

ANNEXURE-01

TECHNOCRAFTS JOB ID - 3287.02

CLIENT: M/s. G V Reserch Centers Pvt Ltd

PROJECT: INNOPOLIS FACILITY

CONSULTANT : M/S. AEVITOS PHARMAGROTECH PVT. LTD.

36kV, 1250A, 25kA/1SEC INDOOR VCB ICOG PANEL

PANEL S.NO & TYPE	BREAKER SR NO	VAJH13, TRIPPING RELAY TRIP CIRCUIT SUPERVISION RELAY (ALSTOM)	MF (SECURE)	MICOM P111 (SCHNEIDER)	AMMETER & VOLTMETER (ELMEASURE)	ANNUNCIATOR POWER PACK HOOTER (ALAN)	CT (PRAGATI)	PT (PRAGATI)
PNLNO: 21093287-02 OUTDOOR VCB ICOG PANEL	1VYN020221003458	VAJH13 35399213 VAX31 35345443	X1015438	50025442	AMMETER 1724993 VOLTMETER 2249876	ANNUNCIATOR 210703291 POWER PACK PP21022872 HOOTER EH210806497	21/601165 21/601166 21/601167	21/601162 21/601163 21/601164

ROUTINE TEST CERTIFICATE

Purchaser's Name : TECHNOCRAFTS SWITCHGEARS PVT LTD

Sale Order No. 4202384303

Type of Breaker	VD4/W 36.12.32
Serial Number of Breaker	1VYN020221003458
Rated Voltage	36 kV
Insulation Level	70/170 kV/kVpk
Rated Current	1250 A
Breaking Capacity	31.5 kA
Rated Frequency	50 Hz
Mass	300 Kg
Rated Control Voltage for Trip Coil	24 V DC
Rated Control Voltage for Close Coil	24 V DC
Rated Control Voltage for Motor	230 V AC
Year of Manufacture	2021

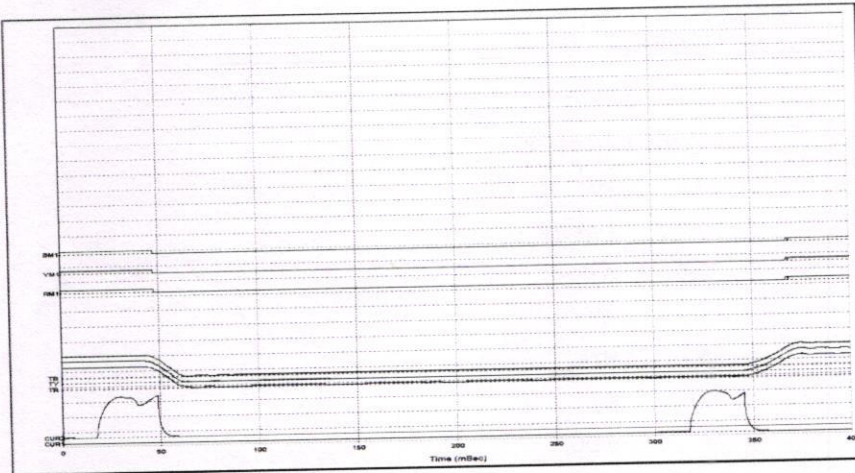
ROUTINE TESTS ACCORDING TO IEC 62271-100

1. MECHANICAL OPERATION TESTS : Satisfactory.
 - 1.1 5 closing and 5 opening operations at 110% of control voltage
 - 1.2 5 closing and 5 opening operations at 85% of control voltage
 - 1.3 5 closing and 5 opening operations at rated control voltage
 - 1.4 5 opening operations at 70% control voltage
 - 1.5 5 closing - opening operations at 100% of control voltage
 - 1.6 5 opening - 0.3 sec- closing operations at 100% control voltage

P.T.O.

1.7 Opening - 0.3 sec - closing operation at rated control voltage.

1.7.1 Travel and contact diagrams 1 DIV = 10mm



1.7.2	Operating Speed (m/s)			
Parameter	R	Y	B	
Open	1.35	1.35	1.36	
Close	1.18	1.19	1.17	

1.7.3	Operating time (ms)			
Pole	R	Y	B	
Open	47.6	47.3	47.4	
Close	67.3	67.5	67.5	

1.7.4	Travel (mm)	R	Y	B
Total Travel		21.34	21.95	21.31
Max. Over Travel on Opening		19.29	19.58	19.26
Max. Over Travel on Closing		4.76	4.31	4.51
Max. Bounce on Opening		0.45	0.19	0.24
Contact Spring Travel		3.75	3.6	3.7

2. RESISTANCE OF MAIN CIRCUIT : Satisfactory
Resistance in micro Ohms measured at 100A DC.

R - Pole =	26	Y - Pole =	25	B - Pole =	26
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3. DIELECTRICAL TESTS : Satisfactory

3.1 Main circuit : 70 kV, 50Hz for 60s

Breaker Position	Test Voltage connected to	Earth connected to
Close	R and B-poles	Frame and Y-pole
Close	Y - pole	Frame, R and B-pole
Open	Top Terminal	Frame and Bottom terminal
Open	Bottom Terminal	Frame and Top terminal

3.2 Auxiliary circuits : 2 kV, 50 Hz, for 60 s (Motor disconnected)

4. VISUAL INSPECTION : Satisfactory

The Circuit Breaker has been successfully tested and accepted as described above

Digitally signed by ABB
Date: 2021.08.20 10:28:54 +05:30
Location: Nashik

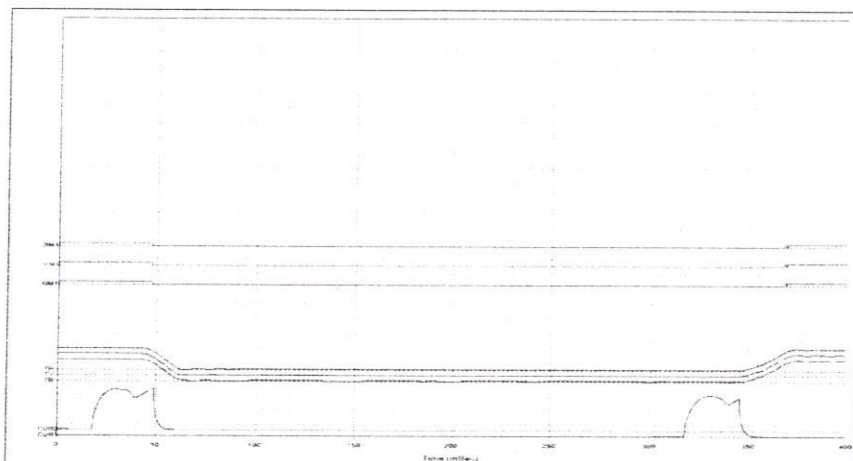
INBT-007

Toll Free no: 18004200707
Email: ppmvsupport@in.abb.com

Note: This is Computer generated RTC. No Signature is required.

1.7 Opening - 0.3 sec - closing operation at rated control voltage.

1.7.1 Travel and contact diagrams 1 DIV = 10mm



1.7.2 Operating Speed (m/s)			
Parameter	R	Y	B
Open	1.35	1.35	1.36
Close	1.18	1.19	1.17

1.7.3 Operating time (ms)			
Pole	R	Y	B
Open	47.6	47.3	47.4
Close	67.3	67.5	67.5

1.7.4 Travel (mm)			
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Total Travel	21.34	21.95	21.31
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✓ Digitally signed by ABB
Date: 2021.08.20 10:28:54 +05:30
Location: Nashik

INBT-007

Toll Free no: 18004200707

Email:ppmvsupport@in.abb.com

Note: This is Computer generated RTC. No Signature is required.

Test Results VAX 21,31			
Order No.: 10914349	Rating : 24/30-VX1DC,48/54-VX2DC	Serial No. : 35345443	
Model No. VAX31ZG0250BA	Date of test : 30 Apr 2021 11:59:21 AM		
Test Instruction VAX21/31,(For-----)			
1. Di-Electric Test			
The test voltage must be applied ,ramped up and maintained for 1second and ramped down to 0V as specified in IEC60255-27.			
Dielectric test voltages are applied at 50Hz.			
2.5kVrms for 1 second between all groups and case.	Pass/Fail	Pass	
2.5kVrms for 1 second between individual groups.	Pass/Fail	Pass	
2.5kVrms for 1 second between adjacent pair of contacts.	Pass/Fail	Pass	
1.25kVrms for 1 second between normally open contacts.	Pass/Fail	Pass	
2. Mechanical Setting: Contact Pressure,Gap,Follow Through Checked	Pass/Fail	Pass	
3. Functional Tests		VX1	VX2
Pick-up Voltage			
Apply 40% of LNV and check whether relay is operating satisfactorily - A/RL2	Operate	NA	OK
Apply 120 % of LNV and check whether relay is operating satisfactorily - A/RL2	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - A/RL2	Measured	8.76 V / PASS	16.08 V / PASS
Apply 40% of LNV and check whether relay is operating satisfactorily - B/RL3	Operate	NA	OK
Apply 120% of LNV and check whether relay is operating satisfactorily - B/RL3	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - B/RL3	Measured	8.4 V / PASS	15.36 V / PASS
Apply 80% of LNV and check whether relay is operating satisfactorily - C/RL1	Operate	NA	OK
Apply 120% of LNV and check whether relay is operating satisfactorily - C/RL1	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - C/RL1	Measured	13.44 V / PASS	24.72 V / PASS
Drop-off Voltage:			
Operate the relay, Ramp down the voltage from 40% to 25%, measure at drops-off	Pass/Fail	NA	NA
Operate coil current Test			
Apply 120% of H.N.V. to the operating coil and check current for RL2	Measured	0.132 A / PASS	NA
Apply 120% of H.N.V. to the operating coil and check current for RL3	Measured	0.133 A / PASS	NA
Product Specific Tests			
Drop-off time			
Apply 80% of LNV to operate the relay and check Drop off time(A&C) (ms)	Measured	NA	747.5 ms / PASS
Apply 80% of LNV to operate the relay and check Drop off time(B&C) (ms)	Measured	NA	758.8 ms / PASS
Final Checks			
Contact Continuity			
Check all contacts N/O and N/C with a 10mA 12V continuity supply.	Pass/Fail	PASS	NA
Flag operation			
Check the flag operation when relay operates.	Pass/Fail	NA	NA
Note:	Overall Test Result		PASS
L.N.V. & H.N.V refers to Lower Nominal Volts&Higher Nominal Voltage respectively			
All measured values must be within the limits specified in the Test Specification.			
Tester Name : KUMAR		Tester Signature/Stamp : 3588	
T&D INDIA LIMITED			
19/1, GST Road,			
Pallavaram, Chennai-600 043, India			
Tel: 044 2264 8000			
ga.support@IND@ge.com		Page 1 of 1	



H.A. RELAY TEST SHEET

Model No. <u>VAJH134F00013BA</u>	Order No. <u>10934171</u>	Serial No. <u>353292113</u>
Order Qty. <u>40</u>	Rating <u>2/4V DC</u> (LNV/HNV)*	Wiring Diagram <u>012AJH134F002</u>

1. Model Confirmation (VAJH 13 /23 only) Tick in the appropriate box

ABA Suffix (Low Burden) - Without 25W resistor and Magnet Contact ☐

BBA Suffix (High Burden) - With 25W resistor and Magnet Contact ☒

2. Di-electric Test

2.5kV 50Hz rms for 1 second (Between earth to each terminals) OK

1.25kV 50 Hz rms for 1 second (Across N/O Contacts) OK

3. Contact Setting

2.1 Contact Pressure / Gap / Follow Through : Checked OK ☒

2.2 When flag operated, gap between the armature head } Limit : 120 thou min
and lower long contact Checked OK ☒

4. Functional Test

Pick up Volts : Limit : 28% to 35% of LNV

LH (Top) RL1	RH (Top) RL2	CTR	LH (Bottom) RL3	RH (Bottom) RL4
	<u>7.1V</u>			

5. Satisfactory operation

Relay operated satisfactorily at 50% and 120% of LNV : Checked OK ☒

6. Contact Continuity Test : Checked OK ☒

Limits Reference

LNV	24 V	30 V	48 V	100 V	110 V	125 V	200V	220V	230V	240 V	250V
28% of LNV	6.72V	8.4V	13.44V	28V	30.8V	35V	55V	61.6V	64.4V	67.2V	70V
35% of LNV	8.4V	10.4V	16.8V	35V	38.5V	43.75V	70V	77V	80.5V	84V	87.5V
50% of LNV	12V	15V	24V	50V	55V	62.5V	100V	110V	115V	120V	125V
120% of LNV	28.8V	36V	57.6V	120V	132V	150V	240V	264V	276V	288V	300V

*(LNV – Lower nominal Voltage)

Tested By: A. Rang

Date : 14.7.21

T&D

GE T&D India Limited,
19/1, GST Road, Pallavaram, Chennai 600 043
Tel : +91 44 2264 8000
ga.supportIND@ge.com

VAJH/VAJHM13/23/33/53/MVAJM25/45

CERTIFICATE OF CONFORMITY AND TESTS



Manufacturer
Schneider Electric Power Monitoring #12A, Attibele Industrial Ara, Neralur (PO) 562107, Bangalore

Date of Issue 8/19/2021

The equipment detailed below has been manufactured, inspected and tested in accordance with a quality system certified to the requirements of ISO 9001:2008. Where appropriate, testing is in accordance with published data and relevant EN/IEC 60255-1.

Item Code	P111E1N0N91N1NN11N
Model	Model E
Vx	Vx=24-60V AC/DC 50/60Hz
In	In = 1A/5A (0,1In-40In)
Ion	Ion = 1A/5A (0,01Ion-2Ion)
Serial Number	SN50025442
Quantity	1

Test Summary	Results
1. Insulation Test	
1.1 3,11kV DC; 1s-Between each independent circuits	Passed
2. Functional Test	
2.1 Power Supply Test	Passed
2.2 Checking for Errors	Passed
2.3 Front Panel Test	Passed
2.4 Front Panel Switch Test	Passed
2.5 Output Contacts Test	Passed
2.6 Inputs Test	Passed
2.7 Current Accuracy Test	Passed
2.8 Communication Test	Passed

Regd Office

Schneider Electric India Pvt. Ltd.,
Plot Bo. B-12, Ground Floor,
Phase-1, New Delhi - 110064

Test report cum Warranty Certificate for ALARM ANNUNCIATOR

- | | | |
|-----------------------------|---------------------------|---------------------|
| 1) Model | : 1 D 0 B 8 S S 0 0 0 0 L | |
| 2) Number of Windows | : 8 WINDOWS | |
| 3) Serial Number / Numbers | : AN 210703289 | to 3291 Qty: 3 Nos. |
| 4) Date of Manufacturing | : JULY- 2021 | |
| 5) Visual Inspection | : O.K | |
| 6) Supply Voltage | : 18~90V DC | |
| 7) Window Configuration | : 2 C X 4 R | |
| 8) Window Size | : SMALL SIZE: 34 X 32mm | |
| 9) Operating Sequence | : M (MANUAL RESET) | |
| 10) Fault Contact Selection | : NO/NC | |
| 11) Audible Selection | : TRIP/GROUP1 | ALL |
| | : NON TRIP/GROUP2 | |
| 12) Panel Cutout | : 68 mm X 138 mm | |
| 13) High Voltage Test | : NA | |

(2.5KVAC for 1 Minute between body To all terminals shorted together.)

It is hereby certified that the equipment / equipments mentioned above has been tested and found to meet its specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only. This warranty is limited to repair or replace unit at our works only, (Excluding battery if any).

The warranty shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, negligence, accident or any other abnormal conditions operation. Any attempt to tamper with the product as evidenced by disruption of warranty sticker and / or unauthorised repair / modification of the product shall render this warranty null & void.

For Alan Electronic Systems Pvt.Ltd.

Mr.PANDURANG MAINGADE

Tested By

Mrs.YOGITA AKOLKAR

Authorised Signatory

(Quality Assurance)

Note : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE.

<u>Equipments Used for Testing</u>	<u>Model / Make</u>	<u>Sr.No</u>	<u>Calibration Due</u>
1) Multi meter	RISH MULTI 13S	14149	19/01/2022

ElMeasure India Pvt. Ltd.

P47, Bangalore Hardware Park, Huvinayakanahalli, Bangalore-562149



ELMEASURE
Possibilities...Infinite

www.elmeasure.com

TEST AND CALIBRATION CERTIFICATE

Model Number : ALPHA+3V

Accuracy Class : 0.5

Calibrated On : 01-Jun-2021

Meter Serial Number : 2249876AL0621

Options :

Calibration Due Date : 01-Jun-2023

Load

100%

20%

Volts

Volts

Accuracy Claimed %

± 0.5

± 0.5

Accuracy Actual %

0.01

-0.15

Notes : 1. Reference meter used is BOFA KP-P3003-C has valid calibration traceability to 20/526-01 with National Standards.

This is computer generated test certificate no signature is required.



ELMEASURE
Possibilities...Infinite

WARRANTY AND REGISTRATION

ElMeasure extends a warranty of 18 months on all products from the date of invoice for manufacturing defects in materials and workmanship provided the products are used in normal specified conditions. The warranty is void when a product is damaged due to improper installation, improper handling, improper connections, neglect, misuse, accident, and abnormal conditions of operation and natural calamities or acts of God. Any unauthorized attempt to dismantle, repair or modify shall render the warranty null & void.

1. Failure of products during warranty In India

Any failure shall be reported to the nearest point of contact or dealer at the earliest once noticed. ElMeasure shall replace the products failed due to manufacturing defects in materials against receipt of failed product. Burnt, blown, damaged products are not covered under warranty and hence no replacements shall be given.

In the event a product is un-available for replacement at ElMeasure or the dealer, the same shall be arranged at the earliest. Replacement of product is solely at the discretion of the dealer or ElMeasure's representative who received the failed product.

Burnt, abused, damaged products shall be forwarded to ElMeasure's Service Center at Bangalore for investigation, transportation to be pre-paid. Upon investigation, if rectification is possible, an estimate for servicing will be sent to the customer. Rectification shall be done on receipt of approval for the charges with advance payment only.

2. Failure of products outside warranty In India

The defective products shall be forwarded to ElMeasure's Service Center at Bangalore for rectification, transportation to be pre-paid. Upon investigation, estimation for servicing will be sent to the customer. Rectification shall be done on receipt of approval for the charges with advance payment only.

ElMeasure, as a policy, does not provide replacement for products outside warranty.

For Distributor / Dealer's use only

Seal

Invoice No.:

Date:

www.elmeasure.com

support@elmeasure.com

+91 639-1010-320

Note: Please produce this warranty certificate with the defective in warranty product.

ElMeasure India Pvt. Ltd.

P47, Bangalore Hardware Park, Huvinayakanahalli, Bangalore-562149



ELMEASURE

Possibilities...Infinite

www.elmeasure.com

TEST AND CALIBRATION CERTIFICATE

Model Number : ALPHA+3A

Meter Serial Number : 1724993AL0721

Accuracy Class : 0.5

Options :

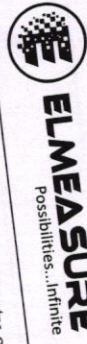
Calibrated On : 29-Jul-2021

Calibration Due Date : 29-Jul-2023

Load	100%	20%
Accuracy Claimed %	Amps	Amps
Accuracy Actual %	± 0.5	± 0.5
	-0.01	-0.02

Notes : 1. Reference meter used is BOFA KP-P3003-C has valid calibration traceability to 20/526-01 with National Standards.

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For Distributor / Dealer's use only	
Seal	Date:
Invoice No.:	www.elmeasure.com

+91 639-1010-320

support@elmeasure.com

Note: Please produce this warranty certificate with the defective in warranty product.

**Test report cum Warranty Certificate
for ELECTRONIC HOOTER**

- 1) Model : AUH-01
 2) Serial Number/ Numbers : EH 210806488 to 6511 Qty : 24 Nos.
 3) Date Of Manufacturing : AUG - 2021
 4) Visual Inspection : O.K.
 5) Electrical Testing :

Input Voltage	Sound Level in dB at Nominal input Voltage (1 MTR distance)								
	Tone - 1			Tone - 2			Tone - 3		
	95 - 100	100 - 105	> 105	95-100	100-105	> 105	95-100	100-105	>105
18~285 V AC	☐	☒	☐	☐	☒	☐	☐	☒	☐
18~285 V DC	☐	☒	☐	☐	☒	☐	☐	☒	☐

It is hereby certified that the equipment / equipments mentioned above has been tested and found to meet it's specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only. This warranty is limited to repair or replace unit at our works only, (Excluding battery if any).

The warranty shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, negligence, accident or any other abnormal conditions operation. Any attempt to tamper with the product as evidenced by disruption of warranty sticker and / or unauthorised repair / modification of the product shall render this warranty null & void.

For Alan Electronic Systems Pvt.Ltd.


 Mr.PANDURANG MAINGADE
 Tested By


 Mrs. YOGITA AKOLKAR
 Authorised Signatory
 (Quality Assurance)

NOTE : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE

Equipments Used for Testing	Model / Make	Sr.No	Calibration Due
1) Sound Level Meter	SL-4010	150522611	08.02.2022
2) Multi Meter	RISH MULTI 13S	14149	19.01.2022

**PRAGATI ELECTRICALS PVT. LTD.**

Plot No. R-230, TTC, MIDC, Indl. Area Rabale,
Navi Mumbai-400 701.(INDIA)
Telephone : 91-22-3092 3500 Fax : 91-22-2769 7225

Test Certificate For Voltage Transformer

PRAGATI ELECTRICALS PVT. LTD.
ISO 9001: 2015 BR NO. 20002412

Client Name : Technocrafts Switchgear Private Limited**PO No.** : PO08211653 dt : 13/08/2021**Project** : 3287**Spec No** : 3287 2**Ratio** : 33000/V3/110/V3/110/V3/110/3 V**Qty** : 2 Nos**Type** : Resin Cast, Indoor, Single Phase, Single Pole insulated 'Earthed Type' Voltage Transformer complete with Built in H.V Fuse (Phoenix Make) to IS:3156/1992.**IL** 36/70/170 kVp

Sec1.: 50 VA, Class 0.5.

Sec2.: 50 VA, Class 3P.

Sec3.: 50 VA, Class 3P.

WO : A29602 Item : 1**Drg.** : PR-3603 (C) Type :**V.F** : 1.2 Cont. & 1.9 for 8 hrs.**Freq.** : 50 Hz**Ins Class** : B

Voltage Transformer(s) were subjected to the following tests and were found to comply with the relevant standard.

* Verification of Terminal marking, Polarity and Overall Dimensions

* H.V. Test on Primary winding neutral **3.0 kV for 1 min.**

* Determination of errors according to the appropriate accuracy class.

* Induced Overvoltage Test : At **70 kV** and **150Hz.** for 40 Seconds

* H.V. Test on secondary Winding : **3.0 kV for 1.0 min.**

Serial Number --			21/601162		21/601163																	
Vn (%)	Sec Wdg	Burden (VA)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)
120	1a - 1n	50	0.067	5.4	0.068	5.5																
100			0.082	4.8	0.082	4.8																
80			0.091	4.4	0.092	4.4																
120			0.405	3.2	0.409	3.2																
100			0.420	2.6	0.424	2.6																
80		12.5	0.427	2.2	0.432	2.3																
190	2a - 2n	50	-0.599	31.4	-0.605	31.7																
120			-0.395	20.2	-0.399	20.4																
5			-0.357	19.9	-0.361	20.1																
2			-0.334	18.9	-0.337	19.1																
190			0.081	19.4	0.081	19.6																
120		12.5	0.300	7.2	0.303	7.3																
5			0.354	6.9	0.357	7.0																
2			0.404	6.5	0.408	6.6																
190	da - dn	50	0.419	26.4	0.423	26.7																
120			0.756	11.3	0.763	11.4																
5			0.840	11.1	0.849	11.2																
2			0.856	10.9	0.864	11.0																
190			0.780	25.1	0.788	25.3																
120		12.5	1.242	5.1	1.255	5.2																
5			1.304	4.7	1.316	4.7																
2			1.336	4.4	1.349	4.4																
P.D. Value as per IS 11322/1985 22.86 kV			2pC		2pC																	

Tested By : Gajanan
Nevrekar

Checked By : Vasant Shingate

Date : 02-09-2021

Page 1 of 2

Serial Number --			21/601162		21/601163																			
Vn (%)	Sec Wdg	Burden (VA)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)

Tested By : Gajanan
Nevrekar

Checked By: Vasant Shingate

Date : 02-09-2021

**PRAGATI ELECTRICALS PVT. LTD.**

Plot No. A-2/16, MIDC, Industrial Area,
Murbad-421 401. Dist - Thane (INDIA).
Telephone : 02524-660100. Fax : 02524-660131.

Test Certificate For Current Transformer

PRAGATI ELECTRICALS PVT. LTD.
ISO 9001: 2015 BR NO. 20002412

Cus Name : Technocrafts Switchgear Private Limited	IL : 36/70/170 kVp	WO : A29602	Item : 2
PO No. : PO08211653 Dt.13/08/2021	Core1 : 15 VA, Class 0.5....(At 100/1 A).	Drg : PR-6584	Type : 3
Project : 3287	Core2 : 15 VA, Class 5P20....(At 100/1 A).	Freq. : 50 Hz	
Spec No : 3287 2		Ins Class: B	
Ratio : 100-200/1-1 A		STC : 25 kA/1 Sec.	
Qty : 3 No(s)		Sec.Terminals on : P1 Side	

Type : Resin Cast, Indoor, wound primary current transformer to IS:2705/1992

Current Transformer(s) were subjected to the following tests and were found to comply with the relevant standard.

* Verification of Terminal marking, Polarity and Overall dimensions.

* H.V. Test on Primary winding 70 kV for 1 Min.

* Determination of errors according to the appropriate accuracy class.

* Overvoltage interturn Test : At rated secondary current for 1 min.

* H.V. Test on Secondary winding : 3 kV for 1 Min.

Serial Number -				21/601165		21/601165		21/601166		21/601166		21/601167		21/601167							
In (%)	Core	Burden (VA)	P.F.	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)
Ratio				100/1		200/1		100/1		200/1		100/1		200/1							
120	1	15	0.8	-0.427	3.5	0.102	1.7	-0.420	3.5	0.113	1.7	-0.427	3.6	0.112	1.7						
100				-0.438	4.0	0.099	1.8	-0.432	4.1	0.110	1.8	-0.439	4.1	0.109	1.9						
20				-0.554	7.3	0.062	2.9	-0.549	7.4	0.073	3.0	-0.555	7.7	0.072	3.0						
5				-0.737	11.4	-0.005	4.6	-0.730	11.6	0.007	4.6	-0.735	11.8	0.006	4.7						
120		3.75	1	-0.136	5.2	0.183	2.0	-0.132	5.2	0.193	2.0	-0.134	5.4	0.193	2.0						
100				-0.138	5.4	0.182	2.1	-0.134	5.4	0.193	2.1	-0.136	5.5	0.192	2.1						
20				-0.171	7.8	0.168	3.1	-0.166	7.9	0.179	3.1	-0.167	8.0	0.180	3.1						
5				-0.238	12.3	0.138	5.1	-0.231	12.3	0.150	5.1	-0.233	12.5	0.151	5.1						
Ratio				100/1		200/1		100/1		200/1		100/1		200/1							
100	2	15	0.8	-0.310	5.1	0.426	2.1	-0.379	6.0	0.392	2.5	-0.336	5.4	0.419	2.3						

Composite Error Test

Serial Number	Sec. Wdg. Terminals	Sec. Wdg. Res. at (75°C) (Ohms)	Exciting Current at sec. limiting Voltage (Amp)	Composite Error (%)	PD Test
					P.D. Value in pC at (22.86 kV) as per IS 11322/1985

Tested By : Avinash Markad

Checked By : Abdul Majeed

Date : 06/09/2021

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21/601165	2S1-2S2	5.0924	0.0407	0.2035	4
	2S1-2S3	5.0986	0.0099	0.0497	
21/601166	2S1-2S2	5.1124	0.0481	0.2407	4
	2S1-2S3	10.0491	0.0122	0.0609	
21/601167	2S1-2S2	5.1189	0.0501	0.2505	4
	2S1-2S3	10.0331	0.0111	0.0556	

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