

## COVER





ER	EVENT RECORDER
FR	FAULT RECORDER
F.F.	FUSE FAILURE RELAY
F.L	FAULT LOCATOR
PD	POLE DISCORDANCE
PSB	POWER SWING BLOCKING
50EF	END FAULT / SHORT ZONE PROTECTION
SOTF	SWITCH ON TO FAULT
STUB	STUB PROTECTION
TCS	TRIP CIRCUIT SUPERVISION RELAY
CCS	CLOSE CIRCUIT SUPERVISION RELAY
VSL	VOLTAGE SELECTION LOGIC
SBF	STANDBY EARTH FAULT PROTECTION

 REACTIVE ENERGY METER (BOTH DIRECTIONS)  
(MULTI TARRIF,CLASS 0.2S)

## PANELS

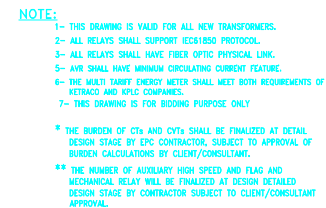
<i>+RW</i>	CONTROL AND PROTECTION PANEL
<i>+W</i>	CONTROL PANEL
<i>+SV</i>	MARSHALING CUBICLE
<i>+M</i>	MEASUREMENT PANEL
<i>+BCU</i>	BAY CONTROL UNIT PANEL

	FIBER OPTIC CABLE
	MINIATURE CIRCUIT BREAKER

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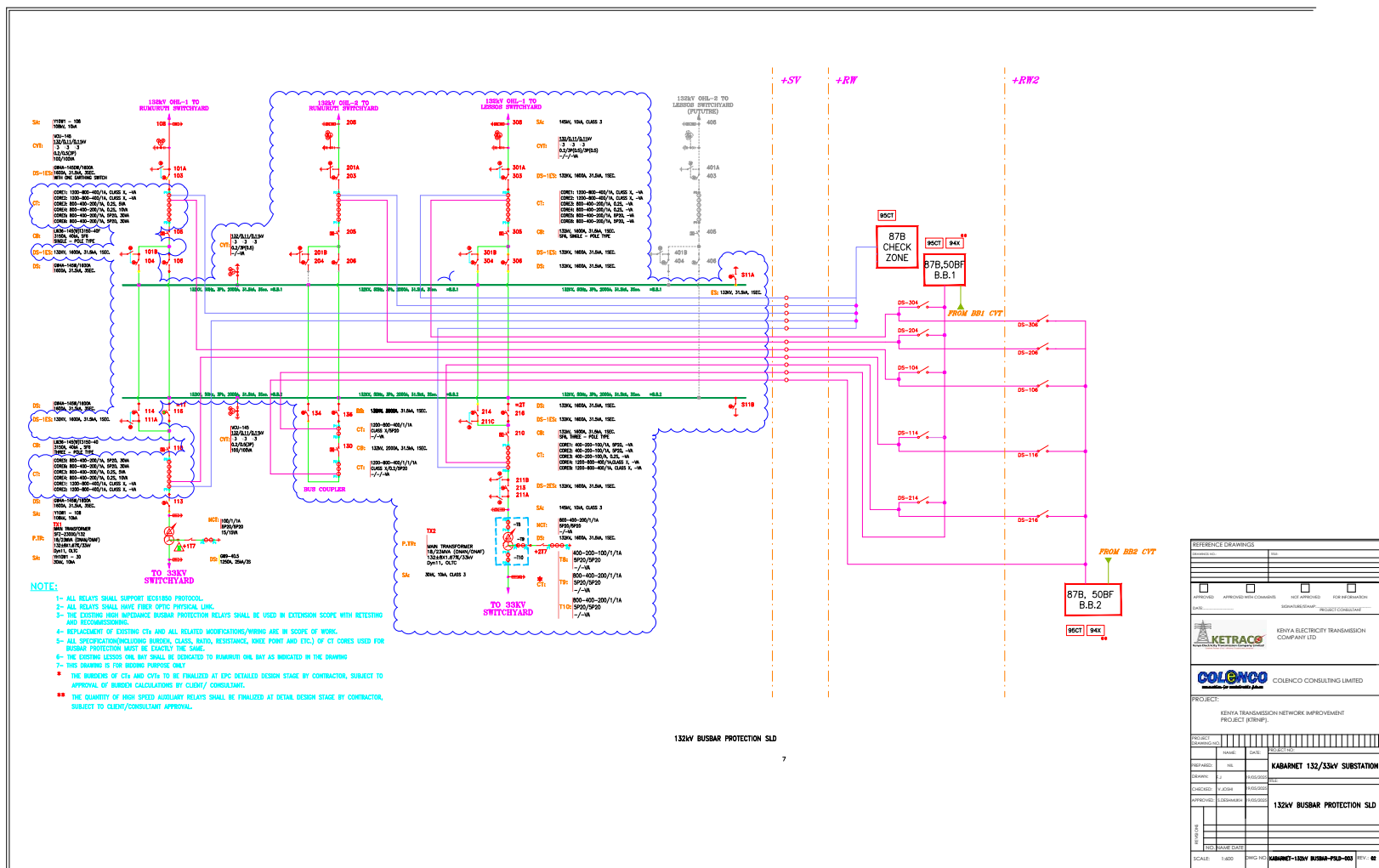


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REFERENCE DRAWINGS									
DRAWING NO.:		REV.:							
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APPROVED		APPROVED WITH COMMENTS		NOT APPROVED		FOR INFORMATION			
DATE:		SIGNATURE/STAMP:				PROJECT CONSULTANT:			
		KENYA ELECTRICITY TRANSMISSION COMPANY LTD							
		COLONCO CONSULTING LIMITED							
PROJECT:									
KENYA TRANSMISSION NETWORK IMPROVEMENT PROJECT (KTNP)									
PROJECT DRAWING NO:		NAME:		DATE:		PROJECT NO:			
PREPARED:		REL:		KABARNET/32/33KV SUBSTATION					
DRAWING: 1/2		9/5/2005		REL:					
CHECKED: 6/2/06		9/5/2005							
APPROVED: S.DENSIKUMBU		9/5/2005		132/33KV TRANSFORMER PROTECTION S					
REVISIONS:									
NO.		NAME		DATE					
SCALE: 1:600		DWG NO:		KABARNET-132/33KV-TRFO-PSB-003				REV.:	





1- THIS DRAWING IS FOR BIDDING PURPOSE ONLY  
2- ALL RELAYS SHALL SUPPORT IEC-61850 PROTOCOL.  
3- ALL RELAYS SHALL HAVE FIBER OPTIC PHYSICAL LINK.  
\* THE BURDEN OF CTs AND CVTs SHALL BE FINALIZED AT DETAIL DESIGN STAGE BY EPC CONTRACTOR, SUBJECT TO APPROVAL OF BURDEN CALCULATIONS BY CLIENT/CONSULTANT.

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REFERENCE DRAWINGS		DATE																					
APPROVED	APPROVED BY (SIGNATURE)	NOT APPROVED	FOR INFORMATION																				
DATE		SIGNATURE (NAME) "XXXXXXXXXXXXXXXXXXXX"																					
		KENTA ELECTRICITY TRANSMISSION COMPANY LTD																					
		COLOENGO CONSULTING LIMITED <i>Engineering &amp; Architecture Division</i>																					
PROJECT: KENTA TRANSMISSION NETWORK IMPROVEMENT PROJECT (KENTN)																							
<table border="1"> <tr> <td>PROJECT DESCRIPTION</td> <td>NAME</td> <td>DATE</td> <td>REVISION</td> </tr> <tr> <td>REVISION</td> <td>NR</td> <td>REVISION</td> <td></td> </tr> <tr> <td>REVISION</td> <td>1</td> <td>REVISION</td> <td></td> </tr> <tr> <td>CHECKED</td> <td>1/2/24</td> <td>REVISION</td> <td></td> </tr> <tr> <td>APPROVED</td> <td>1/2/2024</td> <td>REVISION</td> <td></td> </tr> </table>				PROJECT DESCRIPTION	NAME	DATE	REVISION	REVISION	NR	REVISION		REVISION	1	REVISION		CHECKED	1/2/24	REVISION		APPROVED	1/2/2024	REVISION	
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REVISION	NR	REVISION																					
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APPROVED	1/2/2024	REVISION																					
WORKING DRAWING		<b>KENTN 002 CUPPLER PROTECTION SLD</b>																					
SCALE: 1:500		SHEET: 002-01 OF 002-002-003																					
2024 MAY 10		CITY:																					

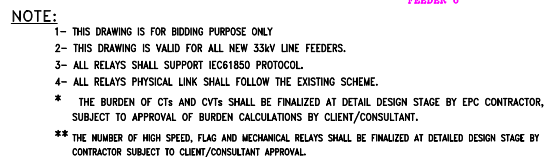




**NOTE:**

- 1- ALL RELAYS SHALL SUPPORT IEC61850 PROTOCOL.
- 2- ALL RELAYS SHALL HAVE FIBER OPTIC PHYSICAL LINK.
- 3- THE EXISTING HIGH IMPEDANCE BUSBAR PROTECTION RELAYS SHALL BE DISMANTLED, DECOMMISSIONED AND HANDLED OVER TO KETRACO.
- 4- ALL MODIFICATION OF EXISTING BUSBAR PROTECTION SYSTEM ARE IN SCOPE OF WORK
- 5- ALL SPECIFICATION (INCLUDING BURDEN, CLASS, RATIO, RESISTANCE, KNEE POINT AND ETC.) OF CT CORES USED FOR BUSBAR PROTECTION MUST BE EXACTLY THE SAME.
- 6- THE DRAWING IS FOR BIDDING PURPOSE ONLY
- 7- THE BURDENS OF CTs AND CTS TO BE FINALIZED AT EPC DETAILED DESIGN STAGE BY CONTRACTOR, SUBJECT TO APPROVAL OF BURDEN CALCULATIONS BY CLIENT/ CONSULTANT.
- 8- THE QUANTITY OF HIGH SPEED AUXILIARY RELAYS SHALL BE FINALIZED AT DETAIL DESIGN STAGE BY CONTRACTOR, SUBJECT TO CLIENT/CONSULTANT APPROVAL.

### 33kV BUSBAR PROTECTION SLD



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