

# **Protocol Implementation Conformance Statement for the IEC 61850 interface in Elipse E3/Power**

UCA International Users Group  
Testing Sub Committee

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## 1. General

The following ACSI conformance statements are used to provide an overview and details about **IEC 61850 Client Driver for Elipse E3 / Elipse Power**, with version 3.0.1. Document Version 2.00 (April/2019)

- ACSI basic conformance statement,
- ACSI models conformance statement,
- ACSI service conformance statement

The statements specify the communication features mapped to IEC 61850-8-1 and IEC 61850-9-2.

## 2. ACSI basic conformance statement

The basic conformance statement is defined in Table A.1.

**Table A.1 – Basic conformance statement**

		Client/ Subscriber	Server/ Publisher	Value/ Comments
<b>Client-Server roles</b>				
B11	<b>Server</b> side (of TWO-PARTY-APPLICATION-ASSOCIATION)	N/A		
B12	<b>Client</b> side of (TWO-PARTY-APPLICATION-ASSOCIATION)	Yes	N/A	
<b>SCSMs supported</b>				
B21	<b>SCSM</b> : IEC 61850-8-1 used	Yes		
B22	<b>SCSM</b> : IEC 61850-9-1 used	N/A	N/A	Deprecated Ed2
B23	<b>SCSM</b> : IEC 61850-9-2 used	No		
B24	<b>SCSM</b> : other			
<b>Generic substation event model (GSE)</b>				
B31	<b>Publisher</b> side	N/A		
B32	<b>Subscriber</b> side	No	N/A	
<b>Transmission of sampled value model (SVC)</b>				
B41	<b>Publisher</b> side	N/A		
B42	<b>Subscriber</b> side	No	N/A	
N/A = not applicable Yes = supported No or empty = not supported				

### 3. ACSI model conformance statement

The ACSI models conformance statement is defined in Table A.2.

**Table A.2 – ACSI models conformance statement**

		Client/Subscriber	Server/Publisher	Value/ Comments
If <b>Server</b> side (B11) and/or <b>Client</b> side (B12) supported				
M1	<b>Logical device</b>	Yes		
M2	<b>Logical node</b>	Yes		
M3	<b>Data</b>	Yes		
M4	<b>Data set</b>	Yes		
M5	<b>Substitution</b>	No		
M6	<b>Setting group control</b>	No		
	<b>Reporting</b>			
M7	<b>Buffered report control</b>	Yes		
M7-1	sequence-number	Yes		
M7-2	report-time-stamp	Yes		
M7-3	reason-for-inclusion	Yes		
M7-4	data-set-name	Yes		
M7-5	data-reference	Yes		
M7-6	buffer-overflow	Yes		
M7-7	entryID	Yes		
M7-8	BufTm	Yes		
M7-9	IntgPd	Yes		
M7-10	GI	Yes		
M7-11	conf-revision	Yes		
M8	<b>Unbuffered report control</b>	Yes		
M8-1	sequence-number	Yes		
M8-2	report-time-stamp	Yes		
M8-3	reason-for-inclusion	Yes		
M8-4	data-set-name	Yes		
M8-5	data-reference	Yes		
M8-6	BufTm	Yes		
M8-7	IntgPd	Yes		
M8-8	GI	Yes		
M8-9	conf-revision	Yes		
	<b>Logging</b>			
M9	<b>Log control</b>	No		
M9-1	IntgPd	No		
M10	<b>Log</b>	No		
M11	<b>Control</b>	Yes		

		Client/Subscriber	Server/Publisher	Value/ Comments
M17	File Transfer	Yes		
M18	Application association	Yes		
M19	GOOSE Control Block	No		
M20	Sampled Value Control Block	No		
If <b>GSE</b> (B31/32) is supported				
M12	GOOSE			
M13	GSSE			Deprecated since Ed2
If <b>SVC</b> (B41/42) is supported				
M14	Multicast SVC	No		
M15	Unicast SVC	No		
For all IEDs				
M16	Time	Yes		Time source with required accuracy shall be available. Only Time Master are SNTP (Mode 4 response) time server. All other Client / Server devices are SNTP (Mode 3 request) clients
<p>Y = service is supported</p> <p>N or empty = service is not supported</p>				

The ACSI service conformance statement is defined in Table A.3 (depending on the statements in Table A.1 and in Table A.2).

**Table A.3 – ACSI service conformance statement**

	Ed.	Services	AA: TP/MC	Client (C)	Server (S)	Comments
<b>Server</b>						
S1	1,2	GetServerDirectory (LOGICAL-DEVICE)	TP	Yes		
<b>Application association</b>						
S2	1,2	Associate	TP	Yes		
S3	1,2	Abort	TP	Yes		
S4	1,2	Release	TP	Yes		
<b>Logical device</b>						
S5	1,2	GetLogicalDeviceDirectory	TP	Yes		
<b>Logical node</b>						
S6	1,2	GetLogicalNodeDirectory	TP	Yes		
S7	1,2	GetAllDataValues	TP	No		
<b>Data</b>						
S8	1,2	GetDataValues	TP	Yes		
S9	1,2	SetDataValues	TP	Yes		
S10	1,2	GetDataDirectory	TP	Yes		
S11	1,2	GetDataDefinition	TP	Yes		
<b>Data set</b>						
S12	1,2	GetDataSetValues	TP	Yes		
S13	1,2	SetDataSetValues	TP	No		
S14	1,2	CreateDataSet	TP	Yes		
S15	1,2	DeleteDataSet	TP	Yes		
S16	1,2	GetDataSetDirectory	TP	Yes		
<b>Substitution</b>						
S17	1	SetDataValues	TP	No		
<b>Setting group control</b>						
S18	1,2	SelectActiveSG	TP	Yes		

	Ed.	Services	AA: TP/MC	Client (C)	Server (S)	Comments
S19	1,2	SelectEditSG	TP	No		
S20	1,2	SetEditSGValues	TP	No		
S21	1,2	ConfirmEditSGValues	TP	No		
S22	1,2	GetEditSGValues	TP	No		
S23	1,2	GetSGCBValues	TP	No		

Reporting						
Buffered report control block (BRCB)						
S24	1,2	Report	TP	Yes		
S24-1	1,2	data-change (dchg)		Yes		
S24-2	1,2	quality-change (qchg)		Yes		
S24-3	1,2	data-update (dupd)		Yes		
S25	1,2	GetBRCBValues	TP	Yes		
S26	1,2	SetBRCBValues	TP	Yes		
Unbuffered report control block (URCB)						
S27	1,2	Report	TP	Yes		
S27-1	1,2	data-change (dchg)		Yes		
S27-2	1,2	quality-change (qchg)		Yes		
S27-3	1,2	data-update (dupd)		Yes		
S28	1,2	GetURCBValues	TP	Yes		
S29	1,2	SetURCBValues	TP	Yes		

Logging						
Log control block						
S30		GetLCBValues	TP	No		
S31		SetLCBValues	TP	No		
Log						
S32		QueryLogByTime	TP	No		
S33		QueryLogAfter	TP	No		
S34		GetLogStatusValues	TP	No		

Generic substation event model (GSE)						
GOOSE						
S35	1,2	SendGOOSEMessage	MC	No		
GOOSE-CONTROL-BLOCK						
S36	1,2	GetGoReference	TP	No		
S37	1,2	GetGOOSEElementNumber	TP	No		
S38	1,2	GetGoCBValues	TP	No		
S39	1,2	SetGoCBValues	TP	No		
GSSE						
S40	1	SendGSSEMessage	MC	N/A	N/A	Deprecated in Edition 2

	Ed.	Services	AA: TP/MC	Client (C)	Server (S)	Comments
GSSE-CONTROL-BLOCK						
S41	1	GetReference	TP	N/A	N/A	Deprecated in Edition 2
S42	1	GetGSSEElementNumber	TP	N/A	N/A	Deprecated in Edition 2
S43	1	GetGsCBValues	TP	N/A	N/A	Deprecated in Edition 2
S44	1	SetGsCBValues	TP	N/A	N/A	Deprecated in Edition 2

Transmission of sampled value model (SVC)						
Multicast SV						
S45	1,2	SendMSVMessage	MC	No		
Multicast Sampled Value Control Block						
S46	1,2	GetMSVCBValues	TP	No		
S47	1,2	SetMSVCBValues	TP	No		
Unicast SV						
S48	1,2	SendUSVMessage	TP	No		
Unicast Sampled Value Control Block						
S49	1,2	GetUSVCBValues	TP	No		
S50	1,2	SetUSVCBValues	TP	No		
Control						
S51	1,2	Select		Yes		
S52	1,2	SelectWithValue	TP	Yes		
S53	1,2	Cancel	TP	Yes		
S54	1,2	Operate	TP	Yes		
S55	1,2	CommandTermination	TP	Yes		
S56	1,2	TimeActivatedOperate	TP	Yes		
File Transfer						
S57	1,2	GetFile	TP	Yes		
S58	1,2	SetFile	TP	No		
S59	1,2	DeleteFile	TP	Yes		
S60	1,2	GetFileAttributeValues	TP	Yes		
S61	1,2	GetServerDirectory (FILE-SYSTEM)	TP	Yes		
Time						
T1	1,2	Time resolution of internal clock		10	xx	Nearest negative power of 2-n in seconds (number 0 .. 24)
T2	1,2	Time accuracy of internal clock		T1	Tx	TL (ms) (low accuracy), T3 < 7) (only Ed2) T0 (ms) (<= 10 ms), 7 <= T3 < 10 T1 (μs) (<= 1 ms), 10 <= T3 < 13 T2 (μs) (<= 100 μS), 13 <= T3 < 15 T3 (μs) (<= 25 μS), 15 <= T3 < 18 T4 (μs) (<= 25 μS), 18 <= T3 < 19 T5 (μs) (<= 1 μS), T3 >= 20



	Ed.	Services	AA: TP/MC	Client (C)	Server (S)	Comments
T3	1,2	Supported TimeStamp resolution	-	10	xx	Nearest value of 2-n in seconds (number 0 .. 24)
N/A = not applicable Yes = supported No or empty = not supported						