

LAMPIRAN



THREE PHASE TRANSFORMER N° P060LEC757-14
YEAR OF MANUFACTURE 2013
WITH 17 POSITIONS ON LOAD TAP CHANGER
RATED POWER 36 / 60 MVA - FREQUENCY 50 Hz
OUTDOOR TYPE - CONTINUOUS SERVICE
TEMPERATURE RISE : OIL 50 °K - WINDINGS 55 °K
COOLING ONAN / ONAF

	HIGH VOLTAGE	LOW VOLTAGE	TERTIARY VOLTAGE
RATED POWER in MVA (ONAN/ONAF)	36 / 60	36 / 60	12 / 20
RATED VOLTAGE in kV	150	20	10
RATED CURRENT in A (ONAN/ONAF)	138.6 / 230.9	1039.2 / 1732.1	400.0/3 / 666.7/3
CONNECTION	STAR	STAR	DELTA
LINE IN	1U 1V 1W	2U 2V 2W	3U1 3W2
NEUTRAL IN	1N	2N	-

WINDINGS	RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE 1.250 μS (kV)		RATED POWER FREQUENCY WITHSTAND VOLTAGE (kV)	
	LINE SIDE	NEUTRAL SIDE	LINE SIDE	NEUTRAL SIDE
HIGH VOLTAGE	650	95	275	38
LOW VOLTAGE	125	-	50	50
TERTIARY VOLTAGE	-	-	28	-

POSITION OF OLTC	HIGH VOLTAGE		LOW VOLTAGE		RATED POWER (MVA)
	TAPPING VOLTAGE (kV)	TAPPING CURRENT (A)	RATED VOLTAGE (kV)	RATED CURRENT (A)	
		ONAN	ONAF	ONAN	ONAF
1	166.000	126.0	200.0		
2	163.125	127.4	212.4		
3	161.250	128.9	214.8		
4	159.375	130.4	217.4		
5	157.500	132.0	219.8		
6	155.625	133.6	222.4		
7	153.750	135.2	225.0		
8	151.875	136.9	228.1		
9	150.000	138.6	230.9	20.000	1039.2
10	148.125	140.3	233.8		
11	146.250	142.1	236.9		
12	144.375	144.0	239.9		
13	142.500	145.9	243.1		
14	140.625	147.8	246.3		
15	138.750	149.8	249.7		
16	136.875	151.9	253.1		
17	135.000	154.0	256.6		

CURRENT TRANSFORMERS				
DESIGNATION	RATED POWER VA	CLASS	RATIO	PURPOSE
CT01	15	3	2000/5A	MEASUREMENT
CT02	15	3	300/5A	MEASUREMENT

HV/LV SHORT CIRCUIT IMPEDANCE POSITION 9 BASE ON 60 MVA
 TYPE OF OIL: MINERAL OIL
 TRANSFORMER COMPLYING WITH STANDARD IEC 60076
 IMPREGNATION EVERY YEAR TAKE AN OIL SAMPLE FOR DGA CHECKING AND DIELECTRIC TESTS
 TANK AND CONSERVATOR ARE DESIGNED FOR FULL VACUUM
 THIS TRANSFORMER CONTAINED NO DETECTABLE LEVELS OF PCB AT THE TIME OF MANUFACTURE

GUARANTEED 12.5 % MEASURED 12.2 %
 UN-INHIBITED

APPROXIMATE WEIGHTS

- UNTANKING kg
- CORE AND COILS kg
- TANK kg
- OIL kg
- TOTAL kg



CONNECTION DIAGRAM



VECTOR DIAGRAM YNyn0-d

20140310 10:30

ALSTOM GRID - JAKARTA - INDONESIA

PT PLN (Persero) P3B
 AREA PELAKSANA PEMELIHARAAN SALATIGA

HASIL UJI RELE DIFFERENTIAL

Tanggal : 7 MARET 2016
 Lokasi : GI KENTUNGAN
 Bay : TRAF. 4
 CT sisi 150 KV : 300/5A
 CT sisi 20 KV : 2000/5A

Merk : OE ALSTHOM
 Tipe : MDCM 12 D
 In Rele : SA
 Setting : 0,3 A
 No. Seri : 366966E, 366966E

UJI ARUS KERJA DIFFERENTIAL

Phasa	R				S				T			
	150 KV		20 KV		150 KV		20 KV		150 KV		20 KV	
	Th lalu	Hasil ukur	Th lalu	Hasil ukur	Th lalu	Hasil ukur	Th lalu	Hasil ukur	Th lalu	Hasil ukur	Th lalu	Hasil ukur
Terminal	25,29		27,29		25,29		27,29		25,29		27,29	
1 pik up (Amp)	1,57		1,56		1,58		1,57		1,53		1,53	
1 reset (Amp)	1,56		1,55		1,57		1,56		1,53		1,52	
Waktu	0,093		0,027		0,057		0,065		0,068		0,058	
Ratio Ir/Ip												

UJI KARAKTERISTIK DIFFERENTIAL

Phasa R	Th lalu		Hasil ukur		Th lalu		Hasil ukur		Th lalu		Hasil ukur	
	11	12	11	12	11	12	11	12	11	12	11	12
11			0,25		0,5		0,25		1,0		1,25	
12			1,96		2,33		2,66		3,02		3,41	
Ih = (11+12)/2			1,105		1,415		1,72		2,02		2,33	
Id = (12-11)			1,71		1,83		1,94		2,04		2,16	

Phasa S	Th lalu		Hasil ukur		Th lalu		Hasil ukur		Th lalu		Hasil ukur	
	11	12	11	12	11	12	11	12	11	12	11	12
11			0,25		0,5		0,25		1,0		1,25	
12			1,96		2,33		2,66		3,04		3,41	
Ih = (11+12)/2			1,105		1,415		1,72		2,02		2,33	
Id = (12-11)			1,71		1,83		1,94		2,04		2,16	

Phasa T	Th lalu		Hasil ukur		Th lalu		Hasil ukur		Th lalu		Hasil ukur	
	11	12	11	12	11	12	11	12	11	12	11	12
11			0,25		0,5		0,25		1,0		1,25	
12			1,94		2,33		2,66		3,02		3,41	
Ih = (11+12)/2			1,095		1,415		1,705		2,01		2,33	
Id = (12-11)			1,69		1,83		1,91		2,02		2,16	

CATATAN/REKOMENDASI :

RELAY NORMAL

Mengetahui
SPV HARPRO

Ali Ropi

ALI ROPHI

Pengawas Pekerjaan

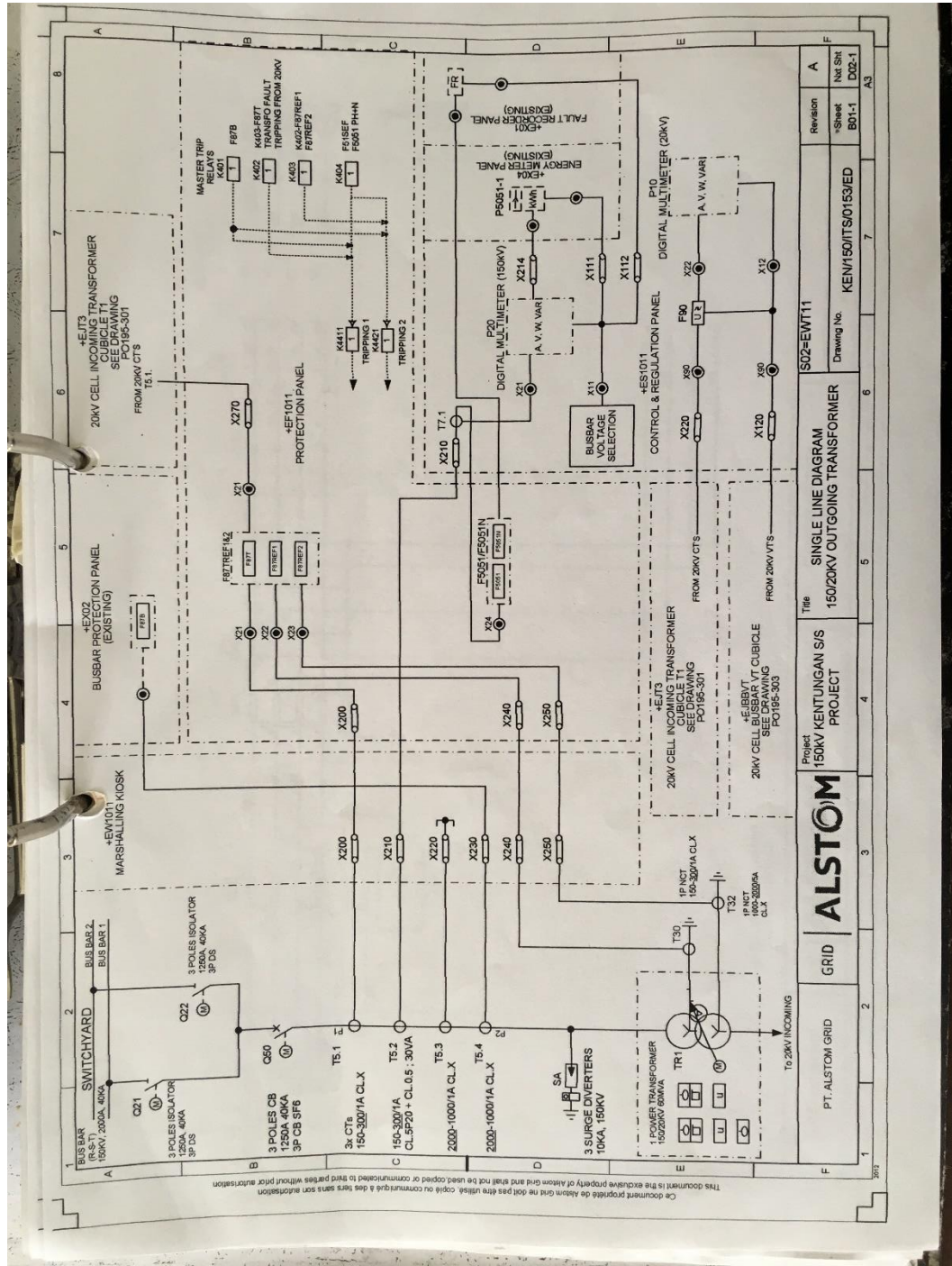
Marwanto

MARWANTO

Penguji

1. LIA K.D.
2. SUDHARSO
3. DWIR.L.P.

	PT. PLN (PERSERO) UNIT INDUK TRANSMISI JAWA BAGIAN TENGAH UNIT PELAKSANA TRANSMISI SALATIGA Jl. Diponegoro No. 149 Salatiga Telp. (0298) 323167/323168 Fax. (0298) 323169						
	FORM PANTAUAN ARUS BOCOR						
KABEL POWER		Nomor : Tanggal : 17 Mei 2019					
PANTAUAN ARUS BOCOR KABEL POWER							
Merk :	SUPREME	Bay : TRAFO 4					
Diameter kabel :	630	Lokasi GI. : KENTUNGAN					
Jumlah core fasa R :	4						
Jumlah core fasa S :	4						
Jumlah core fasa T :	4						
1. Hasil Pengukuran							
NO	TYPE	Hasil Ukur					
		Hasil Ukur Arus Bocor kabel Individu				Tegangan 20 kV	Arus 20 kV
	single core/ three core/ qudruple core	R1	R2	R3	R4	20,6	981
		0,20	0,20	0,29	0,29		
		S1	S2	S3	S4	20,6	1016
		0,20	0,17	0,28	0,27		
	T1	T2	T3	T4	20,6	990	
	0,19	0,19	0,28	0,28			
2. Alat Uji Yang Digunakan							
Merk : KYORITSU							
Type : DCM							
3. Catatan Lain							
.....							
.....							
Pelaksana pengujian		Tanda tangan		SPV GI		Tanda tangan	
1 Axel Fahrudin		Juli		Horeman Albertus		Juli	
2 Anang Riyadi							
3							



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PT. ALSTOM GRID	GRID	ALSTOM	Project 150kV KENTUNGAN SIS PROJECT	Title SINGLE LINE DIAGRAM 150/20kV OUTGOING TRANSFORMER	S02-EWTT11	Revision *Sheet B01-1	Nat Sht D02-1
						Drawing No. KEN/150/ITS/015/03/ED	