

SIEMENS

SICAM AK 3

TICS for IEC 61850 Ed. 2 Client

TISSUES Implementation Conformance
Statement for the
IEC 61850 Ed.2 Client Interface in
Siemens SICAM AK 3

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Disclaimer of Liability

Although we have carefully checked the contents of this publication for conformity with the hardware and software described, we cannot guarantee complete conformity since errors cannot be excluded. The information provided in this manual is checked at regular intervals and any corrections that might become necessary are included in the next releases. Any suggestions for improvement are welcome.

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Document Label:
SICRTUS-AK361850ED2CLIENTTICS-ENG_V1.00
Release date: 2016-09-16

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Preface

This document is applicable to the following product(s):

- SICAM AK 3

Purpose of this manual

This manual describes the TISSUES Implementation Conformance Statement for the IEC 61850 Ed. 2 Client interface in:

- Siemens SICAM AK 3 using firmware "ETA5 Rev. 03.04"

Note:

TICS "TISSUES Implementation Conformance Statement" contains additional information about which TISSUES have been implemented and used.

Target Group

The document you are reading right now is addressed to users, who are in charge of the following engineering tasks:

- Customers
- Sales engineering and technical clarification
- Conceptual activities, as for example design and configuration
- Technical system maintenance

Notes

This document is based on:

- UCA International Users Group
Testing Sub Committee
Template version 1.0
Date 18 December 2014

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1 Introduction

This document provides the Tissues conformance statement. According to the UCA IUG QAP the Tissue conformance statement is required to perform a conformance test and is referenced on the certificate.

This document is applicable for **Siemens SICAM AK 3** with firmware version "**ETA5 Rev. 03.04**".

1.1 SICAM AK 3 “Device Under Test” (DUT)

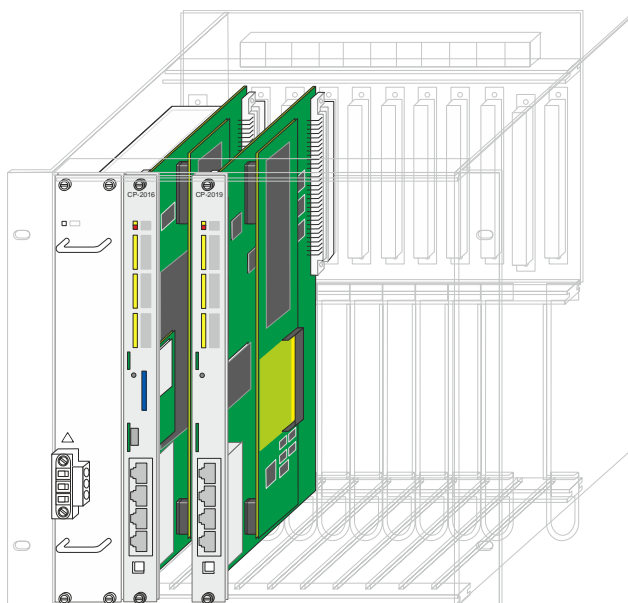
Board	MLFB	Description
PS-2632	6MF11130CG320AA0BB	Power Supply 110-220VDC, 230VAC AK 3
CP-2016	6MF10130CA160AA0BB	Central Processor AK 3
CP-2019	6MF10132CA100AA0BB	Communication/Processing AK 3
SM-2558 ¹⁾	6MF10130CF580AA0BB	Ethernet-Interf. 1x100TX,(+1SI)

¹⁾ SM-2558 Ethernet interface with **ETA5 Rev. 03.04 firmware** will be plugged on CP-2019 board.



Notes:

- the red marked interface connector is assigned to IEC61850 Ed. 2 Client with ETA5 firmware.
- the red marked interface connector is also used for WEB Browser interface for IEC61850 Ed. 2 Client.
- the blue marked interface connector is used for SICAM AK3 engineering software TOOLBOX II.



Note: SM-2558 is used as a SUB-board on CP-2019 (system internally)

Firmware Revisions

	System element	HW#	FW#	Rev	TBill-Update	SetRev	P	SSE#	Task	Supportof system elements
M	CP-2016/CPCX26	2016	2016	02	02 [02]					Supported
M-Bus0/PBA-0	PE-641X/USIO66	6410	6410	05.03	05.03 [05.03]			0		Supported
C2	CP-2019/PCCX26	2019	2019	02	02 [02]					Supported
C2-PRE/3	SM-2558/ETA5	2558	1590	03.04	03.04 [03.04]			131		Supported

Note: IEC61850 Ed.2 functionality is included in firmware ETA5 Rev. 03.04

Power Supply / CPU-Boards / Interface Cards

	Designation	Item-Number/MLFB
	PS-2632 Power supply 110-220 VDC, 230 VAC AK 3	GC2-632 6MF11130CG320AA0
	CP-2016 Central module AK 3	BC2-016 6MF10130CA160AA0
	CP-2019 Communication/Processing AK 3	BC2-019 6MF10132CA100AA0
	SM-2558 Ethernet-Interf. 1x100TX, +1 serial interface optional	BC2-558 6MF10130CF580AA0

2 Mandatory Edition 2 Tissues

Below tables give an overview of the applicable mandatory Tissues.

“Implemented by server”:

“Y”: means that the server has implemented the respective tissue.

“ni”: No impact on testing

“na”: not applicable if the server does not support the corresponding ACSI service(s)

“Supported by client”:

“Y”: means that the client supports servers that have implemented the respective tissue.

“ni”: No impact on testing

“na”: not applicable if the client does not support the corresponding ACSI service(s)

Part 6 Tissue	Description	Implemented by server	Supported by client
658	Tracking related features		na
663	FCDA element cannot be a "functionally constrained logical node"		Y
668	Autotransformer modeling		Y
719	ConfDataSet - maxAttributes definition is confusing		Y
721	Log element name		na
768	bType VisString65 is missing		na
779	object references		Y
788	SICS S56 from optional to mandatory		na
789	ConfLdName as services applies to both server and client (supportsLdname)		na
804	valKind and IED versus System configuration (valimport)		na
806	Max length of log name inconsistent between -6 and -7-2		ni
807	Need a way to indicate if "Owner" present in RCB		na
822	Extension of IED capabilities		na
823	ValKind for structured data attributes		na
824	Short addresses on structured data attributes		na
825	Floating point value		Y
845	SGCB ResvTms		na
853	SBO and ProtNs		Y
855	Recursive SubFunction		na
856	VoltageLevel frequency and phases		ni
857	Function/SubFunction for ConductingEquipment		na
886	Missing 8-1 P-types		na

Part 6 Tissue	Description	Implemented by server	Supported by client
901	tServices as AP or as IED element		na
936	SupSubscription parameter usage is difficult		na
1175	IPv6 address lowercase only		na

Part 7-1 Tissue	Description	Implemented by server	Supported by client
828	Data model namespace revision IEC 61850-7-4:2007[A]		na
1151	simulated GOOSE disappears after 1st appearance when LPHD.Sim = TRUE		na
1196	Extensions to standardized LN classes made by third parties		Y

Part 7-2 Tissue	Description	Implemented by server	Supported by client
778	AddCause values – add value not-supported		Y
780	What are unsupported trigger option at a control block?		na
783	TimOper Resp- ; add Authorization check		na
786	AddCause values 26 and 27 are switched		Y
820	Mandatory ACSI services (use for PICS template)		Y
858	typo in enumeration ServiceType		ni
861	dchg of ConfRev attribute		na
876	GenLogicNodeClass and SGCB, GoCB, MsvCB, UsvCB		ni
1038	Loss of Info Detection After Resynch		na
1062	Entrytime not used in CDC		ni
1071	Length of DO name		ni
1091	The sentence "The initial value of EditSG shall be 0", has to be stated in part 7.2 not in 8.1		na
1127	Missing owner attribute in BTS and UTS		na
1163	Old report in URCB		ni
1202	GI not optional		ni

Part 7-3 Tissue	Description	Implemented by server	Supported by client
697	persistent command / PulseConfig		na
698	Wrong case is BAC.dB attribute		na
722	Units for 'h' and 'min' not in UnitKind enumeration.		ni
919	Presence Condition for sVC		ni

Part 7-3 Tissue	Description	Implemented by server	Supported by client
925	Presence of i or f attribute - Problem with writing		Y
926	Presence Conditions within RangeConfig		na

Part 7-4 Tissue	Description	Implemented by server	Supported by client
671	mistake in definition of Mod & Beh		Y
674	CDC of ZRRC.LocSta is wrong		na
675	SIML LN		ni
676	Same data object name used with different CDC		Y
677	MotStr is used with different CDC in PMMS and SOPM LN classes		na
679	Remove CycTrMod Enum		na
680	SI unit for MHYD.Cndct		ni
681	Enum PIDAlg		ni
682	ANCR.ParColMod		ni
683	Enum QVVR.IntrDetMth		ni
685	Enum ParTraMod		ni
686	New annex H - enums types in XML		na
694	Data object CmdBlk		ni
696	LSVS.St (Status of subscription)		ni
712	interpretation of quality operatorBlocked		na
713	DO Naming of time constants in FFIL		na
724	ANCR.Auto		Y
725	Loc in LN A-group		Y
734	LLN0.OpTmh vs. LPHD.OpTmh		Y
735	ISAF.Alm and ISAF.AlmReset		Y
736	PFSign		na
742	GAPC.Str, GAPC.Op and GAPC.StrVal		Y
743	CCGR.PmpCtl and CCGR.FanCtl		na
744	LN STMP, EEHealth and EEName		na
772	LPHD.PwrUp/PwrDn shall be transient		na
773	Loc, LockKey and LocSta YPSH and YLTC		Y
774	ITCI.LockKey		Y
775	KVLV.ClsLim and OpnLim		ni
776	LPHD.OutOv/InOv and LCCH.OutOv/InOv		ni
800	Misspelling in CSYN		Y
802	CCGR and Harmonized control authority		na
808	Presence condition of ZMOT.DExt and new DOs		na
831	Setting of ConfRevNum in LGOS		na
838	Testing in Beh=Blocked		Y
844	MFLK.PhPiMax, MFLK.PhPiLoFil, MFLK.PhPiRoot DEL->WYE		Y
849	Presence conditions re-assessing in case of derived statistical calculation		na

Part 7-4 Tissue	Description	Implemented by server	Supported by client
877	QVUB -settings should be optional		na
909	Remove ANCR.ColOpR and ColOpL		Y
912	Clarification of PwrRtg/VARtg		na
920	Resetable Counter is NOT resetable		na
932	Rename AVCO.SptVol to AVCO.VolSpt		Y
939	Change CDC for ANCR.FixCol		Y
991	LGOS: GoCBRef (as well as LSVS.SvCBRef) should be mandatory		ni
1007	PTRC as fault indicator - Update of description required		ni
1044	TapChg in AVCO		Y
1077	Rename DOnames within LTIM		Y

Note: Tissues 675, 735, 772, 775, 776, 878 are not relevant for conformance testing

Part 8-1 Tissue	Description	Implemented by server	Supported by client
784	Tracking of control (CTS)		na
817	<u>Fixed-length GOOSE float encoding</u>		ni
834	File dir name length 64		Y
951	<u>Encoding of Owner attribute</u>		na
1040	More associate error codes		Y
1178	Select Response+ is non-null value		Y

Compare the TISSUE database for more details: www.tissues.iec61850.com

