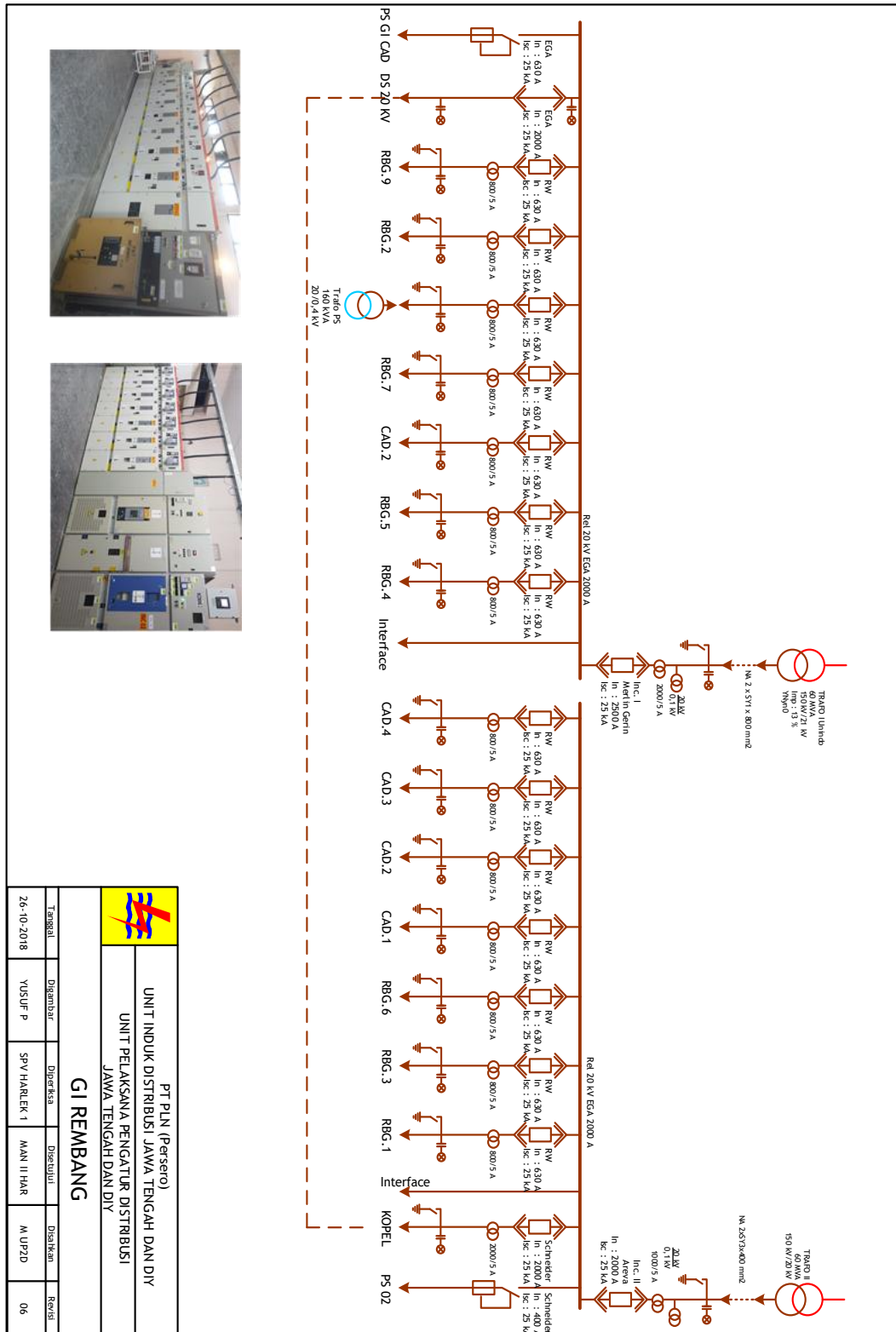



LAMPIRAN

1. Sngle Line Diagram Gardu Induk 150 KV Rembang



		PT PLN (Persero)			
		UNIT INDIK DISTRIBUSI JAWA TENGAH DAN DIY			
		UNIT PELAKSANA PENGATUR DISTRIBUSI JAWA TENGAH DAN DIY			
		GI REMBANG			
Tanggal	Dibuat/Di	Diperiksa	Ditetujui	Dibekalkan	Revisi
26-10-2018	YUSUF P	SPV HARLEK 1	MAN II HAR	M UP2D	06

2. Name Plate Trafo II 60 MVA Gardu Induk 150 KV Rembang



PAUWELS TRAF0

POWER TRANSFORMER

SERIAL NUMBER: 3011150
 YEAR OF MANUFACTURE: 2011
 STANDARD: IEC 60076
 RATED POWER: 36/60 MVA
 EMERGENCY RATING @ 120°C HOT SPOT: 90 MVA
 COOLING: ONAN/DNAF
 MAXIMUM SEISMIC DISTURBANCE: 0.25 g
 FREQUENCY: 50 Hz
 PHASES: 3

SHORT CIRCUIT CURRENT CAPACITY (2 Second): HV: 40 kA, LV: 25 kA
 MAXIMUM ALTITUDE: 1000 m
 AMBIENT TEMP. REFERENCE: 30°C
 TEMP. RISE BELOW 1000m ALTITUDE: TDP OIL: 50°C, AVERAGE WIND: 35°C
 VACUUM TANK: 0.133 kPa
 WITHSTAND CONSERVATOR: 0.133 kPa
 CAPABILITY RADIATOR: 0.133 kPa
 TYPE OF OIL: NYNAS NYTRO LIBRA (UNINHIBITED)
 TOTAL MASS: 105000 kg
 OIL MASS: 21200 kg
 UNTANKING MASS: 66000 kg

CONNECTION SYMBOL: Yyn0+d
 TAP CHANGER: MR VV III 400Y-76kV-10193VR + ED100

Notice:
 Overload capability at max. hot spot temp 120°C, ambient 30°C
 60 MVA / 90 MVA / 60 MVA
 0 - 1 hour

Manufactured by PT CG Power Systems Indonesia

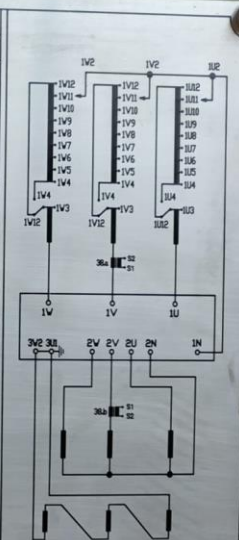
HIGH VOLTAGE-TERMINALS : 1N-1U-1V-1W				
TAP	VOLT	AMPERE	MVA	CONNECTION TAP CHANGER
1	165000	209.9	60	2 - 12
2	163125	212.4	60	2 - 11
3	161250	214.8	60	2 - 10
4	159375	217.4	60	2 - 9
5	157500	219.9	60	2 - 8
6	155625	222.6	60	2 - 7
7	153750	225.3	60	2 - 6
8	151875	228.1	60	2 - 5
9A	150000	230.9	60	2 - 4
9B	150000	230.9	60	2 - 3
9C	150000	230.9	60	2 - 12
10	148125	233.9	60	2 - 11
11	146250	236.9	60	2 - 10
12	144375	239.9	60	2 - 9
13	142500	243.1	60	2 - 8
14	140625	246.3	60	2 - 7
15	138750	249.7	60	2 - 6
16	136875	253.1	60	2 - 5
17	135000	256.6	60	2 - 4

LDV VOLTAGE-TERMINALS : 2N-2U-2V-2W				
VOLT	AMPERE	MVA		
22000	1574.6	60		

TERTIARY-TERMINALS : 3U1-3W2				
VOLT	AMPERE	MVA		
10040	666.7√3	20		

SHORT CIRCUIT IMPEDANCE (%)			
TAP	HV	LV	MVA
1	165000	22000	60
9	150000	22000	60
17	135000	22000	60

CT FOR WTI		
38.a	350/2A,	CL. 1 20 VA
38.b	2100/2A,	CL. 1 20 VA



1677/E0840/A
1677/E0840/B

3. Data Impedansi Penghantar

Luas Penampang mm^2	Jari ² mm	U rat	GMR mm	Impedansi urutan positif (Ohm / km)	Impedansi urutan Nol (Ohm / km)
16	2,2563	7	1,6380	2,0161 + j0,4036	2,1641 + j1,6911
25	2,8203	7	2,0475	1,2903 + j0,3895	1,4384 + j1,6770
35	3,3371	7	2,4227	0,9217 + j0,3790	1,0697 + j1,6665
50	3,9886	7	2,8957	0,6452 + j0,3678	0,7932 + j1,6553
70	4,7193	7	3,4262	0,4608 + j0,3572	0,6088 + j1,6447
95	5,4979	19	4,1674	0,3096 + j0,3449	0,4876 + j1,6324
120	6,1791	19	4,6837	0,2688 + j0,3376	0,4168 + j1,6324
150	6,9084	19	5,2365	0,2162 + j0,3305	0,3631 + j1,6180
185	7,6722	19	5,8155	0,1744 + j0,3239	0,3224 + j1,6114
240	8,7386	19	6,6238	0,1344 + j0,3158	0,2824 + j1,6034

Tahanan (R) dan reaktansi (X_L) penghantar AAAC tegangan 20 kV (dikutip dari SPLN 64: 1985)

IMPEDANSI KABEL TANAH DENGAN PENGHANTAR

4. Data KHA (Kuat Hantar Arus) Penghantar

LUAS PENAMPANG (mm^2)	KHA terus menerus penghantar AAC (A)	KHA terus menerus penghantar AAAC (A)
16	110	105
25	145	135
35	180	170
50	225	210
70	270	255
85	340	320
120	390	365
150	455	425
185	520	490
240	625	585

KHA penghantar Saluran kawat Tegangan menengah (20 kV) sesuai SPLN 64 : 1985