



3 POS DISC / ES
2000A

CB 2000A

1/400T CI.X
400V 30mA 3Ω

400-200/1A
15VA 5P20

400-200/1A
15VA CI.0,2

1/1200T / 2000T CI.X
> 400Vkp < 50mA ≤ 5Ω

3 POS DISC / ES
2000A

HIGH SPEED ES, VT

CABLE

SA

TRFR
66 / 22kV
36/45 MVA
AOLTC Z = 12,5% (MINIMUM)
YNyn0

CABLE

VT 5 LIMB
 $\frac{22kV}{\sqrt{3}} / \frac{110V}{\sqrt{3}} / \frac{110V}{\sqrt{3}}$
50VA CI.3P
50VA CI.0,2

1/1200T / 2500T CI.X
> 400Vkp < 50mA ≤ 5Ω

1200/1A
15VA 5P20

1200/1A
15VA CI.0,2

1/1200T CI.X
1200V 50mA < 6Ω

CB 1250A

66kV BUSBAR A
2000A

66kV BUSBAR B
2000A

BUS ZONE SLAVE
66kV
BUS ZONE TRIP
ZONE 1 & 2
CB FAIL
IEC 61850

TRANSFORMER MAIN PROTECTION
TRFR
DIFF
HV
BEF
LV REF
IEC 61850

TRANSFORMER BAY CONTROLLER
DIR O/C + E/F
HSDTL & IDMT
CB FAIL
TC1 & TC2 TCS
TANK
EARTH FAULT
TRFR I/O
TEMP ALARMS & TRIPS
MECHANICAL ALARMS & TRIPS
IEC 61850

TRANSFORMER AVR CONTROLLER
AVR
TAP CHANGER
MASTER FOLLOWER CONTROL
O / C BLOCK
IEC 61850

BUS ZONE SLAVE
BUS ZONE TRIP
CB FAIL
IEC 61850

22kV INCOMER BAY CONTROLLER
DIR O/C + E/F
HSDTL & IDMT
CB FAIL
VT FAIL
LV SBEP
TC1 & TC2 TCS
SYNC CHECK
IEC 61850

CT1 100/1A
5P10 10VA
CT2 300-150/1A
5P20 15VA
CT3 1/1200T CI.X
1200V 50mA < 6Ω

KEY :

- HARDWIRE TRIPPING
- CT / VT CIRCUITS
- LAN FIBRE

Notes:

- * 1. MIMIC CONTROL VIA BAY CONTROLLER WHEN KEY SELECTOR SWITCH IN REMOTE POSITION.
- # 2. INSTALLED IN 22kV METERING PANEL.
- 3. CT AND VT BURDENS TO BE CONFIRMED AT DESIGN STAGE

Rev.	Code	App.	Modifications	Date	Issues
B	Y.L	N.E	CT1 RATINGS AMENDED	21.11.2023	21.11.2023
A	Y.L	N.E	UPDATED DRAWING	08.03.2021	08.03.2021


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Project / Title :
66/22 kV GIS SUBSTATION
KEY DIAGRAM OF 66/22 kV
TRANSFORMER CIRCUIT PROTECTION

Drawn : Y.L	Date : 27.11.2019
Checked : A.L	Scale : N.T.S
Approved : B.S/N.E	Size : (A3)
Survey : -	

DRAWING No : CEB-GIS-20-13 Rev 1 **Rev :** -

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