

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

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TEST REPORT

Sheet 1 of 23

NAME & ADDRESS OF CUSTOMER ASHIDA ELECTRONICS PVT. LTD. PLOT NO. A-308, ROAD NO. 21, WAGLE INDUSTRIAL ESTATE, THANE-400604 MAHARASHTRA,INDIA	TEST REPORT NO. : RP-1819-015631 DATE : 24/07/2018	
	CUSTOMER REF.NO. LETTER	DATED 28/05/2018
	DATE OF SAMPLE RECEIPT 29/05/2018	DATE OF TESTING 31/05/2018 to 24/07/2018
	SAMPLE IDENTIFICATION ERDA sample code no. : ERDA-00259959 Model number: ADR241B-B-0-0-2-0-1-1-0-2-1-H Serial number: 17I241B0006 Make: ASHIDA ELECTRONICS PVT. LTD.	
SAMPLE DETAILS ADR241B FEEDER PROTECTION RELAY Auxiliary voltage range : 24-230 VAC/DC Rated current : 1/5 A AC Rated Frequency : 50/60 Hz Binary input voltage : 18-230 VDC Binary input : 8 Nos. Binary output : 8 Nos. Quantity (tested) : 01 No.	TEST SPECIFICATION IEC 61850-7-2:2010 IEC 61850-8-1:2011 IEC 61850-10:2012	
TEST DETAILS 1. GOOSE Publish 2. GOOSE Subscribe	ENCLOSURE: 1) Photograph No. : 1819-003335/A to C 2) Oscillogram No. : Nil 3) Drawing No. : Nil	
TEST WITNESSED BY: Mr. Amol Dhuri of M/s. ASHIDA ELECTRONICS PVT. LTD.		
REMARKS: Sample has not shown to be non-conforming to the requirement of the standard for the tests carried out.		
 Prepared By	 Checked By	 Approved By (Dr. S.H.CHETWANI)

Note: 1. This report relates only to the particular sample received in good condition for testing at ERDA, Vadodara.

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-Identification

DUT	SOFTWARE VERSION:V 2.2.0 HARWARE VERSION:V 1.0 FIRMWARE VERSION:V 3.02
PICS	"Protocol Implementation Conformance Statement for the IEC 61850 Ed.2"
MICS	"Model Implementation Conformance Statement for the IEC 61850 Ed.2"
TICS	"TISSUES Implementation Conformance Statement for the IEC 61850 Ed.2 "
PIXIT	"Protocol Implementation extra Information for Testing (PIXIT) the IEC 61850 Ed.2 "
CLIENT SIMULATOR	UNIGRID Substation automation version 1.4.401.76
ANALYZER	UniCA 61850 Analyzer 5.31.00.0
HMI	To monitor processed data: Avenue To configure DUT and force commands: RTV2 and GOOSE configurator
TIME SERVER	KemaSNTP.exe, DNV KEMA SNTP Master


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Checked By

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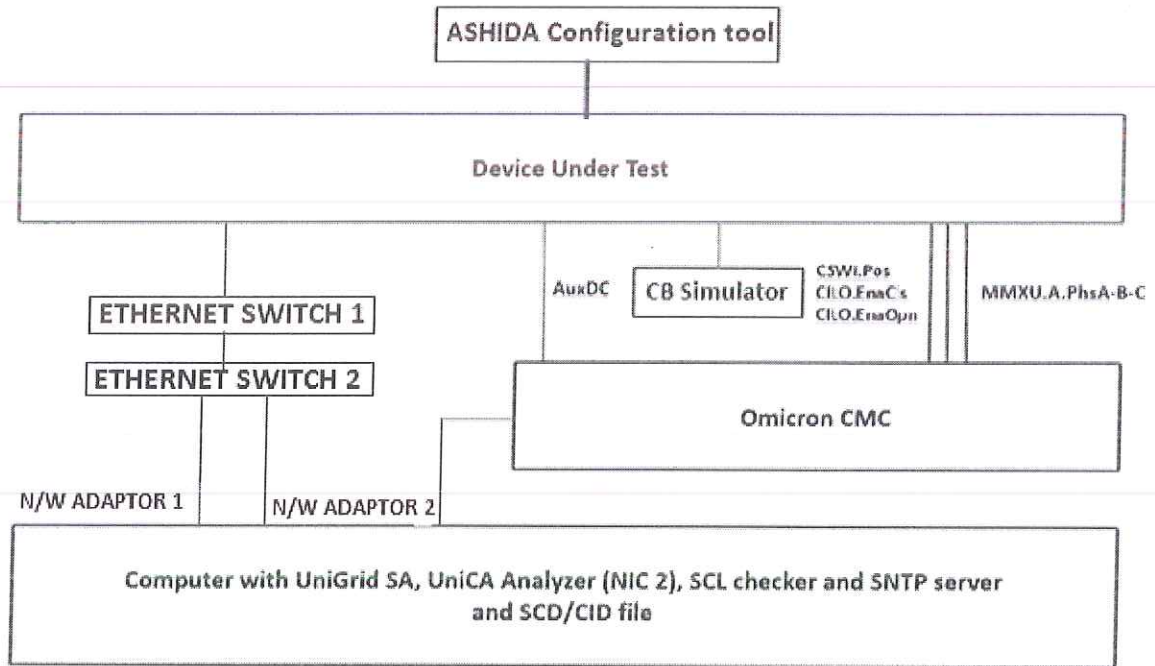
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- Components in the test environment



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Prepared By

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Abbreviation:

DUT	Device Under Test
HMI	Human machine interface
MICS	Model Implementation Conformance Statement
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
IID	Instantiated IED description
SCL	Substation Configuration Language
SNTP	Simple Network Time Protocol
TICS	TISSUES Implementation Conformance Statement
TISSUE	Technical issue

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1.0 Generic substation events model

Ref.:Cl. No. 6.2.4.16 of IEC 61850-10:2005

1.1 Positive Abstract test cases DUT publish

Ref.:Cl. No. 6.2.4.16.1 of IEC 61850-10:2005

Test case	Description
sGop1	Request GetLogicalNodeDirectory(GoCB) and request GetGoCBValues (IEC 61850-7-2:2010 Subclause 18.2.2.5 and 10.2.2)
sGop2	GOOSE messages are published with a long (SCL maxtime) cycle time, check the GOOSE data with configured data; (IEC 61850-7-2:2010 Subclause 18.2.3) <ul style="list-style-type: none">- gocbRef is a valid GoCB reference- timeAllowedtoLive > 0 and the next GOOSE message is transmitted within the specified value of the current GOOSE message- datSet is same as the GoCB and contains a valid dataset reference- goID is same as the GoCB and SCL, the default value is the GoCB reference- t contains the time of the status increment or start-up- sqNum is incremented, stNum>0 and is not changed- Simulation is not present or if present with value FALSE- confRev >0 and is same as the GoCB and SCL (IEC 61850-7-2:2010 Subclause 18.2.1.6)- needsCommisioning is not present or if present same as GoCB- numDatSetEntries matches with the number of data entries in allData- allData values match with the datSet element type
sGop3	Verify that a newly activated device sends the initial GOOSE message with stNum initial value one (1) (IEC 61850-7-2:2010 Subclause 18.1, 18.2.3)
sGop4	Force a data change of a data value in the GOOSE dataset, DUT should publish GOOSE messages as specified/configured (SCL mintime), stNum is incremented, sqNum = 0
sGop6	Disable GoCB, verify that changing parameters with SetGoCBValues are active (IEC 61850-7-2:2010 Subclause 18.2.1.3, 18.2.2.5 and 18.2.2.6) and no GOOSE messages are transmitted anymore
sGop7	Verify that a restart of the device shall not reset the Configuration revision value (IEC 61850-7-2:2010 Subclause 18.2.1.6)


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Test case	Description
sGop9	Verify that GoCB attribute NdsCom is set when DatSet is not yet configured (is NULL) (IEC 61850-7-2:2010 Subclause 18.2.1.7)
sGop10	Verify the DUT can send GOOSE messages with data attributes and/or data objects
sGop11	Verify that the server can process a GoCB with maximum name length for DatSet, GoCBRef and GoID (IEC 61850-7-2:2010 Subclause 22.2)


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sGop1	GetLogicalNodeDirectory(GoCB) and GetGoCBValues	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.2.5 IEC 61850-8-1:2011 clause 18.1.2.3		
<u>Expected result</u> 1. DUT sends GetLogicalNodeDirectory(GoCB) response+ with a list of GoCB's. The GoCB shall be located in LLNO 2. DUT sends GetGoCBValues response+, the returned values match with SCL configuredvalues		
<u>Test description</u> 1. For each logical node Client requests GetLogicalNodeDirectory(GoCB) 2. For each GoCB Client requests GetGoCBValues()		
<u>Comment</u>		

sGop2a	GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3.6+7 IEC 61850-8-1:2011 clause 18.1,A.3, TISSUE#817		
<u>Expected result</u> 1. DUT sends valid GOOSE message with valid reference , time stamp, incrementing sequence number, status number is the same offset is variable (the GoCB.FixedOffs is false or is not available) 2. DUT sends valid GOOSE message with valid reference, time stamp, incrementing sequence number, status number is the same, the GOOSE header and the data values use fixed length encoding according to table A.1and A.2, the GoCB.FixedOffs is true		
<u>Test description</u> 1. Force no data change. wait for several variable Offset GOOSE messages 2. Force no data change. Wait for several fixed offset GOOSE messages		
<u>Comment</u>		

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sGop3	Initial GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.3.2.2 IEC 61850-8-1:2011 clause 18.1, PIXIT Gp7 IEC 61850-10:2012 clause 3.12, PIXIT As9		
<u>Expected result</u> 1. DUT sends initial GOOSE message with stNUM=1 and sqNUM=0 or 1		
<u>Test description</u> 1.Enable GoCB when necessary 2. Restart the DUT and wait for initial GOOSE. Test equipment may be reconfigured and the GOCB enabled after restart		
<u>Comment</u>		

sGop4	Goose on data change	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.3.2.2 IEC 61850-8-1:2011 clause 18.1, PIXIT Gp5		
<u>Expected result</u> 1. DUT sends GOOSE messages according to the configured retransmission strategy a The first retransmission does not exceed the SCL MinTime, stNum is incremented , sqNum = 0 in the first message after data change stNum		
<u>Test description</u> 1. Force a data change of a data value in the GoCB data set 2. Wait for GOOSE messages		
<u>Comment</u>		

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2234488



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sGop6	SetGoCBValues	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.1.3, 18.2.2.5, 18.2.2.6 IEC 61850-8-1:2011 clause 18.1.1		
<u>Expected result</u> 1. GoEna= True and stNum>1 2. DUT sends a SetGoCBValues response+ and stops transmitting GOOSE messages 3. DUT sends a SetGoCBValues response+ and initializes/starts transmitting GOOSE messages. The first message has stNum=1.		
<u>Test description</u> 1. Force GoEna= True and stNum>1 2. Client requests a SetGoCBValues with GoEna set to FALSE 3. Client requests a SetGoCBValues with GoEna set to TRUE		
<u>Comment</u> GoEna is the only attribute that may be written according to part 8-1.		

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sGop7	Configuration revision after restart	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.1.6 IEC 61850-8-1:2011 clause 18.1		
<u>Expected result</u> 1. DUT restarts 2. DUT sends GOOSE message with the same ConfRev value as before the restart 2. DUT sends a GetGoCBValues response+ with the same ConfRev (not null) value as before the restart		
<u>Test description</u> 1. Wait for several GOOSE messages 2. if supported, Client sends GetGoCBValues request 3. Restart the DUT 4. Wait for several GOOSE messages 3. if supported, Client sends GetGoCBValues request		
<u>Comment</u>		

sGop9	DatSet not configured	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.1.7 IEC 61850-8-1:2011 clause 18.1		
<u>Expected result</u> 1. DUT (including IED tool) either refuses the entire configuration or it ignores parts of the new configuration or it accepts the configuration. 2. DUT sends SetGoCBValues response- 3. DUT sends no GOOSE messages for GoCb with empty datSet 4.If DUT accepts configuration , GoCb.datSet is empty and GoCb.NdsCom is true		
<u>Test description</u> 1. DUT is configured with a GSEControl without thedatset 2. If supported Client sends SetGoCbValues request to enable this GoCB 3.Wait one minute after reconfiguration is completed 4. If supported, Client sends GetGoCBValues request		
<u>Comment</u>		

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Checked By

2234490



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sGop10	GOOSE with data attributes (FCDA) and data objects (FCD)	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2 IEC 61850-8-1:2011clause 18.1 PIXIT		
<u>Expected result</u> a) DUT sends a GOOSE messages with data attributes b) DUT sends a GOOSE messages with data objects		
<u>Test description</u> a) Verify the DUT is able to send GOOSE message with data attributes (FCDA) b) Verify the DUT able to send GOOSE message with data objects (FCD)		
<u>Comment</u>		

sGop11	Max GoCB name length	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 22.2 IEC 61850-8-1:2011clause 18.1 PIXIT		
<u>Expected result</u> a) DUT sends a valid GOOSE messages where GoCbRef, GoID and DatSet reflect the configuration 2. DUT sends GetGoCB values response+ where GoID and DatSet reflect the configuration		
<u>Test description</u> 1. Configure DUT with GoCB with maximum name length(32), with maximum name length data set and GoID (129) 2. Client requests GetGoCBValues		
<u>Comment</u>		

2234491

R. P. Jh

Prepared By

P. Jh

Checked By



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EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

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1.2 Negative Abstract test cases DUT publish

Ref.: Cl. No. 6.2.4.16.2 of IEC 61850-10:2012

Test case	Test case description
sGopN1	When GoEna=TRUE, no attributes of the GoCB control block can be set except for GoEna.(IEC 61850-7-2:2010 Subclause 18.2.1.3)

GopN1	Verify that GoCB components are read-only	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.2.3, 18.2.2.4 IEC 61850-8-1:2011 clause 18.1.1		
<u>Expected result</u> 1. when supported DUT sends a SetGoCbValues response+ 2. DUT sends a SetGoCBValues response- 3. DUT sends a SetGoCBValues response- 4. DUT sends a SetGoCBValues response- 5. DUT sends a SetGoCBValues response- 6. DUT sends a SetGoCBValues response- 7. when supported DUT sends a SetGoCbValues response+		
<u>Test description</u> 1. Client requests a SetGoCBValues to disable GoEna 2. Client requests a SetGoCBValues with valid GoID 3. Client requests a SetGoCBValues with valid DatSet 4. Client requests a SetGoCBValues with valid DstAddress 5. Client requests a SetGoCBValues with optional MinTime, MaxTime 6. Client requests a SetGoCBValues with optional FixedOffs 7. Client requests a SetGoCBValues to enable GoEna		
<u>Comment</u>		

R. P. Jil

Prepared By

R. P. Jil

Checked By

2234492



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1.3 Positive Abstract test cases DUT subscribe

Ref.: Cl. No. 6.2.4.16.1 of IEC 6185010:2012

Test case	Test case description
sGos1	Send GOOSE messages with/without the VLAN tag with new data and check if the message is received and the data has the new value by e.g. check binary output, event list, logging or MMI
sGos2	Send GOOSE messages with the ndsCom parameter set. Verify that on a status change the values are not used for operational purposes (IEC 61850-7-2:2010 Subclause 18.2.3.8)
sGos3	Proper detection and action roll-over of sqNum with no status change (sqNum=max -> sqNum = 1) and with status change (sqNum=max -> sqNum = 0)
sGos5	Verify that the server can subscribe to GOOSE messages with structured data (FCD)
sGos6	Send subscribed GOOSE messages with the Simulation parameter set (IEC 61850-7-2:2010 Subclause 18.2.3.8). Verify that - when the subscriber is not in simulation mode (LPHD.Sim.stVal=false) the simulated values are ignored. The subscriber shall keep on using the "real" GOOSE messages - when the subscriber is in simulation mode (LPHD.Sim.stVal=true) the simulated values are used for operational purposes. The subscriber shall ignore the "real" GOOSE messages after a first simulated one has been received. The corresponding LGOS.SimSt shall be set when the first simulated message is received and cleared when LPHD.Sim.stVal is set to false.
sGos7	Verify that the server can subscribe GOOSE messages with maximum name length for DatSet, GoCBRef and GoID (IEC 61850-7-2:2010 Subclause 22.2)

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Checked By

2234493



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sGos1	Subscribe GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011 clause 18.1 PIXIT: Gs8		
<u>Expected result</u> a) and b) DUT updates the value and sends a GOOSE message with changed status value		
<u>Test description</u> Test engineer configures the DUT with subscribed GOOSE(ping-pong mechanism) a) Publisher sends GOOSE message with new data value with the VLAN tag b) Publisher sends GOOSE message with new data value without the VLAN tag		
<u>Comment</u>		

sGos2	Subscribe GOOSE with ndsCom set	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011 clause 18.1		
<u>Expected result</u> 1. DUT ignores the data value change		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends GOOSE message with new data value with NdsCom set		
<u>Comment</u>		

R. P. J.

Prepared By

P. J.

Checked By

2234494



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sGos3	SqNum roll-over with/without status change	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011 clause 18.1, PIXIT:Gs4		
<u>Expected result</u> 1. DUT just receives the messages without any action 2. DUT just receives the messages without any action 3. DUT responds to the status change		
<u>Test description</u> 1. Publisher sends GOOSE message with sqNum = max-1, max and 1 without status change 2. Publisher sends GOOSE message with sqNum = max-1, max 3. Publisher forces a status change stNum and sends a GOOSE message with incremented stNum and sqNum=0		
<u>Comment</u>		

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sGos5	Verify that the server can subscribe to GOOSE messages with structured data (FCD)	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011 clause 18.1 PIXIT:Gs8		
<u>Expected result</u> 1. DUT responds to the status change		
<u>Test description</u> 1. Publisher sends GOOSE message with structured data 2. Publisher sends GOOSE message with data change in a data attribute in the structured data		
<u>Comment</u>		

sGos6a	Subscribe GOOSE with simulation parameter set	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-1:2011 clause 7.8.2 IEC 61850-7-2:2010 clause 18.2.3.8 IEC 61850-8-1:2011 clause 18.1		
<u>Expected result</u> 1. LPHD.sim.stVal = FALSE or not present 2. DUT accepts the normal GOOSE message, LGOS.St= TRUE 3. DUT ignores the simulated data value change, LGOS.SimSt=FALSE		
<u>Test description</u> a) LPHD.sim = FALSE or not present 1. Force the DUT to ignore simulated GOOSE messages when LPHD.Sim is present 2. Publisher1 sends GOOSE message with a new data value with simulation off 3. Publisher2 sends GOOSE message with a new data value with simulation set 4. Publisher1 sends GOOSE message		
<u>Comment</u>		

2234496

Prepared By

Checked By



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

Web : http://www.erda.org



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sGos7	Goose with maximum name length for DataSet, GoCBREF and GoID	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3.8 IEC 61850-8-1:2011clause 18.1		
<u>Expected result</u> 1. Configure the DUT to accept GOOSE messages with maximum name length for DataSet, GoCBRef and GoID		
<u>Test description</u> 1. DUT accepts GOOSE message and data changes		
<u>Comment</u>		

1.4 Negative Abstract test cases DUT subscribe

Ref.:Cl. No. 6.2.4.16.2 of IEC 61850-10:2012

Test case	Test case description
sGosN1	Check behaviour of DUT as specified in PIXIT on Missing GOOSE message
sGosN2	Check behaviour of DUT as specified in PIXIT on Double GOOSE message
sGosN3	Check behaviour of DUT as specified in PIXIT on Delayed GOOSE message, with and without exceeding timeAllowedToLive
sGosN4	Check behaviour of DUT as specified in PIXIT on Out of order GOOSE message
sGosN5	Check behaviour of DUT as specified in PIXIT on No GOOSE messages
sGosN6	Check behaviour of DUT as specified in PIXIT on invalid GOOSE messages - gocbRef different from GoCB and NULL - timeAllowedtoLive = 0 - dataSet different from GoCB and NULL - goID different from GoCB and NULL - t contains the time of a status change minus/plus one hour - confRev different from GoCB and NULL - numDataSetEntries 0, more, less with the number of data entries in the allData - allData values do not match with the dataSet element type

2234497

R. P. J's
Prepared By

Nethej
Checked By



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

Web : http://www.erda.org



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sGosN1	Missing GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011clause 18.1, PIXIT:Gs3		
<u>Expected result</u> 3. DUT accepts GOOSE message as specified in the PIXIT, resulting in a report or published GOOSE message		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends correct GOOSE message with no value changes (same stNum) 3. Publisher sends GOOSE message with data value change with incremented stNum, starting with sqNum=1 (simulating a missing sqNum=0)		
<u>Comment</u>		

sGosN2	Double GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011clause 18.1, PIXIT:Gs5		
<u>Expected result</u> 2. DUT accepts GOOSE message, 3. DUT accepts first GOOSE message with sqNum=0, resulting in published GOOSE message and ignores the second message with sqNum=0		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends correct GOOSE message with no value changes (same stNum) 3. Publisher sends GOOSE message with data value change with incremented stNum, and with sqNum=0 two times (simulating a double sqNum=0)		
<u>Comment</u>		

2234498

R.P.J.S.
Prepared By

Vetraj
Checked By



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

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sGosN3	Delayed GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011clause 18.1, PIXIT:Gs2		
<u>Expected result</u> 3. DUT behaves as specified in the PIXIT		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends correct GOOSE message with no value changes (same stNum) 3. Publisher sends GOOSE message with data value change with incremented stNum, and with sqNum=0, but outside the TimeAllowedtoLive interval of the previous GOOSE message. The following GOOSE messages with sqNum>0 are transmitted inside the TAL of the previous message.		
<u>Comment</u>		

sGosN4	Out-of-order GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011clause 18.1, PIXIT:Gs4		
<u>Expected result</u> 3. DUT behaves as specified in the PIXIT		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends correct GOOSE message with no value changes (same stNum) 3. Publisher sends GOOSE message with data value change with incremented stNum, and with sqNum=1, sqNum=0, sqNum=2,3 etc.		
<u>Comment</u>		

R. P. Jh

Prepared By

[Signature]

Checked By

2234499



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

Web : http://www.erda.org



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sGosN5	No GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.3 IEC 61850-8-1:2011clause 18.1, PIXIT:Gs2		
<u>Expected result</u> 3. DUT indicates that subscribed GOOSE message isn't received (PIXIT) 4. DUT indicates that subscribed GOOSE message is received again (PIXIT) 5. DUT indicates that subscribed GOOSE message isn't received (PIXIT) 6. DUT shall process new state values(s)		
<u>Test description</u> 1. Test engineer configures the DUT as specified 2. Publisher sends correct GOOSE message with no value changes (same stNum) 3. Publisher is disconnected from the network, continues to send GOOSE messages for 30 seconds with no state change (e.g. same stNum as step 2) 4. Publisher is reconnected to the network and continues to send GOOSE messages (same stNum) 5. Publisher is disconnected from the network, continues to send GOOSE messages for 30 seconds with no state change (e.g. same stNum as step 2) 6. Publisher is reconnected to the network and continues to send GOOSE messages indicating a state change (incremented stNum, sqNum other than 0)		
<u>Comment</u>		

A handwritten signature in blue ink, appearing to be 'R. P. J.'

Prepared By

A handwritten signature in blue ink, appearing to be 'J. K. J.'

Checked By



2234500

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

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sGosN6	Invalid GOOSE message	<input checked="" type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> Inconclusive
IEC 61850-7-2:2010 clause 18.2.1, 18.2.3 IEC 61850-8-1:2011 clause 18.1, Annex C, PIXIT:Gs1		
<u>Expected result</u> DUT responds as specified in the PIXIT		
<u>Test description</u> Test engineer configures the DUT as specified below and Publisher sends several GOOSE message with data value change with correct status & sequence numbers with: a) GoCB reference = mismatch with SCL, NULL b) timeAllowedtoLive = 0 c) datSet reference = mismatch with GoCB from SCL, NULL d) goID reference = mismatch with GoCB, NULL e) timestamp of status change = plus one hour, minus one hour, 0 f) confRev = mismatching with GoCB g) numDatSetEntries = mismatch with expected number of DataSet element members from SCL. The confRev remains as expected, but the numDatSetEntries changes +1 and then -1 and the allData matches the number of numDatSetEntries (+ and one value at the end and -1 remove last value) h) values of allData entries = out-of-order i) APPID = mismatch from GoCb from SCL and 0		
<u>Comment</u>		

REMARKS: Sample has **not shown to be non-conforming** to the requirement of the standard for the tests carried out.

Prepared By

Checked By

2250901



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

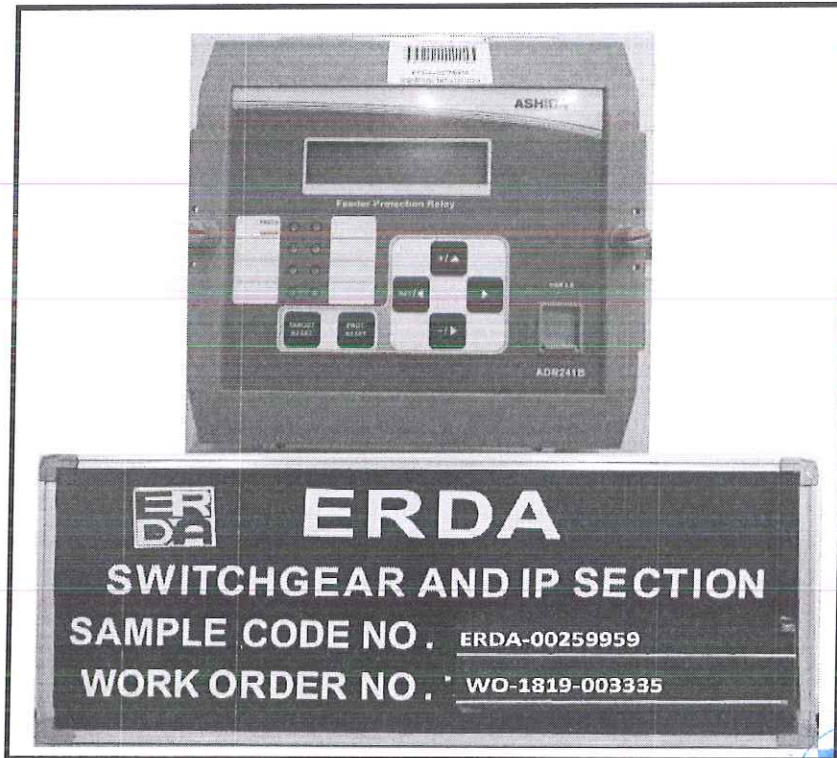
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Photograph No.: 1819-003335/A

ADR241B FEEDER PROTECTION RELAY



R.P. Jh

2250902

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

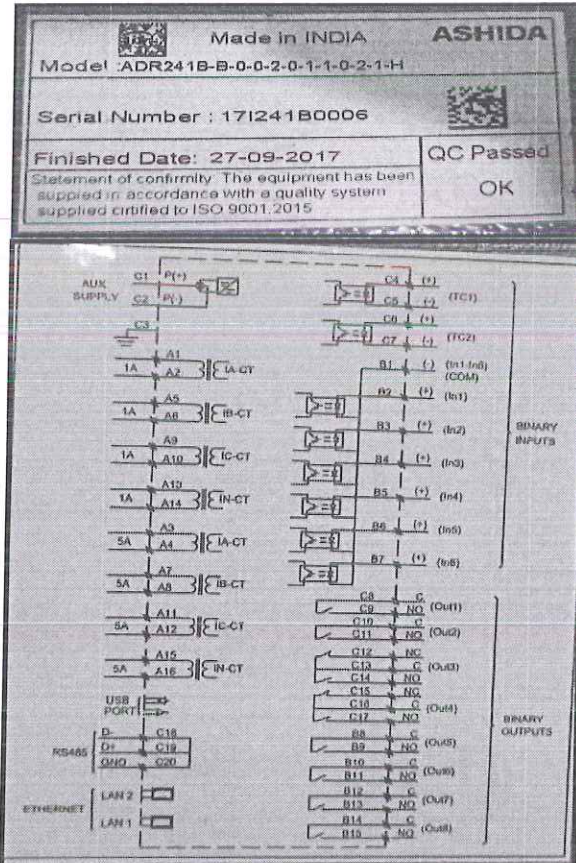
Web : http://www.erda.org



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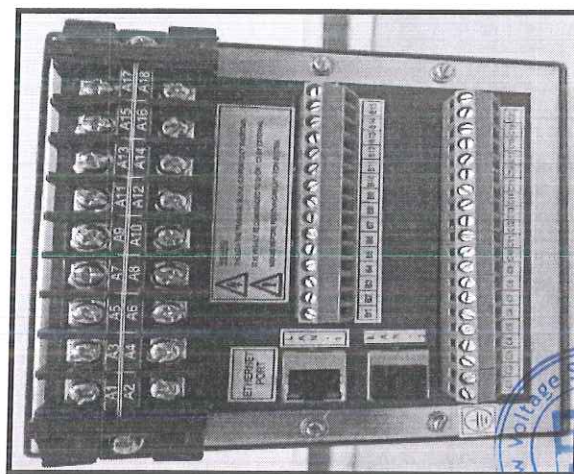
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Photograph No.: 1819-003335/B

NAME PLATE OF ADR241B FEEDER PROTECTION



R. P. J.



Photograph No.: 1819-003335/C

REAR VIEW OF ADR241B FEEDER PROTECTION RELAY

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