



# NORTH BIHAR POWER DISTRIBUTION CO. LTD., PATNA

(Registered Office, Vidyut Bhawan, Bailey Road, Patna)  
(Department of Rural Electrification)

Letter No.- N-XIII/RGGVY/GTP & Drawing/Katihar/Cabcon-1219/2016-  
Date-

E-mail-cere.bseb@gmail.com

From,

**S.K. Srivastava**  
Chief Engineer (Project-I)

To,

**M/s Cabcon India Pvt. Ltd.**  
1<sup>st</sup> Floor, The Terminus Building  
BG-12, Action Area-1B, New Town  
Kolkata-700156, Phone-033 40365000

Sub:-

**Regarding approved GTP, Drawing of M/s Genus Power Infrastructure Ltd., Jaipur**

Ref:-

**Your letter no.-67 dated 23.08.2016**

Sir,

Please find enclosed herewith approved GTP/Drawing of following Items submitted by you vide letter under reference as per S, 11<sup>th</sup> Plan RGGVY work and valid type test report for Katihar District.

S.N	Material Description	Vendor Name
1	Three Phase LTCT Meter	M/s Genus Power Infrastructure Ltd , Jaipur

It may please be noted that approval of GTP/Drawing of subject material does not absolve you of contractual responsibility in terms of its quality etc in case any problem/ issue with regard to material/vendor arises at any stage, NBPDC reserves the right of withdrawal of this approval as well as ask the turnkey contractor to replace the materials at their own cost immediately.

Encl:- As above

Yours faithfully

Sd/-

(S.K. Srivastava)

Chief Engineer (Project-I)

Memo No.-

Date-

Copy with a copy of approved GTP, Drawing forwarded to ESE, Electric Supply Circle, Purnea/Muzaffarpur/EEE (Project), Electric Supply Division Katihar/Sitamarhi for information and necessary action.

Encl:-As above

Sd/-

(S.K. Srivastava)

Chief Engineer (Project-I)

Memo No.-

Copy forwarded to M/s Techno Electric & Engg. Co Ltd., Skipper corner 88, Nehru Phase, New Delhi/M/s EMC Ltd., Dr U. N. Bronaidrai Street, 5th floor, South floor, Kolkata/M/s Bajaj Electricals Ltd , Bhanu Shankar yagnik Marg, Mumbai-400022/M/s East India Udyog Ltd., 145, G.T Road, Sahibabad, Ghaziabad/M/s Polycab Wires Pvt Ltd , Polycab House, 771, Pandit Satwalekar Marg, Mumbai/ M/s Energo Engineering Projects Ltd., Okhla, Phase II, New Delhi/M/s Technofab Engineering Ltd., Nehru Place, New Delhi/M/s Techno Power Enterprises (P) Ltd., Nepali Basti, Dimapur, Nagaland/M/s L & T Ltd., Post Box-979, Mountpoomaamlee Road, Manappakkam, Chennai-600089/M/s Lumino Industries Ltd. 307, Swaika center, 4A, Pollock Street, Kolkata/ M/S Shirdi Sai Electricals Ltd ,13/82, Industrial estate, Kadapa, Andhra pradesh-516004, Ph no-0779988 for information and necessary action.

Encl:-As above

Sd/-

(S.K. Srivastava)

Chief Engineer (Project-I)

Memo No.-

4884

Date-

23-8-16

Copy forwarded to Electrical Executive Engineer, Katihar for information and necessary action to upload this information and GTP & Drawing on NBPDC

Encl:-As above

(S.K. Srivastava)

Chief Engineer (Project-I)

199

Sr No.	Parameters Description
1	All Segment Display
2	Auto Mode
3	Real Date
4	Real Time
5	R-Phase Current (Amp)
6	Y-Phase Current (Amp)
7	




checked  
 Approved  
 (Signature and Stamp)

**G-nus**

Display Parameter

Project Code: SBQD12A

Revision No.: 00

		b	000	0.000	B-Phase Current (Amp)
8	Tx	000	71.70	A	
		r	000	0.0	R-Phase Voltage (Volt)
	Tx	000	327.0	V	
		y	000	0.0	Y-Phase Voltage (Volt)
9	Tx	000	527.0	V	
		b	000	0.0	B-Phase Voltage (Volt)
10	Tx	000	72.7.0	V	
	 PF	r	000	0.000	R-Phase Power Factor
	Tx	000	33.7.0		
	 PF	y	000	0.000	Y-Phase Power Factor
	Tx	000	537.0		

**Checked**

APP(RE)

ESE(RE)

ESE(RE)

**Approved**  
Date: \_\_\_\_\_  
Signature: \_\_\_\_\_

# Genus

Project Code: SBQD12A

Revision No.: 00

PF

b

000

B-Phase Power Factor

Tx 000 73.70

PF

0.00

Instant Net Power Factor

Tx 000 13.7.0

0000

Frequency

Tx 000 147.0 Hz

P

000

Instant Apparent Power kVA

15

Tx 000 9.7.0 kVA

PF

000

Instant Active Power kW

Tx 000 1.7.0

PF

000

Instant Reactive Power kVAr

17

Tx 000 3.7.0

Approved

CE (Project-1)  
NBPDC, Patna

196

G...nus

Display Parameter

Project Code: SBQD12A

Revision No.: 00

			0.0	Cumulative Active Energy kwh
19	Tx	000	1.8.0	kWh
			0.0	Cumulative Reactive Energy Lag
20	Tx	000	5.8.0	kVArh
			0.0	Cumulative Reactive Energy Lead
21	Tx	000	8.8.0	kVAh
			0.0	Cumulative Apparent Energy kVAh
22	Tx	000	9.8.0	kVAh
	FE		0	Cumulative Power Failure Count
23	Tx	000	96.7.0	
	Fd		000:00:00	Cumulative Power Failure Duration DDD HH MM
	Tx	000	94918	



Checked

Approved

CE (Project-I)  
NRPDC

G-nus

Display Parameter

Project Code: SBQD12A

Revision No.: 00

195

25

Tx 000 94.91.0

Cumulative Tamper Count

26

Tx 000 94.91.0

MD Reset Count

27

Tx 000 96.2.0

Data Alteration Count

28

Tx 000 0.9.7 bp  
0.00.0

Bill Date

Maximum Demand kW

29

Tx 000 1.6.0 mdkW  
0.00.0

Maximum Demand kVA

Tx 000 9.6.0 mdkVA

(IM) DAD/ 3F (/L) 0



Checked

APP/RE

Handwritten signature and date 22/8

ESE(RE)

ESE(RE)

Approved

Handwritten signature and text: CE (Project-1) NBPDCL, Patna

(LM)

TABLE-2: Push Button Display

Sr No.	Parameters Display	Parameters Description
1		Push Mode
2		All Segment Display
3		Real Date
4		Real Time
5		

(LM) DAD/3E (7/1) 0



Checked

APR(RE)

EEE(RE)

ESE(RE)

Approved

(Project) NBEDC, Pooja

Genus

Project Code: SBQD12A

Revision No.: 00

6



r 000

R-Phase Current (Amp)

Tx

000 31.7.0 A



y 000

Y-Phase Current (Amp)

Tx

000 51.7.0 A



b 000

B-Phase Current (Amp)

Tx

000 71.7.0 A

8

r 0.0

R-Phase Voltage (Volt)

Tx

000 32.7.0 V

y 0.0

Y-Phase Voltage (Volt)

Tx

000 52.7.0 V

b 0.0

B Phase Voltage (Volt)

Tx

000 72.7.0



(1M) DAD/ 35 (7) 0



Checked

ARE(RE)

EEE(RE)

ESE(RE)

Approved  
Signature  
Date



192

Genus

Display Parameter

Revision No.: 00

Project Code: SBQD12A

11

PF

000.0

R-Phase Power Factor

Tx 000 33.7

PF

000.0

Y Phase Power Factor

Tx 000 53.7

13

PF

000.0

B-Phase Power Factor

Tx 000 73.7

PF

000.0

Instant Net Power Factor

Tx 000 137.0

15.

F

0000.0

Frequency

Tx 000 14.7.0

16.

P

000.0

Instant Apparent Power kVA

Tx 000 9.7.0



191

Genus

Display Parameter

Project Code: SBQD12A

Revision No.: 00

18

Tx

000

1.7.0 kW

0.000

Instant Active Power kW

19

Tx

000

3.7.0 kWh

0.000

Instant Reactive Power kVAr

20

Tx

000

1.5 kWh

0.000

Cumulative Active Energy kWh

21

Tx

000

5.0 kWh

0.000

Cumulative Reactive Energy Lag

22

Tx

000

5.0 kWh

0.000

Cumulative Reactive Energy Lead

Tx

000

5.0 kWh

0.000

Cumulative Apparent Energy kVAh



Checked

APE(RE)

ESE(RE)

ESE(RE)



(M) DAD/RE/17/0

Approved

CE (Project-I)  
NBPDCL, Patna

1910

# G-nus

## Display Parameter

Project Code: SBQD12A

Revision No.: 00

3

FC

0

Cumulative Power Failure Count

Tx

000 96.7.0

24.

Fd

000:00:00

Cumulative Power Failure Duration DDD:HH MM

Tx

000 94.91.8

25

TC

0

Cumulative Tamper Count

Tx

000 94.91.0

26

RSR

0

MD Reset Count

Tx

000 94.91.0

DR

0

Data Alteration Count

Tx

000 96.2.0

28

d

dd:hh:mm

Bill Date

Tx

000 0.9.7 bp



Checked

Approved

CE (Project-1)  
NBPDCI, Patna

G. nus

Display Parameter

Project Code: SBQD12A

Revision No : 00

29.

0000

Maximum Demand kW

Tx 000 16.0 mdkW

30

0000

Maximum Demand kVA

Tx 000 9.60 mdkVA

31

n0 Phn 15

Present Tamper Status  
R/Y/B Phase Miss

Tx 000

32

n0 VOLH

Present Tamper Status  
Voltage High

Tx 000

33

n0 VOLLO

Present Tamper Status  
Voltage Low

Tx 000

34

n0 VOLUnb

Present Tamper Status  
Voltage Unbalance

Tx 000



Checked  
At  
ARE(RE)

Approved  
CE (Pr... I)  
R/S/D/E... P/11/2

GENUS

XXXXXXXXXXXXXXXXXXXX

Project Code: SBQD12A

Revision No.: 00

458

35

no CT RE

Present Tamper Status-  
RYB CT Reverse

Tx 000

36

no CT OP

Present Tamper Status  
RYB CT Open

Tx 000

37

no CU UNB

Present Tamper Status  
Current Unbalance

Tx 000

38

no BYPS

Present Tamper Status  
CT Bypass

Tx 000

39

no CUR H

Present Tamper Status  
Current High

Tx 000

40

no MAG

Present Tamper Status  
Magnet Tamper

Tx 000



Checked

APE(RE)

*[Signature]*  
EEE(RE)

ESE(RE)

Approved

*[Signature]*  
CE (Project-1  
Patrol)

197

Genus

Display Parameter

Project Code: SBQD12A

Revision No.: 00

1

nOnEudl 5

Present Tamper Status  
Neutral Disturbance

Tx 000

42

nO LOPF

Present Tamper Status  
Low Power Factor

Tx 000

43

P5E9 --

Phase Sequence

Tx 000



Checked  
by  
DATE (RE)

Approved  
DATE (RE)

TABLE-3: Diagnostic Mode Display

		di A6	Diagnostic MODE
	000		
	Hr	0000	High Resolution Active Energy kwh
2.	Tx	000	kW h
	Hr	0000	High Resolution Reactive Energy kvarh Lag
3.	Tx	000	kVArh
	Hr	0000	High Resolution Reactive Energy kvarh Lead
4.	Tx	000	kVArh
	Hr	0000	High Resolution Apparent Energy kvah
	Tx	000	

Under Power ON condition

Display parameters are displayed in three different modes called Auto Scrolling Mode, Push Button Mode & Diagnostic Mode



1985

# Genus

## Display Parameter

Project Code: SBQD12A

Revision No : 00

### Auto Mode Display

This is default display mode. Meter will continuously scroll through Auto Scroll Display Parameters (Refer TABLE-1). Each parameter will be displayed for 10 seconds.

### Push Mode Display:

The auto scrolling will switch to Push Button Display after pressing the push button. Meter will continuously scroll through Push Button Display parameters (Refer TABLE-2). If Push Button not pressed for 5 min then Display will switch over to default Display.

### Diagnostic Mode Display:

This mode will activate when both UP & down Switch will press continuously 1 Sec & Parameters under Diagnostics mode can also be viewed by subsequent pressing of Push button. The Diagnostics mode Display will switch over to default display after 5 min OR either press both UP & down Switch for 1 Sec to switch push mode display immediately.

### Under Power OFF condition

First press of Push Button will activate the internal battery and meter will start scrolling in Auto mode Auto Scroll parameters.

### Under Top Cover Open condition

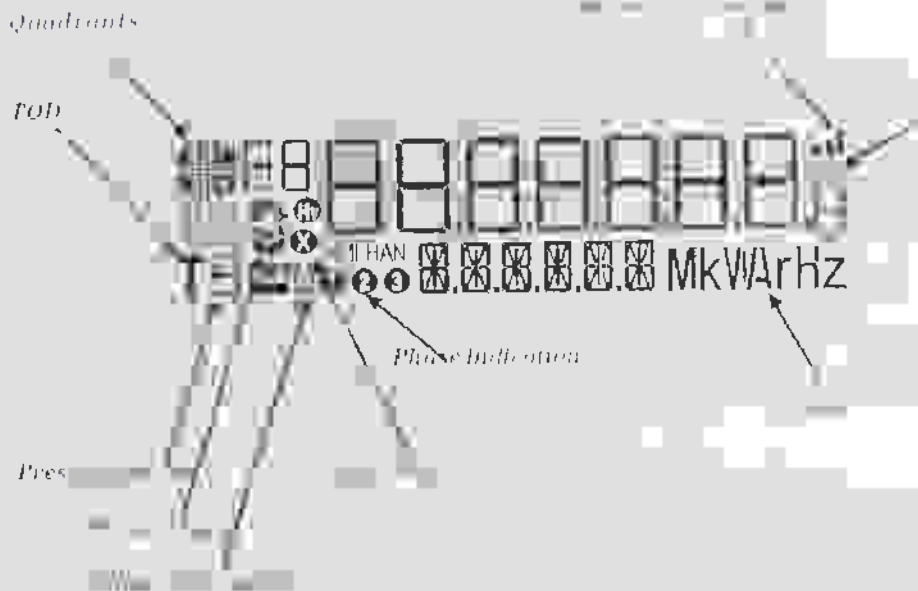
If Top cover open than 'EE OPEN' flashing in auto mode.

### LCD Glass Description:-





187



Icons on LCD Glass:-

- 1 Sign indicates the Instantaneous presence of Magnet Tamper
- 2 Sign indicates the communication with meter
- 3 Sign Are the voltage and current indication for R phase, Y phase and B phase, Respectively
- 4 Continuous display of shows the presence of voltage and current in respective phase
- 5 Blinking of shows presence of voltage and absence of current in the respective phase
- 6 The absence of shows the absence of voltage in respective phase
- 7 Sign indicates Phase sequence reverse
- 8 Sign indicates TOD
- 9 Sign indicates Quadrant



(IM) DAD/ 3F (7/1) 0

Approved  
  
 CE (Project-1)  
 NBPDCI, Patna

183

# Genus

Project Code: SBQD12A  
Revision History



## Display Parameter

Revision No : 00

### Revision History



### Authentication

Particulars



Name

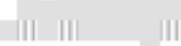
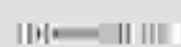


Signature



Date

28.09.2015



28.09.2015



Checked

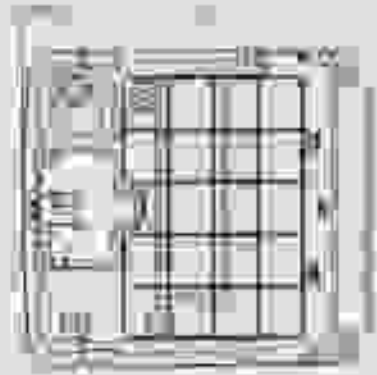
APE(RE)

EEE(RE)

ESE(RE)



al



Showing Surfaces  
(2 nos)

300



Location for  
connection design

Checked

AME(RE) ESE(RE)

23/8

Approved

CE (Elect-1)  
NBPCC, Patna

NOTES -  
1. GENERAL TOLERANCE ±0.2 OF DIMENSION  
2. MATERIAL: POLYCARBONATE

1. ALL DIMENSIONS IN MM  
2. DIMENSIONS IN MM  
3. DIMENSIONS IN MM  
No. OF SHEETS : 01 / DATE : 25.03.15  
BY : VERA  
DATE : 25.03.15

GENIUS POWER INFRASTRUCTURES Ltd.  
INDIA.

62

47



Registered Office: 4 A, floor, Kolkata: 700001

PROJECT	
OWNER	NORTH BILAR POWER DISTRIBUTION COMPANY LIMITED
NAME OF MANUFACTURER	
N XIII/ Tender TSEKA/TTHAR Xth Plan 1120/2016.3905 dated 29.06.2016	

**GUARANTEED TECHNICAL PARTICULARS FOR DLMS COMPLIANT 3 PHASE 4 WIRE AC LTCT OPERATED STATIC TRIVECTOR ENERGY METERS of Category -A**

Particulars	
1	Name of manufacturer
2	Model
3	Standard Applicable
	(v) Rated frequency
	(vi) Power factor
	(vii) Max. loading to work within accuracy
	(viii) Magnetic immunity
	(i) Continuous current rating
	(ii) Running with no load & 115% rated voltage
	Short time over current Meter shall start and continue to register at current (unity PF)



**Checked**

APE(RE)

23/6  
EEE(RE)

ESE(RE)

Approved  
  
 Approved Authority

80

	Particulars		
9			
10			

(a) Material  
(i) Base

13



Checked

*[Signature]*

FSF(RE)

Approved

*[Signature]*

CE  
NBHCC

-13  
(13)

Particulars		
	(ii) Sealing of meter cover to Base	
	(iii) Sealing of terminal cover	
	(iv) MD Button	
	(v) communication port	
15	Non Volatile Memory	Comply
16		
17		
(a)		
(b)		As per IS15059 with latest amendment
(c)		
18		push button
19		
20		
	Communication driven reset	As per IS15059 with latest amendment
	Local push button	Yes, MD reset button will be provided
	Auto reset	For MD reset Auto reset will be at 00:00 hrs on last day



AS5(RB)



Particulars LOD Parameters Load Survey	Minimum requirement As per IS15959 As per IS15959	Comply
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
[Illegible]	[Illegible]	[Illegible]
Other parameters/features not covered in the above GTP	[Illegible]	[Illegible]



ABE(RE)

Checked  
[Signature]  
ESE(RE)

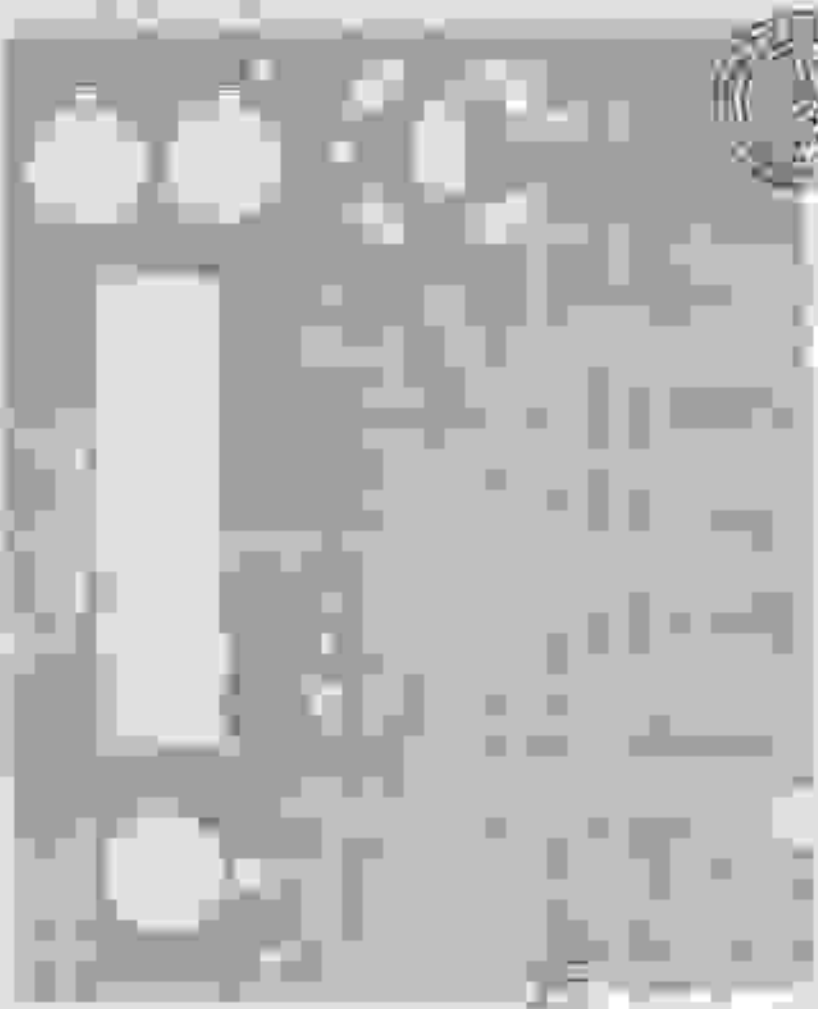
Approved  
[Signature]  
CE (Project-I)  
NBPDCI, Patna

Nameplate SBQD12A for approval purpose 04.01.16

Rating  
(variable as per table)

Meter constant  
(variable as per table)

Meter constant will be according  
to CTR as defined in table



Text Height=2mm  
*Property of NBPDCL*

Space for Sr. No  
Text Height = 5mm  
As per DRN

Space for PO No / LOA No  
(As per DRN)  
Text Height = 2mm

Space for Property  
(As per DRN)  
Text Height = 2mm

Space for G P  
(Guarantee period as  
per customer requirement)

Space for Barcode  
As per DRN  
Barcode Height = 5

Space for MM/YY  
Text Height = 4mm



Nameplate background color

**Checked**

APC

ESEIRE)

**Approved**

CE (Project-I)  
NBPDCL, Patna





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Sr. No	TAMPER TYPE	OCCURANCE THRESHOLDS	RESTORE THRESHOLDS	Compartment	PERSISTENCE TIME		
					Occ	Res	
	Phase Miss	$V_x < 20\% \text{ of } V_{ref}$ $I_x > 10\% I_b$ Any other phase Voltage $> 60\% V_{ref}$ All phase voltage $<$ Neutral disturbance voltage limit (125%Vref) $x = I_y/I_z$	$V_x > 40\% V_{ref}$ Any other phase Voltage $> 60\% V_{ref}$ All phase voltage $<$ Neutral disturbance voltage limit (125%Vref) Current Ignored $x = I_y/I_z$	III	5Min	5Min	
	Magnetic Tamper	Meter Under Magnetic Influence	Meter Not Under Magnetic Influence	III-d	15 Sec	15 Sec	
	Voltage unbalance	$V_{max} - V_{min} > 10\%$ of max voltage of 3 phase voltages All phase Voltages $> 40\% V_{ref}$ All phase voltage $<$ High voltage limit (115%Vref)	$V_{max} - V_{min} < 10\%$ of max voltage of 3 phase voltages All phase Voltages $> 40\% V_{ref}$ All phase voltage $<$ High voltage limit (115%Vref)	III-d	5Min	5Min	
	CT Reversal	$I_x > 10\% I_{basic}$ $V_x > 40\% V_{ref}$ Direction -ve Net PF $> 0.2$	$I_x > 10\% I_{basic}$ $V_x > 40\% V_{ref}$ Direction +ve Net PF $> 0.2$	III-d	5Min	5Min	
	CT Open	$I_x < 2\% I_b$ Any other phases Current $> 10\% I_b$ $V_x > 40\% V_{ref}$	$I_x > 5\% I_b$ Any other phases current $> 5\% I_b$ $V_x > 40\% V_{ref}$	III-d	5Min	5Min	
	Load Bypass	Bypass current $> 20\%$ of $I_b$ No CT Open	Bypass Current $< 10\%$ of $I_b$ Average current $> 20mA$	III-c	5Min	5Min	
	Low Voltage	$V_x < 20\%$ of $V_{ref}$ $V_x < 75\% V_{ref}$ All phase voltage $<$ Neutral disturbance voltage limit (125%Vref)	All phase voltage $> 75\% V_{ref}$ All phase voltage $<$ Neutral disturbance voltage limit (125%Vref)	III-d	5Min	5Min	
	High Voltage	$V_x > 115\% V_{ref}$ All phase voltage $<$ Neutral disturbance voltage limit (125%Vref)	All phase voltage $< 115\% V_{ref}$	III-d	5Min	5Min	
		Not come in case of magnet				5Min	



Checked



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# Tamper Thresholds

Project Code SBQD12A

Revision History 00

Very Low PF

Nel PF > 0.3  
Vx > 40% Vref  
Ix > 1% Ib  
x dly/b

5Min

Neutral disturbance

All Phases voltage < 125%Vref  
Any one phase voltage > 40% Vref

11r

Top cover open

NoI restore

11r

The first and second compartment will have 80 events (store+restore) each while the third compartment will have 40 events (store+restore).

Vref = 240 Volts

I<sub>max</sub> = 10Amp

I<sub>basic</sub> = 5 Amp

Revision History

Date



ESE(RE)

Approved

CE (Project-1)  
NBPDCL, Patna