

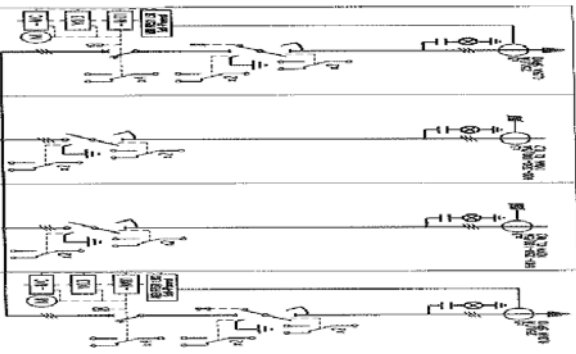


TRANSFORMER DATA SHEET - 6.3MVA

* ENERZIA CONTROLLED TDS No.6.3/SU/5T

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PLANT BOARD DETAILS

1	Ambient Temp °C, Altitude mtrs above msl & RH %1		50,1000 & 90			
2	Number of Transformer in Package & type		2 & Indoor, Dual frequency, ONAN, Multi Tap, Continuous			
3	Rating of each transformer in kVA (50Hz / 60 Hz)		3,150 / 3,780			
4	Phase / Wire & class of Insulation		3 ϕ / 4W neutral on LV & HV side & A			
5	Impulse Voltage HV kV _p , Power frequency kV _{rms} (HV / LV)		170, 70/3			
6	Temperature Rise in °C (Oil / Winding)		50 / 55 over ambient of 50 °C			
7	Vector Group		YNyn0 / Dyn11 (Through selector switch)			
8	Type of Cooling		ONAN			
9	Efficiency at 33 kV, 0.8 pf, 50Hz & 100 % Load		98.66			
10	No load loss 50 / 60 Hz & Load loss at 75 °C & 33kV in kW ₂		3.28 & 30.911			
11	Voltage Chart					
	Vector Group	Low Voltage V @ 50/60Hz	LV Current A @ 50 / 60 Hz	HV Voltage V @ 50 / 60Hz	HV Current A @ 50 / 60 Hz	Remarks
	YNyn0	400 / 480	4,547	33000 / 39600 (Not Advised)	55.11 / 45.92	Each transformer comes filled with mineral oil; Top plate of transformer has selector switches to select a) vector group, b) voltage change over and c) voltage selection; Marshalling box of each transformer controls its own cooling fans linked with temp of oil & high pressure have been built; Local temp indication & remote indication are available
				22862 / 27435	79.55 / 66.29	
				22000 / 26400	82.66 / 68.89	
				19052 / 22863	95.45 / 79.55	
				13200 / 15840	137.78 / 114.81	
				16497 / 19796	110.24 / 91.8	
				11432 / 13718	159 / 132.5	
				11000 / 13200	165.33 / 137.77	
				9526 / 11432	190.91 / 159.09	
	6600 / 7921	275.52 / 229.60				
	Dyn11	400 / 480	4,547	19053 / 22864	95.45 / 79.53	
				13200 / 15840	137.78 / 114.81	
				12700 / 15840	143.17 / 119.32	
				11000 / 13200	165.32 / 137.78	
				7620 / 9145	238.64 / 198.85	
				9526 / 11431	190.92 / 159.10	
	6600 / 7920	275.55 / 229.63				
	6350 / 7621	286.3 / 238.62				
	5500 / 6600	330.66 / 275.55				
	3810 / 4573	477.21 / 397.67				
12	Number of LV Isolators & rating		6 (3 on each transformer) & 2500 A			
13	Configuration of 36kV, 20kA Ring Main unit (RMU)		RMU comprises 4 sections outward on both sides housing an isolator & VCB while inward sections house a switch in a CLLC configuration.			
14	Current rating of switch / Isolator / CB / busbar in A		630 A			
15	Rated short time withstand / Peak withstand current in kA		25 in 1sec / 52.5			
16	Rated insulation Voltage / Power Freq withstand voltage / Lighting impulse withstand voltage kV		36 / 70 / 170			
17	CT [C] ; CT [L] ; PT with fuses (L)		600:1A; 600/350/100; 5A; 33000/ $\sqrt{3}$: 200/ $\sqrt{3}$			
18	RMU 36 kV, SLD (CLLC)		 <p>This line called C gets connected to transformer 2. It has a protection class CT, an Isolator followed by VCB that gets connected to a bus.</p> <p>This line goes to load side called L provided with a switch and then a metering CT within RMU. PT is loacted outside RMU and is connected through load cable</p> <p>This line goes to load side called L provided with a switch and then a metering CT within RMU. PT is loacted outside RMU and is connected through load cable</p> <p>This line called C gets connected to transformer 1. It has a protection class CT, an Isolator followed by VCB that gets connected to a bus.</p>			

CONTROL, PROTECTION & GENERAL DATA

- 19 Control & Relay Transformer panel is provided inside this package mounted on top of RMU to control, operate, monitor & protect package; A battery unit provides 24V DC supply for breaker operation along with charger. Panel receives external supply through 63A TPN breaker for distributing external supply to power pack.
- 20 The RMU are equipped with ABB PR521 LSIG self powered protection devices.
 Isolator's - Type: TPR6; In (A) - 630A; Icw (kA) - 25kA
 Switch - Type: TPR6; In (A) - 630A; Icw (kA) - 25kA
 Circuit Breaker - Type: Vacuum C.B; In (A) - 630A; Icw (kA) - 25kA
 C.T Ratio : Type - S.T.E TCN 250/1; S.T.E TCR1020 ; 250A/1 ; 600-350-100/5A
- 21 Transformer package has ladder to access roof of container where one can remove separate covers for transformer & RMU; Transformer has its own cooling fans that is integrated to its own temperature circuit while in addition. Transformer package is fully tested functionally while its integrity, interlock, safeties, polarity & ratio tests conducted.

WEIGHT & DIMENSIONAL DATA

		With doors open			With doors close				
		Length(L)	Width (W)	Height(H)	Length(L)	Width (W)	Height(H)		
22	Overall Dimension of Transformer Pack	Mm	8496	4876	2896	6058	2438	2896	
23	Total Weight of Transformer Pack Dry	Kg	20,600						
24	Total Weight of Transformer Pack Dry	Kg	24,000						

25 Container is outdoor type, ISO certified, high cube, CSC plated with tracing reference that can be furnished
 Package rating has been defined under specified environmental conditions for all equipment.
 Controller meets with IEC 60255-26 & EN 61000-6-1/2/3/4 standards
 RMU confirms to IEC 62271-1 standard in general with switchgear classification of PM class, loss of service continuity of LSC2, intergal arc classification of AFL including standards 62271-200, 62271-103, 62271-100,62271-102,62271-105 & IEC 60529
 Rated short time withstand current is 50kArms ans isolator confirms to IEC 60947-3 standards. 2000A is a derived rating at specified environmental conditions. Actual rating is 2500A at 415VAC & AC228 utilisation category

