

Protocol Implementation Conformance Statement
for the IEC 61850 interface in SEL-751

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Revision 1.0

UCA International Users Group
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1 General

The following ACSI conformance statements are used to provide an overview and details about SEL-751 Feeder Protection Relay with firmware R111:

- 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
Client-Server roles				
B11	Server side (of TWO-PARTY-APPLICATION-ASSOCIATION)	—	Y	
B12	Client side of (TWO-PARTY-APPLICATION-ASSOCIATION)		—	
SCSMs supported				
B21	SCSM: IEC 61850-8-1 used		Y	
B22	SCSM: IEC 61850-9-1 used			Deprecated Ed2
B23	SCSM: IEC 61850-9-2 used			
B24	SCSM: other			
Generic substation event model (GSE)				
B31	Publisher side	—	Y	
B32	Subscriber side	Y	—	
Transmission of sampled value model (SVC)				
B41	Publisher side	—		
B42	Subscriber side		—	

	Client/ Subscriber	Server/ Publisher	Value/ Comments
– = not applicable Y = supported N or empty = not supported			

3 ACSI models 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/ Com- ments
If Server side (B11) and/or Client side (B12) supported			
M1	Logical device		Y
M2	Logical node		Y
M3	Data		Y
M4	Data set		Y
M5	Substitution		
M6	Setting group control		Y
	Reporting		
M7	Buffered report control		Y
M7-1	sequence-number		Y
M7-2	report-time-stamp		Y
M7-3	reason-for-inclusion		Y
M7-4	data-set-name		Y
M7-5	data-reference		Y
M7-6	buffer-overflow		Y
M7-7	entryID		Y
M7-8	BufTm		Y
M7-9	IntgPd		Y
M7-10	GI		Y
M7-11	conf-revision		Y
M8	Unbuffered report control		Y
M8-1	sequence-number		Y
M8-2	report-time-stamp		Y
M8-3	reason-for-inclusion		Y
M8-4	data-set-name		Y

		Client/ Subscriber	Server/ Publisher	Value/ Comments
M8-5	data-reference		Y	
M8-6	BufTm		Y	
M8-7	IntgPd		Y	
M8-8	GI		Y	
M8-9	conf-revision		Y	
	Logging			
M9	Log control			
M9-1	IntgPd			
M10	Log			
M11	Control		Y	
M17	File Transfer		Y	
M18	Application association			
M19	GOOSE Control Block		Y	
M20	Sampled Value Control Block			
If GSE (B31/32) is supported				
M12	GOOSE		Y	
M13	GSSE			Deprecated Ed2
If SVC (B41/42) is supported				
M14	Multicast SVC			
M15	Unicast SVC			
For all IEDs				
M16	Time		Y	Time source with required accuracy shall be available. Only Time Master are SNTP (Mode 4 response) time server. All other Client / Server devices require SNTP (Mode 3 request) clients
Y = service is supported N or empty = service is not supported				

4 ACSI service conformance statement

The ACSI service conformance statement is defined in Table A.4 (depending on the statements in Table A.1 and in Table A.3).

Table A.4 – ACSI service Conformance statement

	Ed.	Services	AA: TP/M C	Client (C)	Server (S)	Comments
Server						
S1	1,2	GetServerDirectory (LOGICAL-DEVICE)	TP		Y	
Application association						
S2	1,2	Associate			Y	
S3	1,2	Abort			Y	
S4	1,2	Release			Y	
Logical device						
S5	1,2	GetLogicalDeviceDirectory	TP		Y	
Logical node						
S6	1,2	GetLogicalNodeDirectory	TP		Y	
S7	1,2	GetAllDataValues	TP		Y	
Data						
S8	1,2	GetDataValues	TP		Y	
S9	1,2	SetDataValues	TP			
S10	1,2	GetDataDirectory	TP		Y	
S11	1,2	GetDataDefinition	TP		Y	
Data set						
S12	1,2	GetDataSetValues	TP		Y	
S13	1,2	SetDataSetValues	TP			
S14	1,2	CreateDataSet	TP			
S15	1,2	DeleteDataSet	TP			
S16	1,2	GetDataSetDirectory	TP		Y	
Substitution						
S17	1	SetDataValues	TP			
Setting group control						
S18	1,2	SelectActiveSG	TP		Y	

	Ed.	Services	AA: TP/M C	Client (C)	Server (S)	Comments
S19	1,2	SelectEditSG	TP			
S20	1,2	SetSGValues	TP			
S21	1,2	ConfirmEditSGValues	TP			
S22	1,2	GetSGValues	TP			
S23	1,2	GetSGCBValues	TP		Y	

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

Logging						
Log control block						
S30	1,2	GetLCBValues	TP			
S31	1,2	SetLCBValues	TP			
Log						
S32	1,2	QueryLogByTime	TP			
S33	1,2	QueryLogAfter	TP			
S34	1,2	GetLogStatusValues	TP			

Generic substation event model (GSE)						
GOOSE						
S35	1,2	SendGOOSEMessage	MC		Y	
GOOSE-CONTROL-BLOCK						

	Ed.	Services	AA: TP/M C	Client (C)	Server (S)	Comments
S36	1,2	GetGoReference	TP			
S37	1,2	GetGOOSEElementNumber	TP			
S38	1,2	GetGoCBValues	TP		Y	
S39	1,2	SetGoCBValues	TP			
GSSE						
S40	1	SendGSSEMessage	MC			Deprecated in Edition 2
GSSE-CONTROL-BLOCK						
S41	1	GetReference	TP			Deprecated in Edition 2
S42	1	GetGSSEElementNumber	TP			Deprecated in Edition 2
S43	1	GetGsCBValues	TP			Deprecated in Edition 2
S44	1	SetGsCBValues	TP			Deprecated in Edition 2

Transmission of sampled value model (SVC)						
Multicast SV						
S45	1,2	SendMSVMessage	MC			
Multicast Sampled Value Control Block						
S46	1,2	GetMSVCBValues	TP			
S47	1,2	SetMSVCBValues	TP			
Unicast SV						
S48	1,2	SendUSVMessage	TP			
Unicast Sampled Value Control Block						
S49	1,2	GetUSVCBValues	TP			
S50	1,2	SetUSVCBValues	TP			

Control						
S51	1,2	Select				
S52	1,2	SelectWithValue	TP		Y	
S53	1,2	Cancel	TP		Y	
S54	1,2	Operate	TP		Y	
S55	1,2	CommandTermination	TP		Y	
S56	1,2	TimeActivatedOperate	TP			

File transfer						
S57	1,2	GetFile	TP		Y	
S58	1,2	SetFile	TP			
S59	1,2	DeleteFile	TP			
S60	1,2	GetFileAttributeValues	TP		Y	
S61	1,2	GetServerDirectory (FILE-SYSTEM)	TP		Y	

	Ed.	Services	AA: TP/M C	Client (C)	Server (S)	Comments
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Time						
T1	1,2	Time resolution of internal clock			20	Nearest negative power of 2 ⁻ⁿ in seconds (number 0 .. 24)
T2	1,2	Time accuracy of internal clock			7 18 Y Y Y Y	For SNTP For IRIG-B T1 for IRIG-B T2 for IRIG-B T3 for IRIG-B T4 for IRIG-B
T3	1,2	Supported TimeStamp resolution	-		7 18	For SNTP For IRIG-B