACT) load profile data 1.6b
800122	DELTA MSCONS (UN/EDIFACT) load profile data 2.1
800123	DELTA MSCONS (UN/EDIFACT) load profile data 2.2abcdefg
800124	DELTA MSCONS (UN/EDIFACT) load profile data 2.2hi
800125	DELTA MSCONS (UN/EDIFACT) load profile data 2.3 / 2.3bc
800126	DELTA MSCONS (UN/EDIFACT) load profile data 2.4a
800200	DELTA Specific database interfaces

Import Drivers

The following import drivers are available (activation via license key)

Driver name	Format / Function
500000	Billing data
500101	MEDATEC LEDAN load profile 1
500105	DGC300 data import
500110	METERCOM profile data
500111	Communication row data
500112	RmCU (XML) data import
500120	MSCONS (UN/EDIFACT) load profile data
500500	Universal data import
500600	SIGLON Mobile Lt data import
500700	SIGLON Remote control

