OPC Server - Siemens SPC

Installation, Configuration, Usage

User Manual

V1.2 - Modified version dated 22.03.2018

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1. OPC Server - Siemens SPC

What is OPC?

OPC (Open Platform Communications) is the world-wide recognized quasi-standard for communication between almost all facilities in building and security technology. Schille Informationssysteme GmbH has been a specialist for OPC technologies in the security industry for more than 15 years.

Description

The OPC server Siemens SPC is designed to communicate with Siemens SPC series intrusion detection systems. This is done via the Enhanced Datagram Protocol (EDP) using TCP / IP.

Among other things, statuses are provided via door and window contacts or alarms as data points, which are read by the OPC server and are, Can also be described.

All status changes of the SPC systems are transferred via so-called SIA events.

The OPC server only supports the connection of a control center. If several control panels are to be integrated, several instances of the OPC server are also required on one device.

Technical data

OPC Specification:	OPC DA 2.0
Compatibilty:	SPC firmware 3.4; EDP Protocol Specification 2.5
Interface:	Ethernet
Protocols:	EDP über TCP/IP

Features

The following states can be read / written by the OPC server:

- Door / window contact on / off / open / closed / sabotaged
- Burglar alarm on / off / test mode
- Alarm delay on / off

1.1. User Manual OPC Server - Siemens SiSPC

Revision

Version	Created	Version Number	Remarks
1.0	27.05.2014		Created
1.1	02.07.2014		The events BA / BR as well as the switching command "RestoreAlerts" are new.
1.2	22.03.2018		Siemens SPC screenshots exchanged

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1.1.1. Installation, startup and exit

The OPC server requires no installation. The program can basically be executed from any program path.

The OPC server is started with the appropriate exe file. The program starts minimized and can be displayed via the system tray.

It should be noted that the program path in the operating system must be registered for an OPC client access. This is done via the interface of the OPC server. For this purpose, the menu item OPC-> Register OPC Server must be selected.

To terminate the program, click on the red X in the upper right corner, or in the menu item File -> Close. The File menu also contains the Hide command, which allows the OPC server to be minimized to the system tray.

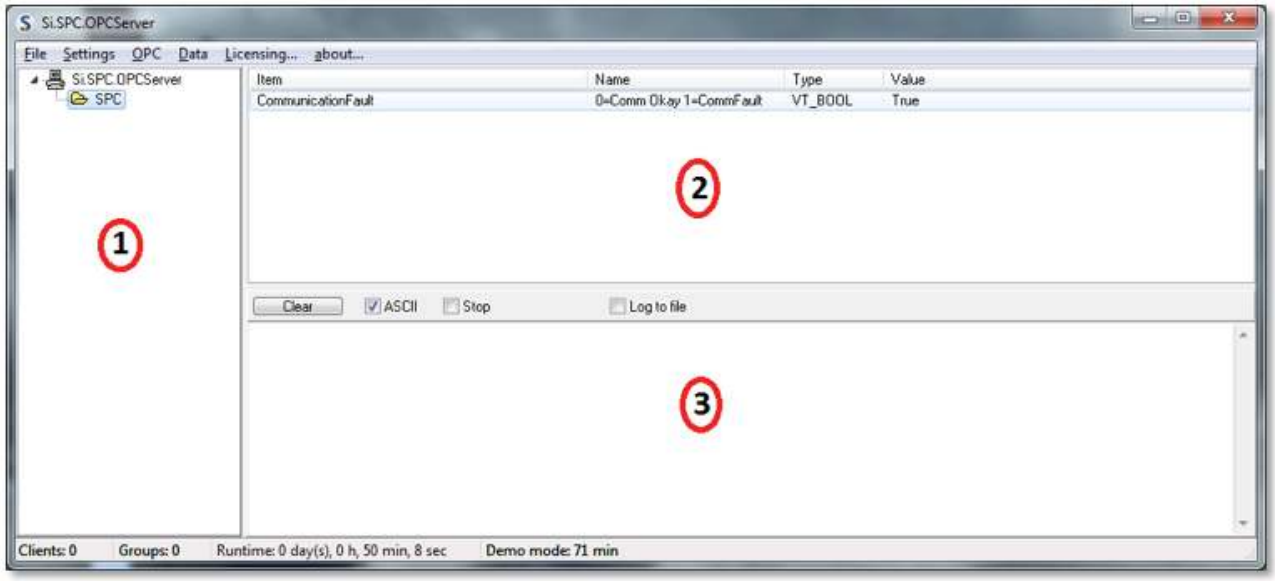
The configuration is later read out online from the device. Up to this time, a window appears at the start, indicating the missing configuration:

1.1.1.1. Multiple instances of the OPC server

The OPC server only supports the connection of a control center. If more than one control center is to be connected, several instances must be registered and started on a computer. In the following, the SiSpcOPC server is always spoken. Each further instance is then appended to the consecutive number, eg "SiSpcOPCServer02". The same applies to the Ini or Dat file.

Important: A separate license has to be purchased for each instance.

1.1.2. Graphical Interface



The graphical interface is divided into three sections:

1. Hierarchical tree view of data structure

The entire data structure is displayed here. An element is marked with a left mouse click and the data points that may be contained are displayed on the right side. The subordinate elements can be opened by double-clicking.

2. Overview of the included data points

In this area, the data points of a selected element are displayed in tabular form. The following information is displayed for each data point:

- Item Data point name
- Name Here, a help text is usually displayed for better identification
- Type Data type of the data point
- Value The current data point value

Note: The Value column is disabled by default. It can be displayed via the menu item Data -> Display.

3. Communication logbook

The logbook is deactivated by default and can be displayed via the menu item Data -> Logbook.

The entire communication is displayed in the logbook. The Clear button deletes the contents of the logbook window. The ASCII code can be activated using the ASCII checkbox. The checkbox Stop suppresses further entries in the logbook window. When the checkbox Log to file is checked, all other entries are written to a text file. The file has the same name as the OPC server, but has the file ending .LOG.

The menu line provides access to the following entries:

Menu Item	Function
FileHide	Minimizes the program to the system tray
FileClose	Terminates the program
SettingsConfiguration	Settings for the OPC server
OPCRegister	Registriert den OPC Server im Betriebssystem
OPCRemove OPC Server Registration	Removes the existing OPC server registry
OPCProtocol	Writes a log file to the OPC interface
OPCClose Clients	Terminates all connections to connected OPC clients
DataLogbook	Show or hide the logbook
DataDisplay	Show or hide the data point values
DataWrite	Opens an input mask to assign a value to a selected data point
...Licensing	Opens the licensing dialog
...about	Provides information on the version number etc. of the OPC server

The status line displays the clients and subscribed groups connected to the OPC server as well as the runtime of the OPC server. If the OPC server is started in demonstration mode, the remaining runtime is displayed.

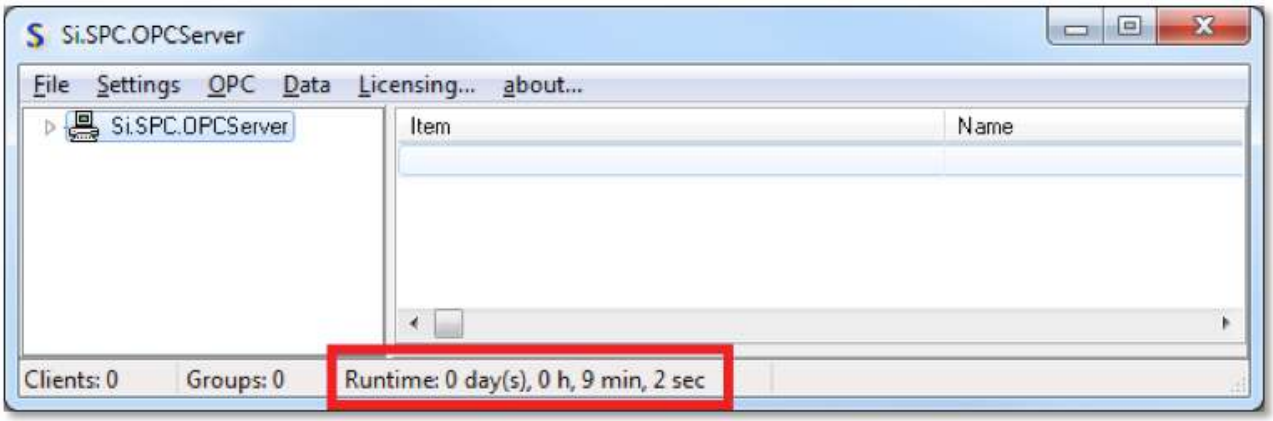
1.1.3. Licensing the OPC Server

All products of Schille Informationssysteme GmbH are licensed according to the same scheme. Therefore, this is described in a separate document which is available for viewing or downloading on the Internet:

http://www.schille.com/downloads/documents/documentations/SiDOC-20140603-de-procteron-lizensierung-anleitung.pdf

The internal product key is "O04-014-01" and will be "OPC Siemens SPC Intruder" if a current product.xml file is present.

After successful licensing and subsequent restarting of the OPC server, the current runtime of the OP is displayed in the status bar:



1.1.4. Configuration of the OPC server

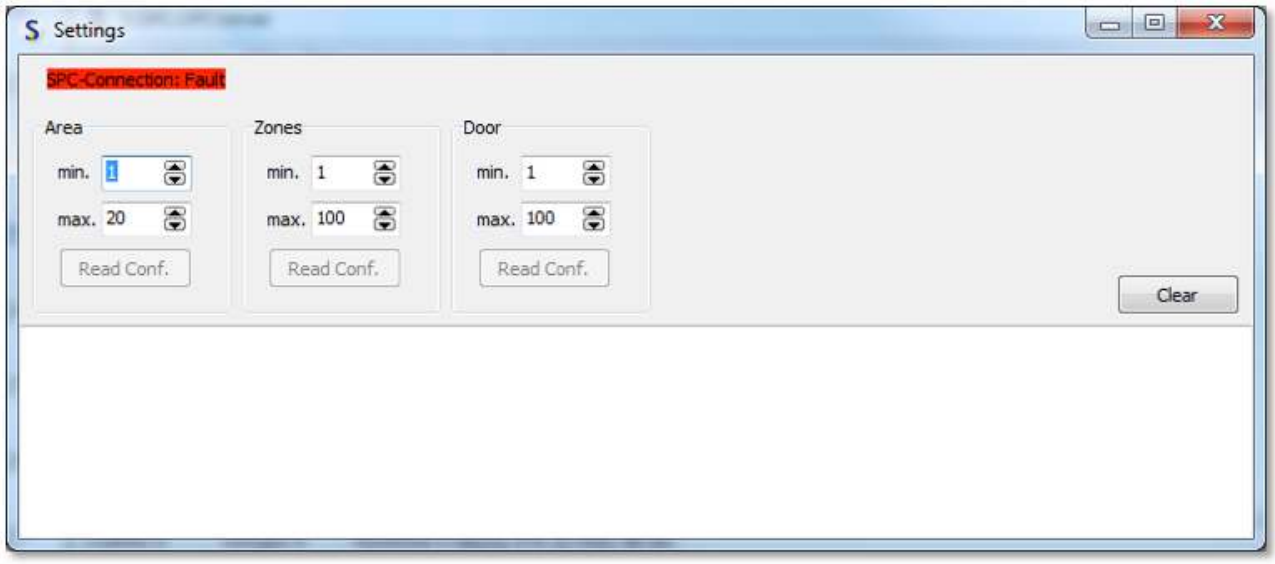
The configuration of the OPC server is done online, which means that the configuration of the OPC server is read out from the SPC. Accordingly, the communication must first be established. This is done by the SPC, which cyclically tries to reach the OPC server. For this reason, the OPC server must first be informed of the network address and port on which it is to be made. This is done via the ini file of the OPC server (area [TCP]), which is described in more detail in the next section. After the change, the OPC server must be restarted.

1.1.4.1. Structure of the INI file

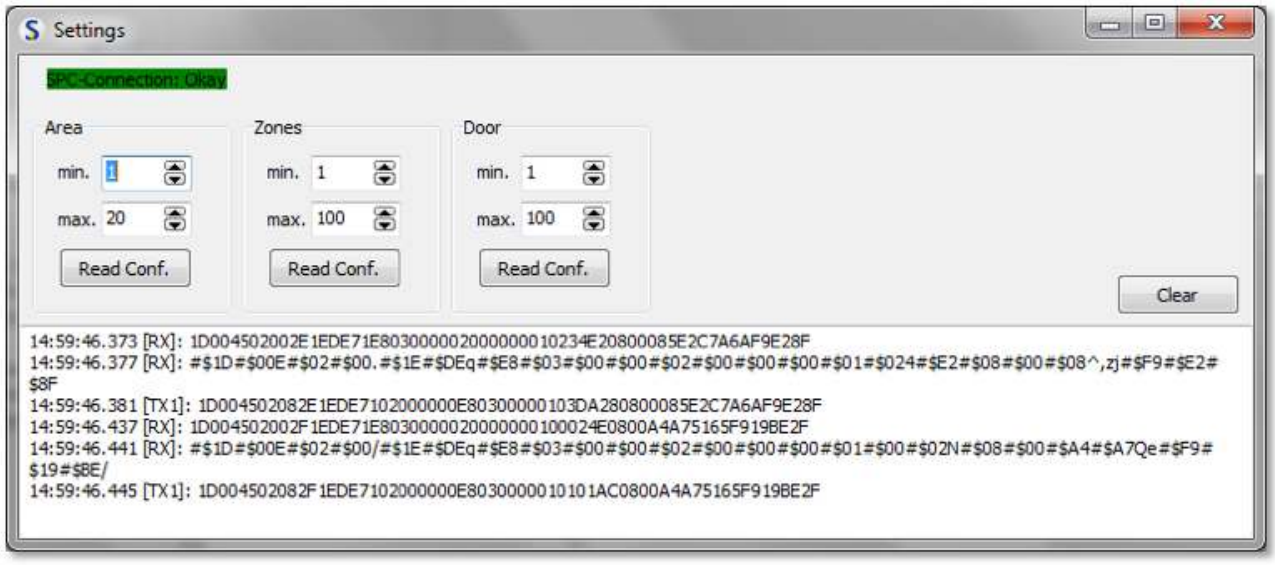
[DIALOG]		
	Param	Transfer of possible start parameters
	Language	Language of the graphical user interface
	Logging	Enable / disable logging
[TCP]		Settings for the interface to the SPC
	IP	TCP / IP address on which the SPC tries to establish the communication, eg IP = 192.168.2.101
	Port	Port on which SPC attempts to establish communication, eg port = 50000

1.1.4.2. Read the SPC configuration

After the OPC server has been started, the configuration dialog must be called up via the menu item "Settings / Configuration". In the following figure, the SPC has not yet recorded any communication, so no read-out is possible and the buttons are deactivated.



If the SPC has recorded the communication, the zones, zones and doors can be read out.



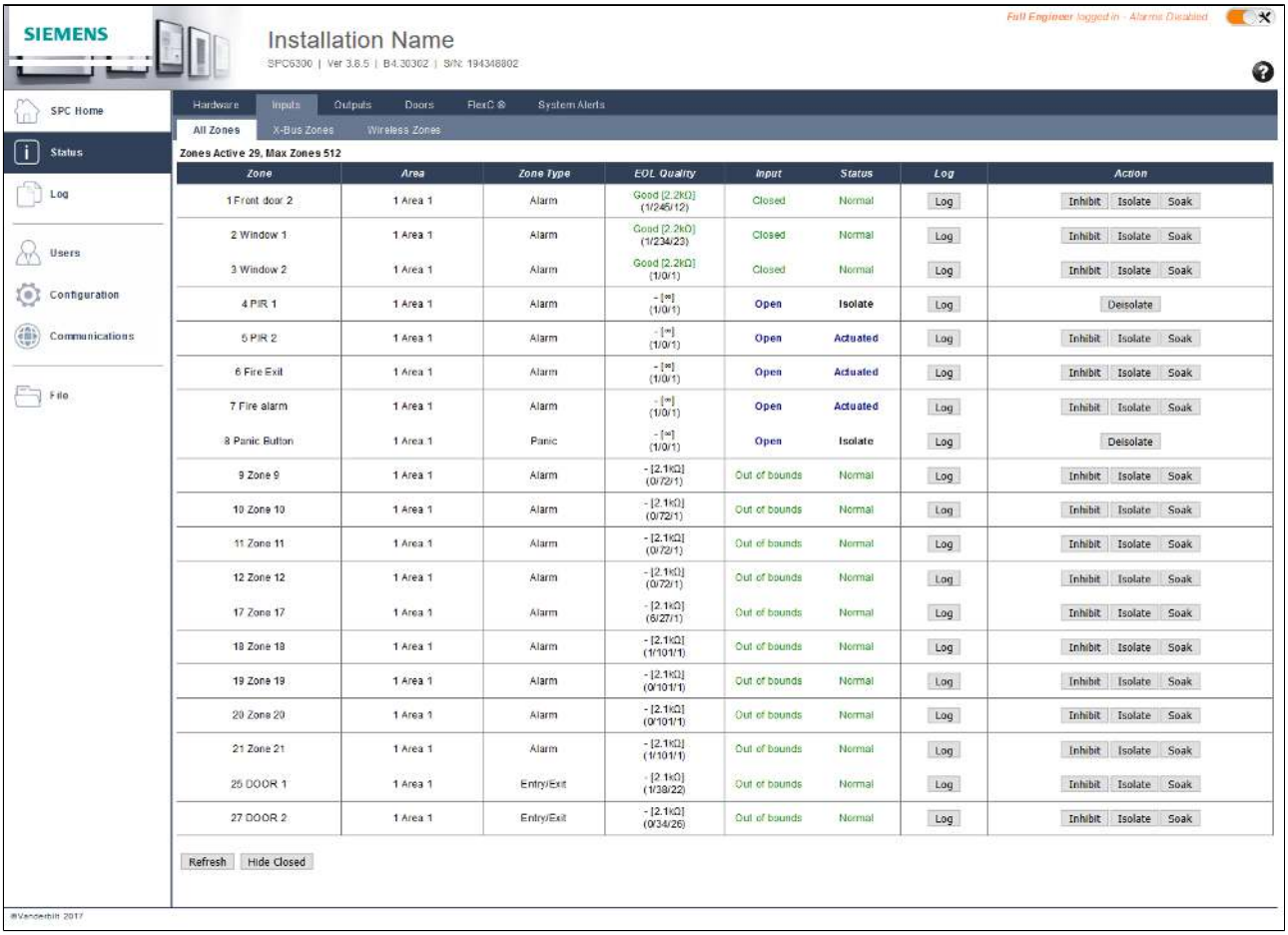
The data obtained from the SPC are stored in the file "SiSpcOPCServer.dat" in the directory of the OPC server. A separate area is created for each type of supported groupings (area / zones / doors).

In the following table, a sample configuration from the test environment:

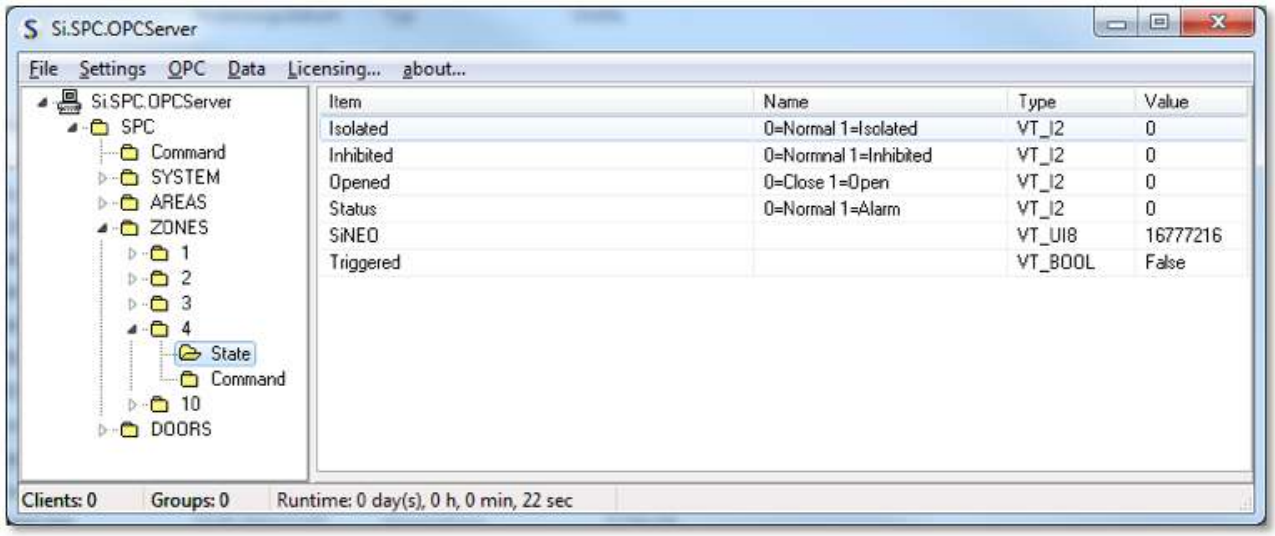
[AREAS]		
	00001=Area 1	Area ID + Names (assigned by SPC)
	00002=Area 2	
[ZONES]		
	00003=Window 2	Zone ID + Names (assigned by SPC)
	00004=PIR 1	
	00010=Door 1	
[DOORS]		
	00001=Door 1	Door ID + Names (assigned by SPC)

1.1.5. Features of the SiSPC OPC server

The range of functions is currently based on the WEB interface of Siemens, whereby, for example, logbooks can not be displayed within the OPC server.



The state is reflected in the "State" data points:



Switching commands can be sent via the control commands to the SPC, regardless of the value transferred.

1.1.5.1. SIA events

All status changes are transmitted via so-called SIA events. A list of all possible events is available within Siemens.

Important: The documentation may not be passed on by the company Schille Informationssysteme GmbH and is therefore to be procured independently.

The following events are processed in the version of the OPC server:

BA / BR / DC / DD / DF / DG / DO / DR / DX / CG / OG / NL / BB / BU / ZO / ZC / YT / YR

Important: An extension for further events is possible. However, a test system or telegram messages may be required.

These events must be enabled separately within the SPC, otherwise no notification from the SPC is made to the OPC server. Some screen shots of the settings from the test environment can be found without comment at the end of this document.

1.1.5.2. The data point „SiNEO“

The "SiNEO" data point is the numeric value of the state of the data point. It is based on a 64bit key, which is defined within the document "SiNEO-Codes", and thus determines the symbols within the SiVMS-Command versions.

The following is a small excerpt:

4096	0000-0000-0000-1000	Switched off	Bright orange	0xffc800	
65536	0000-0000-0001-0000	Alarm	Red	0xff0000	
16777216	0000-0000-0100-0000	Failure	Gray / red crossed		
536870912	0000-0000-2000-0000	Unlocked	Bright violet	0xff80ff	
4294967296	0000-0001-0000-0000	Disruption	Yellow	0xffff00	

The document "SiNEO-Codes" can be obtained separately.

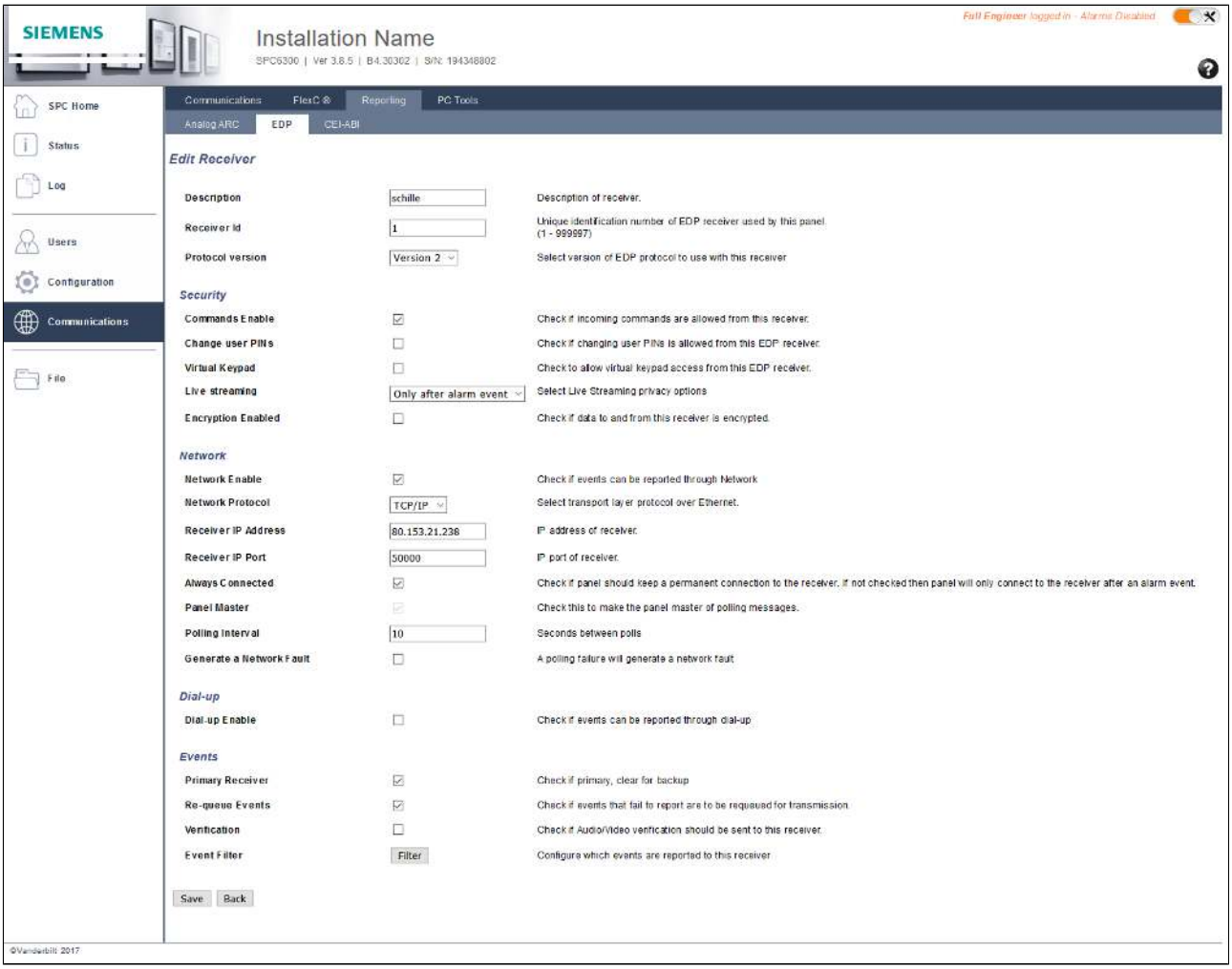
1.1.5.3. The data point „Triggered“

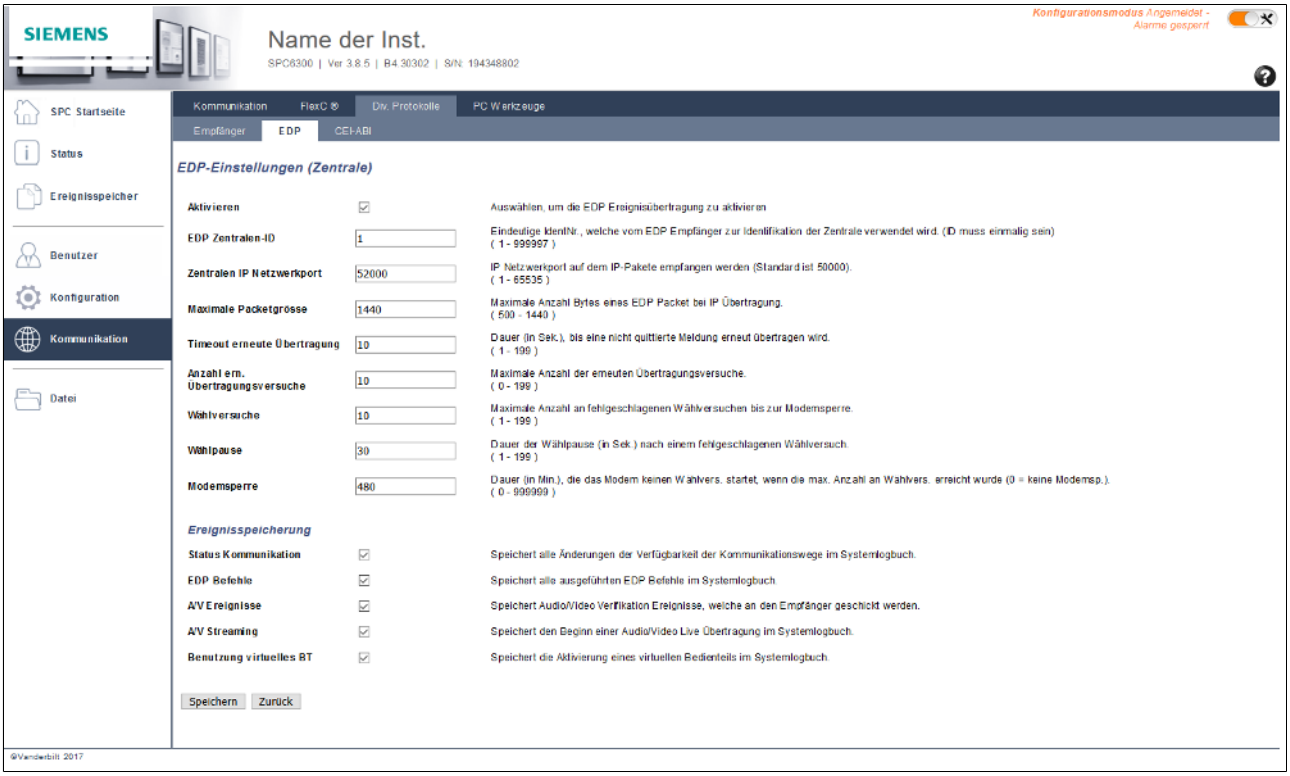
This data point is set for 1 second for each event that can be assigned to this area, zone or door. Whether or not the value changes with a data point.

The background is that a recording is to be started when an access card is detected on the reader. The value of the data point "Access" changes only if a valid valid card is detected after a valid, or after an invalid, valid card.

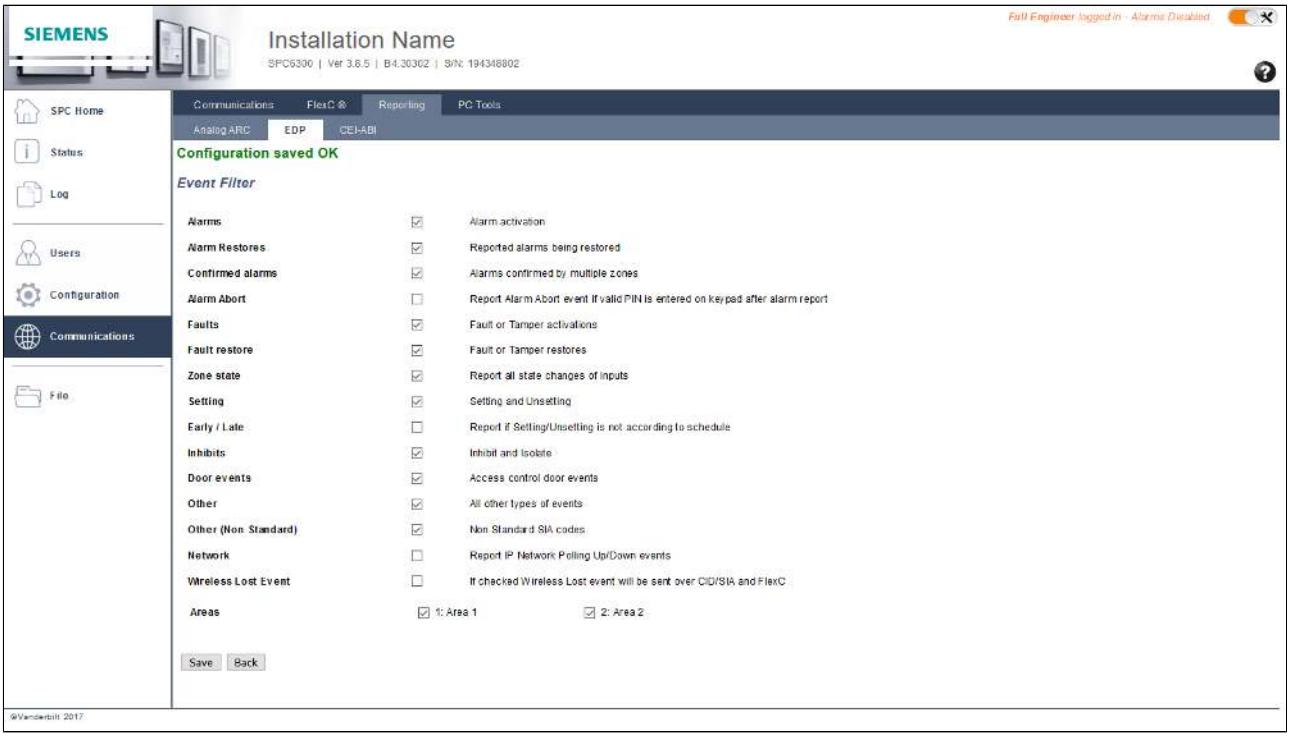
1.1.6. Screenshots of the SPC settings

1.1.6.1. EDP settings




SIEMENS
Name der Inst.
SPC6300 | Ver 3.8.5 | B4.30302 | S/N: 194348802
Konfigurationsmodus Angemeldet - Alarme gesperrt
SPC Startseite
Status
Ereignisspeicher
Benutzer
Konfiguration
Kommunikation
Datei
Kommunikation
FlexC ®
Div. Protokolle
PC Werkzeuge
Empfänger
EDP
CEI-ABI
EDP-Einstellungen (Zentrale)
Aktivieren
Auswählen, um die EDP Ereignisübertragung zu aktivieren
EDP Zentralen-ID
1
Eindeutige IdentNr., welche vom EDP Empfänger zur Identifikation der Zentrale verwendet wird. (ID muss einmalig sein) (1 - 999997)
Zentralen IP Netzwerkport
52000
IP Netzwerkport auf dem IP-Pakete empfangen werden (Standard ist 50000). (1 - 65535)
Maximale Packetgrösse
1440
Maximale Anzahl Bytes eines EDP Packet bei IP Übertragung. (500 - 1440)
Timeout erneute Übertragung
10
Dauer (in Sek.), bis eine nicht quittierte Meldung erneut übertragen wird. (1 - 199)
Anzahl ern. Übertragungsversuche
10
Maximale Anzahl der erneuten Übertragungsversuche. (0 - 199)
Wählversuche
10
Maximale Anzahl an fehlgeschlagenen Wählversuchen bis zur Modemsperre. (1 - 199)
Wählpause
30
Dauer der Wählpause (in Sek.) nach einem fehlgeschlagenen Wählversuch. (1 - 199)
Modemsperre
480
Dauer (in Min.), die das Modem keinen Wählvers. startet, wenn die max. Anzahl an Wählvers. erreicht wurde (0 = keine Modemsp.). (0 - 999999)
Ereignisspeicherung
Status Kommunikation
Speichert alle Änderungen der Verfügbarkeit der Kommunikationswege im Systemlogbuch.
EDP Befehle
Speichert alle ausgeführten EDP Befehle im Systemlogbuch.
A/V Ereignisse
Speichert Audio/Video Verifikation Ereignisse, welche an den Empfänger geschickt werden.
A/V Streaming
Speichert den Beginn einer Audio/Video Live Übertragung im Systemlogbuch.
Benutzung virtuelles BT
Speichert die Aktivierung eines virtuellen Bedienteils im Systemlogbuch.
Speichern
Zurück
©Vanderbilt 2017

1.1.6.2. Filter settings



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