

SIEMENS

SICAM AK 3

TICS for IEC 61850 Ed. 2 Server

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

Preface, Table of Contents

Introduction

1

Mandatory Edition 2 Tissues

2

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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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 Server 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 with TPCL 1.0
Date: October 28, 2014

Table of Contents

- 1 Introduction 5
 - 1.1 SICAM AK 3 “Device Under Test” (DUT) 6
- 2 Mandatory Edition 2 Tissues 8

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** using firmware "**ETA5 Rev. 03.04**".

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

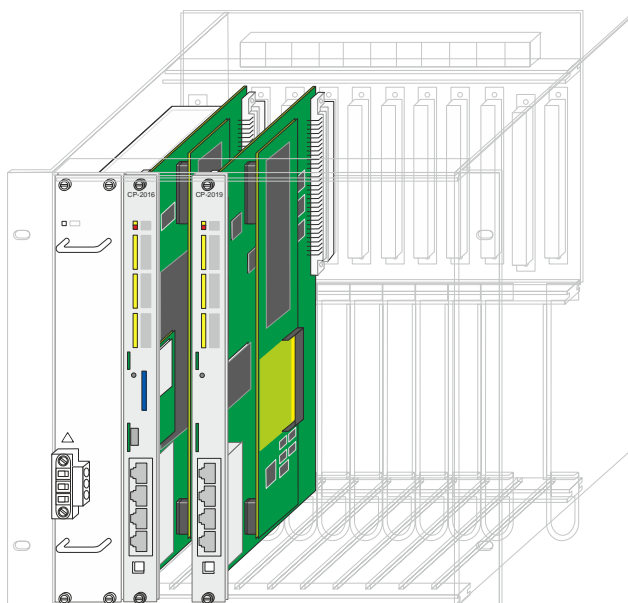
Board	MLFB	Description
PS-2632	6MF11130CG320AA0BB	Power Supply 110-220VDC, 230VAC AK 3
CP-2016	6MF10130CA160AA0BB	Central Processor AK 3
CP-2019	6MF10132CA100AA0BB	Communication/Processing AK 3
SM-2558 ¹⁾	6MF10130CF580AA0BB	Ethernet-Interf. 1x100TX,(+1SI)

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 Server with ETA5 firmware.
- the red marked interface connector is also used for WEB Browser interface for IEC61850 Ed. 2 Server.
- 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.

Part 6 Tissue	Description	Implemented Y/na
658	Tracking related features	na
663	FCDA element cannot be a "functionally constrained logical node"	Y
668	Autotransformer modeling	Y
687	SGCB ResvTms	na
719	ConfDataSet - maxAttributes definition is confusing	na
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	na
804	valKind and IED versus System configuration	na
806	Max length of log name inconsistent between -6 and -7-2	na
807	Need a way to indicate if "Owner" present in RCB	na
822	Short addresses on structured data attributes	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	na
855	Recursive SubFunction	na
856	VoltageLevel frequency and phases	na
857	Function/SubFunction for ConductingEquipment	na
886	Missing 8-1 P-types	na
901	tServices as AP or as IED element	na
936	SupSubscription parameter usage is difficult	na
1168	doName and daName of ExtRef; doName may have one dot (DO.SDO)	na
1175	IPv6 address lowercase only	na

Part 7-1 Tissue	Description	Implemented Y/na
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 Y/na
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)	na
858	typo in enumeration ServiceType	na
861	dchg of ConfRev attribute	na
876	GenLogicNodeClass and SGCB, GoCB, MsvCB, UsvCB	na
1038	Loss of Info Detection After Resynch	na
1050	GTS Phycomaddr definition in SCL	na
1062	Entrytime not used in CDC	na
1071	Length of DO name	na
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	na
1202	GI not optional	na

Part 7-3 Tissue	Description	Implemented Y/na
697	persistent command / PulseConfig	na
698	Wrong case is BAC.dB attribute	na
722	Units for 'h' and 'min' not in UnitKind enumeration.	na
919	Presence Condition for sVC	na
925	Presence of i or f attribute - Problem with writing	Y
926	Presence Conditions within RangeConfig	na

Part 7-4 Tissue	Description	Implemented Y/na
671	mistake in definition of Mod & Beh	na
674	CDC of ZRRC.LocSta is wrong	na
675	SIML LN	na
676	Same data object name used with different CDC	na
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	na
681	Enum PIDAlg	na
682	ANCR.ParColMod	na
683	Enum QVVR.IntrDetMth	na
685	Enum ParTraMod	na
686	New annex H - enums types in XML	na
694	Data object CmdBlk	na

Part 7-4 Tissue	Description	Implemented Y/na
696	LSVS.St (Status of subscription)	na
712	interpretation of quality operatorBlocked	na
713	DO Naming of time constants in FFIL	na
724	ANCR.Auto	na
725	Loc in LN A-group	na
734	LLN0.OpTmh vs. LPHD.OpTmh	na
735	ISAF.Alm and ISAF.AlmReset	na
736	PFSign	na
742	GAPC.Str, GAPC.Op and GAPC.StrVal	na
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	na
774	ITCI.LockKey	na
775	KVLV.ClsLim and OpnLim	na
776	LPHD.OutOv/InOv and LCCH.OutOv/InOv	na
800	Misspelling in CSYN	na
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	na
844	MFLK.PhPiMax, MFLK.PhPiLoFil, MFLK.PhPiRoot DEL->WYE	na
849	Presence conditions re-assessing in case of derived statistical calculation	na
877	QVUB -settings should be optional	na
909	Remove ANCR.ColOpR and ColOpL	na
912	Clarification of PwrRtg/VARtg	na
920	Resetable Counter is NOT resetable	na
932	Rename AVCO.SptVol to AVCO.VolSpt	na
939	Change CDC for ANCR.FixCol	na
991	LGOS: GoCRef (as well as LSVS.SvCRef) should be mandatory	na
1007	PTRC as fault indicator - Update of description required	na
1044	TapChg in AVCO	na
1077	Rename DOnames within LTIM	na

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

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

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