CERTIFIKATE KOLAUDIMI PER TRANSFORMATORET

TE DHENA PER TRANSFORMATORIN Date ____/____/20__

Sn/Un (kVA/kV) ___/___/**0.4**_____Nr. _____. Barcode_____.

Skema e lidhjes _____. Pozicioni i Ansafkave ___**Nominal**_____. Frekuenca__**50**___Hz**.**

A-GJENDJA MEKANIKE:

Izolatoret: TL_____**Ok**_____.TM_____**Ok**_____. TU_____**Ok**_____. Zgjedha ____**Ok**_____.

Fllanxhat___**Ok**_____. Radiatoret_____**Ok**_____. Kazani_____**Ok**_____Izolacionet _____**Ok**_____

B.-REZULTATET E PROVAVE ELEKTRIKE:

1. Matja e Rezistences se Izolacionit R 15 **dhe R** 60**:**

R 15(TM/L-0) _____M Ω. R15 (TU-0) _____ MΩ. R15 (TM/L-TU) _____MΩ.

R 60(TM/L-0) _____M Ω. R60 (TU-0) _____ MΩ. R60 (TM/L-TU) _____MΩ.

Aparati Testues : ___**Meger Elektronik** _____2500V_____.

2. Koeficienti i Absorbimit:

R (TM/L-0) ____1.31_____ R (TU-0) _____1.31_____.R(TM/L-TU)____1.31_____.

Aparati Testues: ___ **Meger Elektronik ___2500V**_____.

3. Koeficienti i Transformimit

UAB _____400_____V. UBC_____400_____V. UCA _____400_____V.

Uao _____V. Ubo _____V. Uco _____V.

Uab _____V. Ubc _____V. Uac _____V

Aparati Testues : _____**Voltmeter elektronik**_____.

4. Asimetria e fazave____Normale_____

Aparati Testues : _____**Avometer Elektronik**_____.

5. Prova e lidhjes se shkurter, me Tension prove_____400____V.

IAK_____18.7_____A. IBK____18.7_____A. ICK____18.7_____A.

Iak _____900_____A. Ibk_____900_____A. Ick ____900_____A.

Aparati Testues : _____**Ampermeter_____elektronik**_____.

6. Prova e punimit pa ngarkese me tension prove ___400___V.

Ia_____A. Ib _____A. Ic_____ A.

7. Prova me tension te rritur 100HZ 400V/ose __800_____V.

Ia_____A. Ib _____A. Ic _____A.

8. Prova me Tension te Rritur te Ndryshuar /per 1 minute:

TM/L-TU-0_____kV/ per 1 min. TU____1000_____V/ per 1 min.

Aparati Testues : _____**Auto transformator**_____.

9. Rezistenca ohmike:

R (A-B) ___23_____ Ω. R (B-C) ____23_____ Ω. R(C-A)____23_____ Ω.

R (a-b) __0.22_____ Ω. R (b-c) ____0.22_____ Ω. R (c-a) ___0.22_____ Ω.

Aparati Testues: _____**Ometer Elektronik**_____.

10. Qendrueshm eria Elektrike e vajit

(Umes=_____kV), sipas Raportit te Analizave Nr_____. Date ____/____/20___

11. Mbushja me Vaj (I ri/ I rigjeneruar)_____.

12. Temperatura e Ambientit_____°C.

Grupi I Kolaudimit te Transformatorit

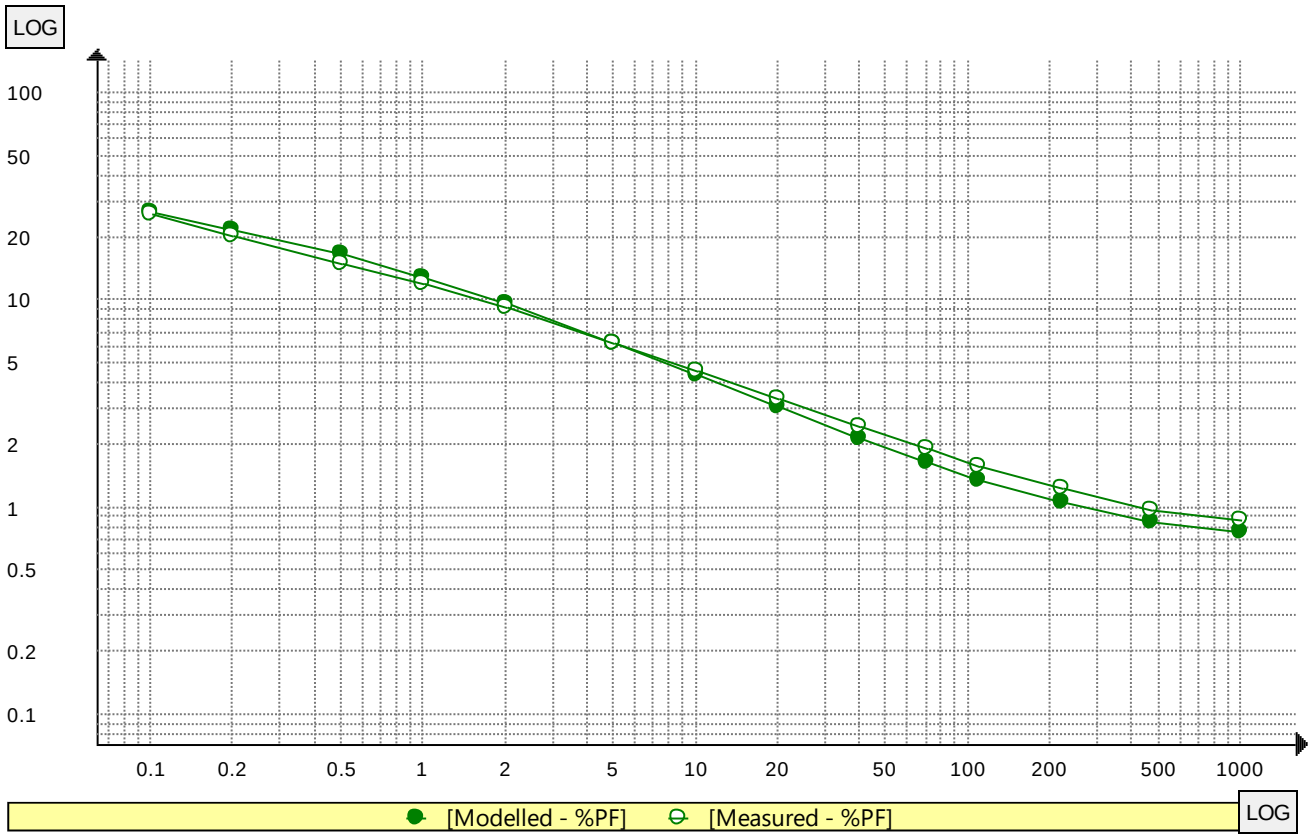
Raporti i Matjes së IDAX :

(IDAX Measurement Report - Moisture Assessment)

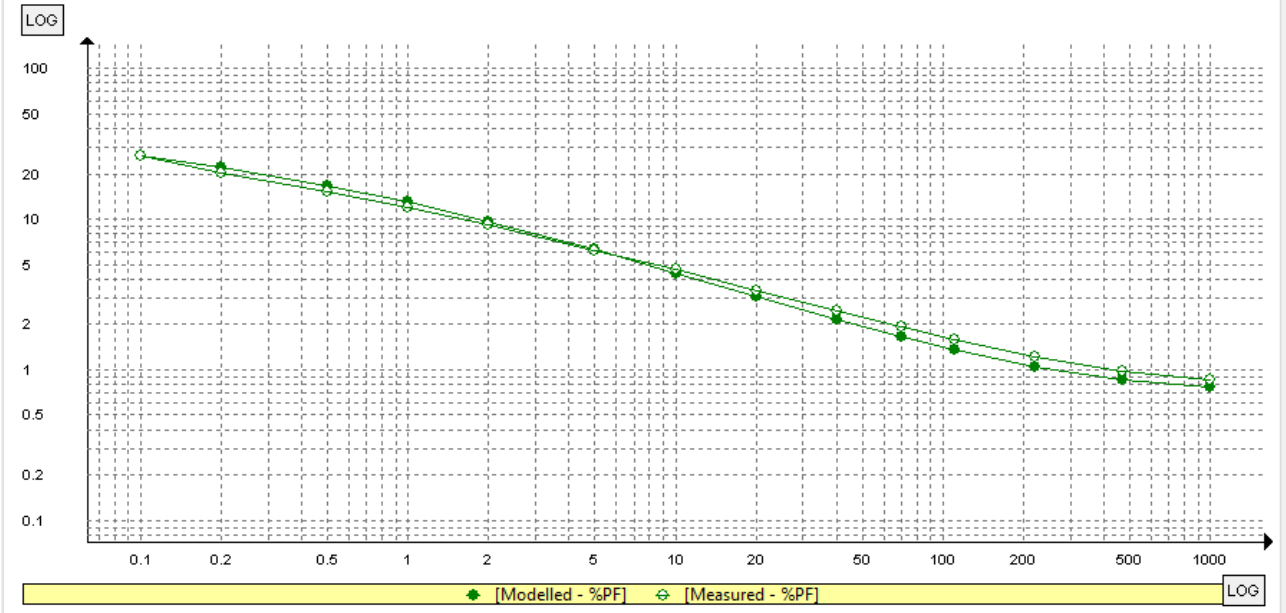
Test conditions			
Company:	**ELEKTROINVEST SHPK**	Division:	**TRANSFORMER**
Location:	**TIRANE**	Date:	**2/24/2020**
Ambient temperature, °C:	**15**	Ambient %RH:	**45%**
Object temperature, °C:	**30**	Weather:	**ME RE**
Tester:	**MEGGER**		
Test object information			
Test object:	**Two Winding Transformer**	Designation:	
Manufacturer:		Type:	**ETNY 3200-35/6**
Core type:	**Core**	Serial no:	**0000**
Coolant:	**Mineral Oil**	Cooling class:	**ONAN**
Voltage, kV:	**35/6**	MVA:	**3.2**
Vector group:	**YD11**	Frequency:	**50**

Insulation assessment					
Measurement:	**CHL: (2)**				
Capacitance, pF:	**4051**	%PF:		**2.22**	
%PF @ 20°C:	**2.22**	*< 0.30% As new*	*0.30-0.50% Good*	*0.50-1.0% Deteriorated*	*> 1.0% Investigate*
Moisture, %:	**4.4**	*< 1.0% As new*	*1.0-2.0% Dry*	*2.0-3.0% Moderately wet*	*> 3.0% Wet*
Oil Cond, @ 25°C, pS/m:	**0.282**	*< 0.37 pS/m As new*	*0.37-3.7 pS/m Good*	*3.7-37 pS/m Service aged*	*> 37 pS/m Deteriorated*

Measured data		
Measurement	Capacitance, pF	%PF
CHL:	**4051**	**2.22**



Measurement		**CHL:**	
Capacitance, pF:	**4051**	%PF:	**2.22**

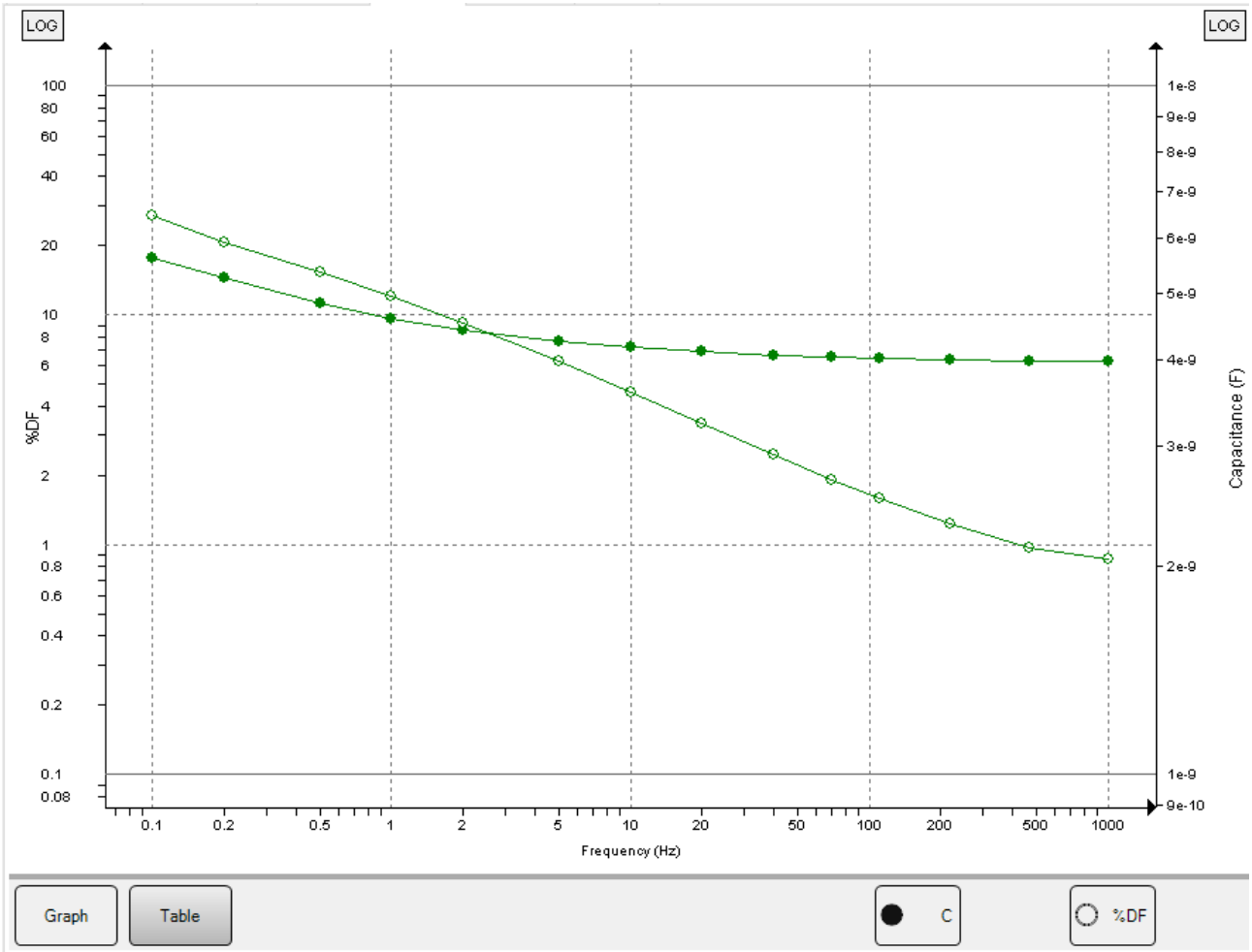


Results @ 50Hz, 20°C

Capacitance pF	%PF
4051	2.22

Analysis results

%PF @ 50 Hz & 20°C	Moisture %(wt/wt)	Cond. (pS/m) @ 25°C
2.22	4.4	0.282
< 0.30 % As new	< 1.0 % As new	< 0.37 pS/m As new
0.30 - 0.50 % Good	1.0 - 2.0 % Dry	0.37 - 3.7 pS/m Good
0.50 - 1.0 % Deteriorated	2.0 - 3.0 % Moderately wet	3.7 - 37 pS/m Service aged
> 1.0 % Investigate	> 3.0 % Wet	> 37 pS/m Deteriorated



****

IDAX-2020-02-24 12.09-TR1

****

==========

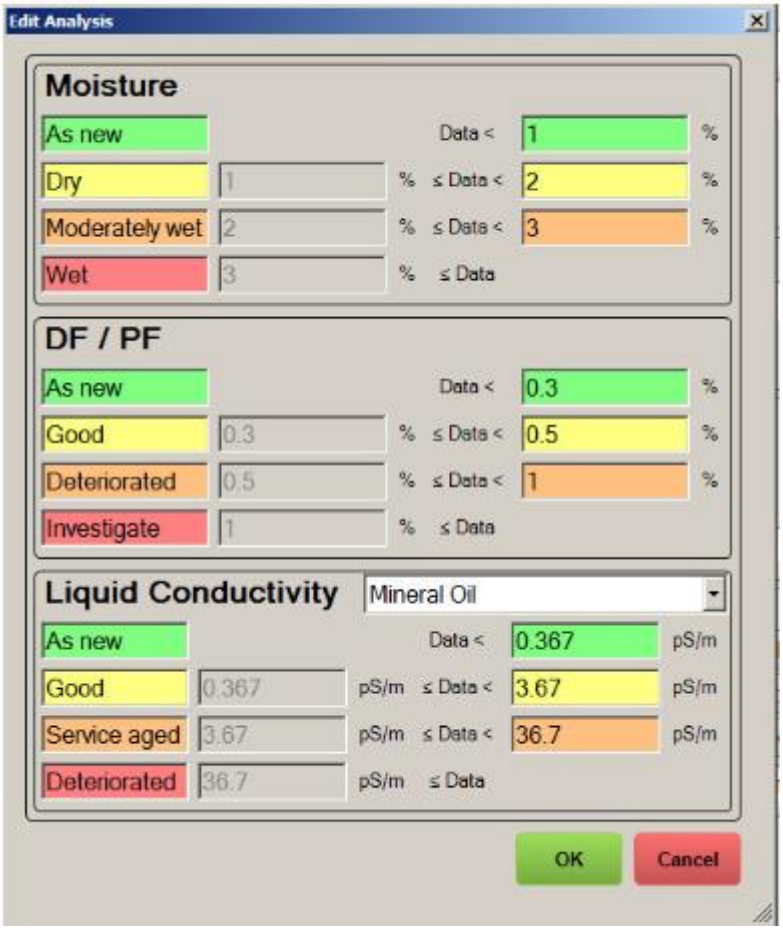
CHL: (2) - (2/24/2020 12:47:29 PM)

Test Mode	Hum (50Hz)	Offset	Capacitance (930Hz, 140 (RMS))
UST-R	137 pA	240 pA	4.0 nF
UST-B	---	---	---
UST-RB	137 pA*	240 pA*	4.0 nF*
GST-G	8.3 nA*	-150 pA*	5.3 nF
GSTg-R	8.5 nA*	90 pA*	1.3 nF*
GSTg-B	8.3 nA*	-150 pA*	5.3 nF*
GSTg-RB	8.5 nA	90 pA	1.3 nF

* Estimated from measurements of other Test Modes

Hum current is peak value of the fundamental

Frequency:	C	%DF
1000	3.98008E-09	0.859895
470	3.98516E-09	0.97047
220	4.00011E-09	1.22407
110	4.01998E-09	1.59075
70	4.03623E-09	1.91952
40	4.0613E-09	2.45185
20	4.10276E-09	3.35527
10	4.16345E-09	4.59902
5	4.24583E-09	6.25891
2	4.40769E-09	9.19499
1	4.58436E-09	12.0116
0.5	4.82294E-09	15.3468
0.2	5.24596E-09	20.7039
0.1	5.61853E-09	27.1614


Edit Analysis
Moisture
As new
Data <
1
%
Dry
1
% ≤ Data <
2
%
Moderately wet
2
% ≤ Data <
3
%
Wet
3
% ≤ Data
DF / PF
As new
Data <
0.3
%
Good
0.3
% ≤ Data <
0.5
%
Deteriorated
0.5
% ≤ Data <
1
%
Investigate
1
% ≤ Data
Liquid Conductivity
Mineral Oil
As new
Data <
0.367
pS/m
Good
0.367
pS/m ≤ Data <
3.67
pS/m
Service aged
3.67
pS/m ≤ Data <
36.7
pS/m
Deteriorated
36.7
pS/m ≤ Data
OK
Cancel

3Ø Winding Resistance and Turns Ratio

DATE 2/24/2020 PAGE 1

AMBIENT TEMP. 15 °C JOB #

SUBSTATION HUMIDITY % ASSET ID

POSITION TIRANE TEST STATUS

EQUIPMENT LOCATION

Nameplate

MFR EMO OHRID WEIGHT lb OIL VOLUME kg

SER NO 00000 CLASS ONAN COOLANT OIL

YEAR 2003 BIL kV IMPEDANCE 6.04 %

TYPE SEALED

Yd11

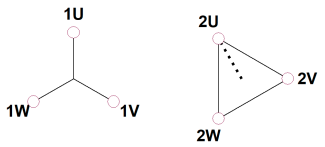


Diagram # 52 (IEC)

	Voltage (V)		kVA	Rated I	# Taps	Nominal	Tap Changer	Tap Setting	First Tap Voltage	Last Tap Voltage	© Material
	L-L	L-G									
Primary	35		3,200	52,786.31	1				35	35	Cu
Secondary	6		3,200	307,920.14	1				6	6	Cu

Transformer Test Conditions

AMBIENT TEMP. 15 °C OIL TEMP 40 °C REASON Routine

HUMIDITY % WINDING TEMP 40 °C TEST STATUS

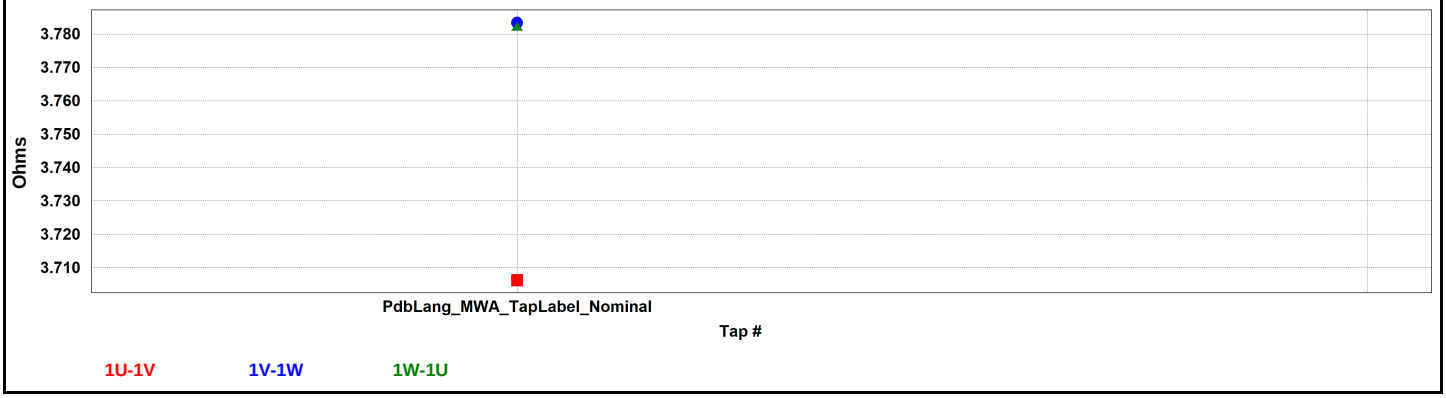
WEATHER Cloudy

Resistance - Primary

Test Current (A) / Stability (%/Digit) | Measured Resistance | Units: Ω

#	Tap	1U-1V		1V-1W		1W-1U		Winding Diff Max: 2 %	
4	Nominal	1.0058 / 99.996	3.706	1.0173 / 99.989	3.783	1.0173 / 99.984	3.782	2.054	

Resistance - Primary

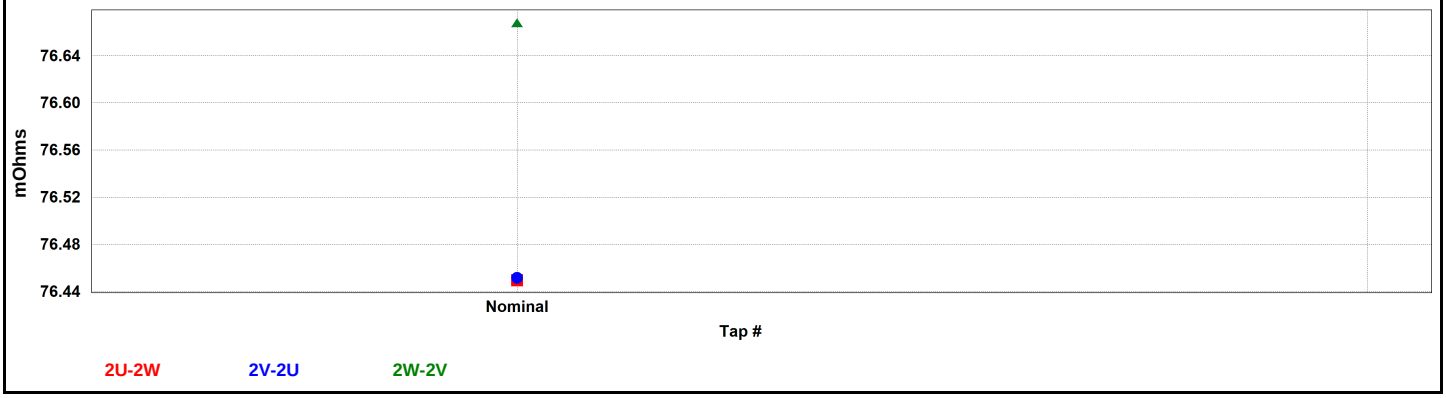


3Ø Winding Resistance and Turns Ratio

Resistance - Secondary

		Test Current (A) / Stability (%/Digit)	Measured Resistance	Units: mΩ					
#	Tap	2U-2W		2V-2U		2W-2V		Winding Diff Max: 2 %	
5	Nominal	10.0436 / 99.998	76.45	10.0298 / 99.996	76.45	10.0202 / 99.996	76.67	0.285	

Resistance - Secondary



COMMENTS:

DEFICIENCIES: 4 Failed

Form Number and Date: 56000, REVISED 2/16/2018

Serial Number:

Firmware Information:

Calibration Date:

PowerLogic™
PM5560 Series

user1 | Logout

Monitoring | Diagnostics | Maintenance | Settings

General Monitoring
- Basic Readings
- Power Quality
- Active Alarms
- Alarm History
- Inputs/Outputs
- Data Log

Gauges

Parameter

- Load Current
- Power
- Voltage LL
- Voltage LN

Set Range

001.69 kW

002.50 kVAR

003.01 kVA

Basic

Parameter	Minimum	Present	Maximum
Load Current (A)			
Ia	0.00	9.61	93.07
Ib	0.00	9.61	46.56
Ic	0.00	9.82	46.44
I Avg	0.00	9.68	62.02
In	***	***	***
Ig	0.00	0.00	2.87
Power			
Real (kW)	-0.00	1.69	10.19
Reactive (kVAR)	0.00	2.50	15.53
Apparent (kVA)	0.00	3.01	18.58
Power Factor Total	-0.00906 lead	0.55934 lag	0.99807 lag
Voltage			
Vab	28.69	174.48	533.81
Vbc	21.91	175.98	529.90
Vca	21.21	173.74	535.17
VLL Avg	25.40	174.73	532.86
Van	***	***	***
Vbn	***	***	***
Vcn	***	***	***
VLN Avg	***	***	***
Frequency (Hz)	49.82	49.97	50.19

Demand

Parameter	Last	Present	Peak	Date/Time at Peak	Date/Time Last Reset
Demand Current (A)					
Ia	***	4.18	4.64	2019-10-07 10:23:15	***
Ib	***	3.28	4.56	2019-10-07 10:23:15	***
Ic	***	4.19	4.72	2019-10-07 10:23:15	***

Demand Power					
Real (kW)	***	0.65	1.48	2019-10-07 10:23:15	***
Reactive (kVAR)	***	1.46	1.91	2019-10-07 10:23:15	***
Apparent (kVA)	***	1.64	2.42	2019-10-07 10:23:15	***

Energy

Parameter	Accumulated Value	Date/Time Last Reset
Energy		
Energy Delivered (kWh)	2.505	2019-06-29 18:46:49
Energy Received (kWh)	0.000	2019-06-29 18:46:49
Energy Delivered (kVARh)	5.629	2019-06-29 18:46:49
Energy Received (kVARh)	0.000	2019-06-29 18:46:49
Energy Delivered (kVAh)	6.292	2019-06-29 18:46:49
Energy Received (kVAh)	0.000	2019-06-29 18:46:49

PowerLogic™
PM5560 Series

General Monitoring
- Basic Readings
- Power Quality
- Active Alarms
- Alarm History
- Inputs/Outputs
- Data Log

Gauges

Parameter

- Load Current
- Power
- Voltage LL
- Voltage LN

Set Range

401.06 Vab (V)

402.20 Vbc (V)

400.95 Vca (V)

Basic

Parameter	Minimum	Present	Maximum
Load Current (A)			
Ia	0.00	4.41	93.07
Ib	0.00	3.58	46.56
Ic	0.00	4.62	46.44
I Avg	0.00	4.20	62.02
In	***	***	***
Ig	0.00	0.00	2.87
Power			
Real (kW)	-0.00	0.38	10.19
Reactive (kVAR)	0.00	2.92	15.53
Apparent (kVA)	0.00	2.94	18.58
Power Factor Total	-0.00906 lead	0.12996 lag	0.99807 lag
Voltage			
Vab	28.69	401.06	533.81
Vbc	21.91	402.20	529.90
Vca	21.21	400.95	535.17
VLL Avg	25.40	401.40	532.86
Van	***	***	***
Vbn	***	***	***
Vcn	***	***	***
VLN Avg	***	***	***
Frequency (Hz)	49.82	49.98	50.19

Demand

Parameter	Last	Present	Peak	Date/Time at Peak	Date/Time Last Reset
Demand Current (A)					
Ia	***	3.01	4.64	2019-10-07 10:23:15	***
Ib	***	2.17	4.56	2019-10-07 10:23:15	***
Ic	***	2.99	4.72	2019-10-07 10:23:15	***

Demand Power					
Real (kW)	***	0.47	1.48	2019-10-07 10:23:15	***
Reactive (kVAR)	***	1.04	1.91	2019-10-07 10:23:15	***
Apparent (kVA)	***	1.17	2.42	2019-10-07 10:23:15	***

Energy

Parameter	Accumulated Value	Date/Time Last Reset
Energy		
Energy Delivered (kWh)	2.461	2019-06-29 18:46:49
Energy Received (kWh)	0.000	2019-06-29 18:46:49
Energy Delivered (kVARh)	5.523	2019-06-29 18:46:49
Energy Received (kVARh)	0.000	2019-06-29 18:46:49
Energy Delivered (kVAh)	6.175	2019-06-29 18:46:49
Energy Received (kVAh)	0.000	2019-06-29 18:46:49

TRANSFORMER
POLARIZATION INDEX (PI) TEST

DATE 2/24/2020 PAGE 1

AMBIENT TEMP. °C JOB #

SUBSTATION HUMIDITY % ASSET ID

POSITION TIRANE TEST STATUS

EQUIPMENT LOCATION

NAMEPLATE DATA

MFR EMO OHRID CLASS PHASES 3

SER NO 00000 COOLANT OIL REASON Routine

YEAR 2003 TANK TYPE SEALED WEIGHT lb

WINDING MATERIAL Cu

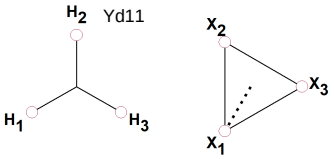
OIL VOLUME GAL

OIL TEMP 40 °C

IMPEDANCE 6.04 %

WEATHER Cloudy

BIL kV



BUSHING NAMEPLATE						
Dsg	SERIAL NUM	MFR.	TYPE/CLASS	kV	AMPS	YEAR

	VOLTAGE (kV)		kVA	RATED I	# TAPS	NOMINAL	CHANGER	TAP SETTING
	L-L	L-G						
PRIMARY:	35		3,200	52.79	1			
SECOND:	6		3,200	307.92	1			

COMMENTS:

TEST VOLTAGE: High to Low (Low Grounded) 5 KVDC Low to High (High Grounded) 2 KVDC High + Low to Ground 2 KVDC

CORE/COIL TEMPERATURE 20 °C Enter TCF Manually: ☐ TEMP. CORR. FACTOR TO 20°C, TCF 1 LIQUID 1.000

Use Instrument PI / DAR Value: ☑

MINUTES	TRANSFORMER					
	High to Low (Low Grounded)		Low to High (High Grounded)		High + Low to Ground	
	READING (megohms)	CORR. VALUE (megohms)	READING (megohms)	CORR. VALUE (megohms)	READING (megohms)	CORR. VALUE (megohms)
0.25	727.00	727.00	268.03	268.03	848.29	848.29
0.50	798.36	798.36	285.40	285.40	919.77	919.77
0.75	822.34	822.34	290.73	290.73	938.01	938.01
1.00	836.67	836.67	293.46	293.46	947.30	947.30
2.00						
3.00						
4.00						
5.00						
6.00						
7.00						
8.00						
9.00						
10.00						
P. I.	1.16		1.09		1.12	
D. A. R.	1.05		1.03		1.03	

INSULATION CONDITION	POLARIZATION INDEX (PI)
DANGEROUS	< 1.0
POOR	1.0 to 1.1
QUESTIONABLE	1.1 to 1.25
FAIR	1.25 TO 2.0
GOOD	> 2.0

NOTES:

PI ranges from IEEE C57.152-2013

Polarization Index should not be used to assess insulation in new power transformers (IEEE C57.152-2013)

The polarization index for insulation liquid is always close to 1. Therefore, the polarization index for transformers with low conductivity liquids (e.g. new mineral oil) may be low in spite of good insulation condition. (IEEE C57.152-2013)

INSULATION CONDITION	DAR 60/30 SEC
QUESTIONABLE	1.0 - 1.25
GOOD	1.4 to 1.6
EXCELLENT	> 1.6

NOTES:

DAR ranges from A Stitch In Time (Megger, 2006)

These values must be considered tentative and relative - subject to experience, over time

TEST EQUIPMENT USED: TESTED BY:

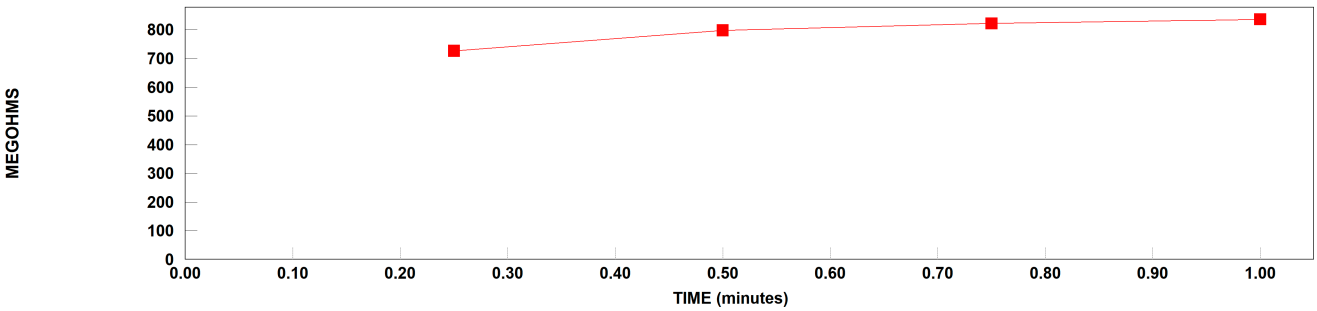
TRANSFORMER
POLARIZATION INDEX (PI) TEST

DATE 2/24/2020 TEMPERATURE °C HUMIDITY % EQPT. LOCATION

SUBSTATION POSITION TIRANE

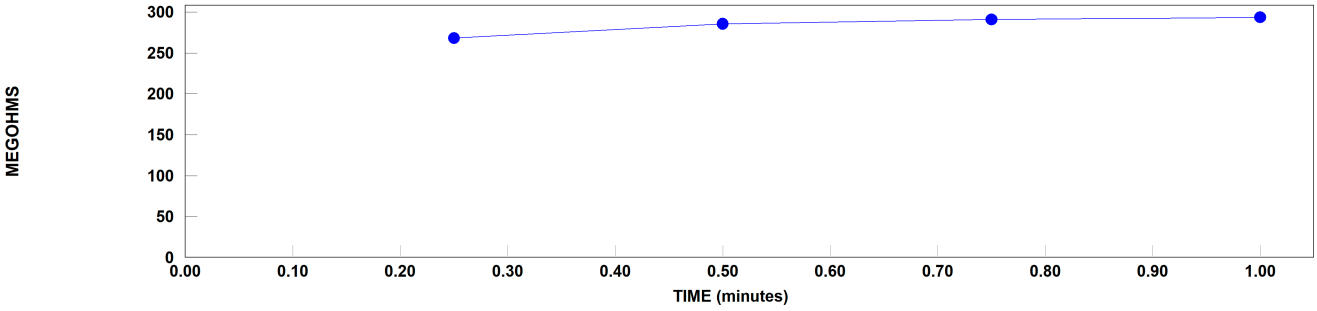
POLARIZATION CURVE

High to Low (Low Grounded) : Red Square



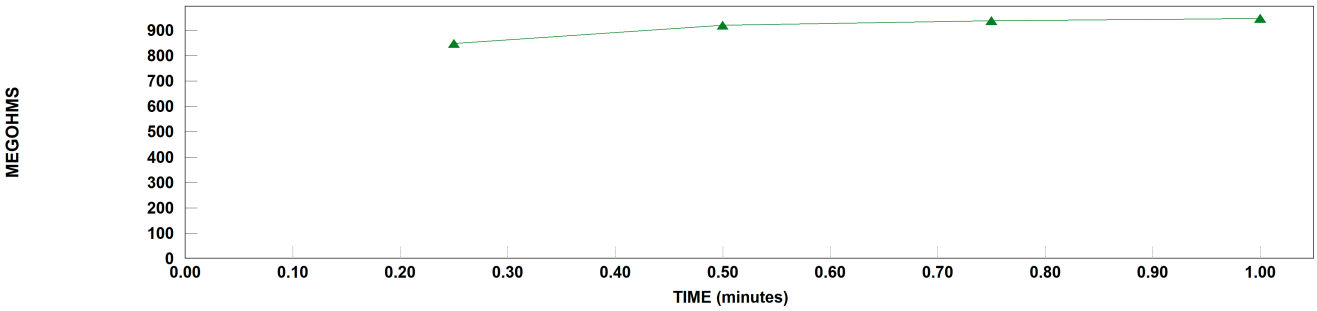
POLARIZATION CURVE

Low to High (High Grounded) : Blue Circle



POLARIZATION CURVE

High + Low to Ground : Green Triangle



COMMENTS:

DEFICIENCIES:

SFRA Test Results

Report date: 2020-04-22

Date of Test:	**Time of Test:**
2/24/2020	11:38:16
Company Name:	**Location:**
ELEKTROINVEST	TIRANE
Test Object:	**Manufacturer:**
	EMO OHRID
Serial Number:	**Built Year:**
0000	2003
Phase Design:	**Winding Configuration:**
3	YD11
KV Rating:	**KVA Rating:**
35-6-	3.2--
NLTC Position:	**LTC Position:**
Temperature:	**Reason For Test:**

Tested By:

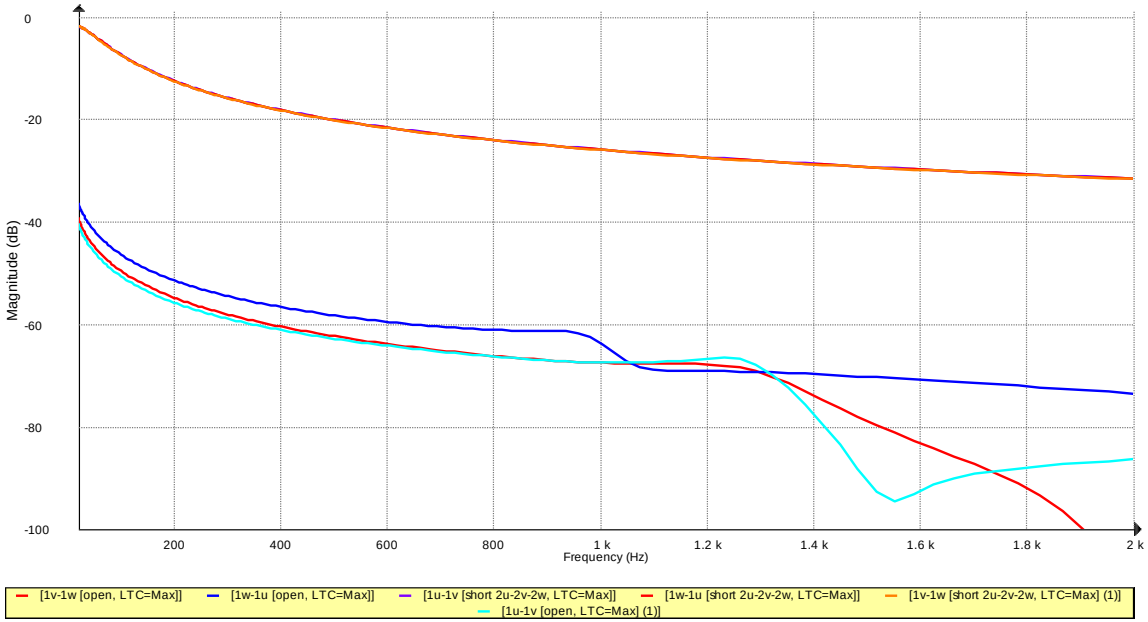
Notes:

 Report generated by FRAX software

Transformer: "" **at** " "
Serial Number: 0000
Tested 2/24/2020 **at** 11:38:16

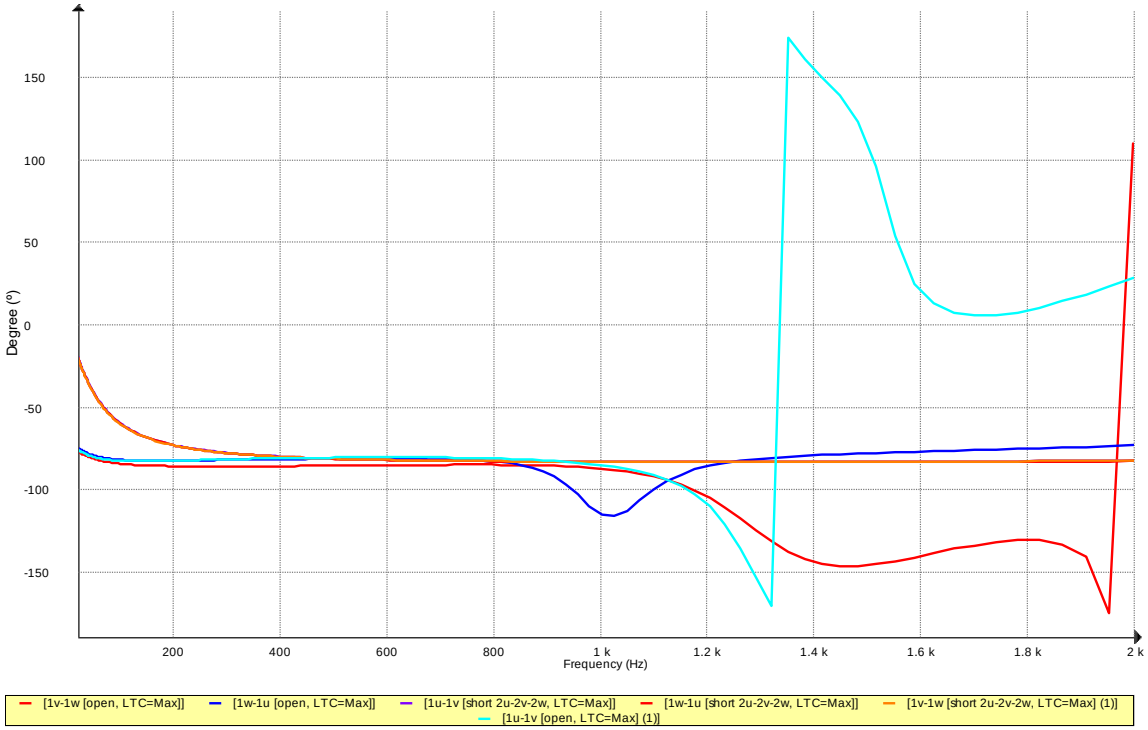
Manufacturer: EMO OHRID
Tested by:
MEGGER

Magnitude:



 Report generated by FRAX software

Phase:



 Report generated by FRAX software

INSULATION TESTS
TWO-WINDING TRANSFORMERS

DATE 2/24/2020 PAGE 1

AMBIENT TEMP. 15 °C JOB #

SUBSTATION HUMIDITY 52.4 % ASSET ID

POSITION TEST STATUS

EQUIPMENT LOCATION

NAMEPLATE DATA

MFR EMO OHRID CLASS PHASES 3

SER NO 00000 COOLANT OIL REASON Routine

YEAR 2003 TANK TYPE SEALED WEIGHT lb

WINDING MATERIAL Cu

OIL VOLUME GAL

OIL TEMP 41 °C

IMPEDANCE 6.04 %

WEATHER Cloudy

BIL kV

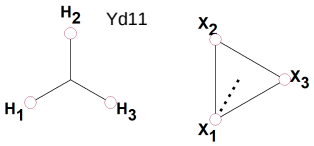


Diagram # 42 (ANSI)

	VOLTAGE (kV)		kVA	RATED I	# TAPS	NOMINAL	CHANGER	TAP SETTING
	L-L	L-G						
PRIMARY:	35		3,200	52.79	1			
SECOND:	6		3,200	307.92	1			

COMMENTS:

BUSHING NAMEPLATE

Dsg	SERIAL NUM	MFR.	TYPE/CLASS	kV	AMPS	YEAR

TRANSFORMER OVERALL TEST SET UP / **TRANSFORMER OVERALL TEST RESULTS**

Test No.	Insulation Tested	Test Mode	Test Lead Connections HV	Red	Blue	Gnd	TEST kV	DFR	Capacitance C (pF)	DISSIPATION FACTOR % Measured	@ 20°C	Corr Factor	DIRECT mA	Watts	%VDF	IR
1	C_{HG} + C_{HL}	GST-GND	H	L		G	10.00		5,452.30	3.00	2.64	0.880	17.1065	5.1171	0.09	D
2	C_{HG}	GSTg-RB	H	L		G	10.00	✖	1,335.08	2.59	2.28	0.880	4.1938	1.0843	0.10	D
3	C_{HL}	UST-R	H	L		G	10.00	✖	4,128.46	3.12	2.75	0.880	12.9627	4.0295	0.09	D
4	C_{HL}'		Test 1 Minus Test 2						4,117.22				12.9127	4.0329		Valid
5	C_{LG} + C_{HL}	GST-GND	L	H		G	6.00		8,627.27	3.60	3.17	0.880	16.2278	3.4883	0.07	D
6	C_{LG}	GSTg-RB	L	H		G	6.00	✖	4,521.07	4.18	3.67	0.880	8.5215	2.1263	0.09	D
7	C_{HL}	UST-R	L	H		G	6.00		4,116.39	2.96	2.61	0.880	7.7607	1.3762	0.06	D
8	C_{HL}'		Test 5 Minus Test 6						4,106.20				7.7063	1.3620		Valid
9	C_{HG}'		C_{HG} Minus H Bushings													
10	C_{LG}'		C_{LG} Minus L Bushings													
Oil Test 1	Overall Oil Test	UST-R	L	H		G						0.400				
Oil Test 2	LTC Chamber Oil Test	UST-R	L	H		G						0.400				

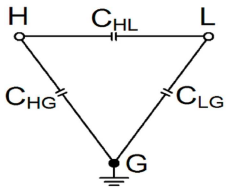
INSULATION TESTS
TWO-WINDING TRANSFORMERS

NOTE: SHORT EACH WINDING ON ITSELF

INSULATION RATING KEY
- G = GOOD
- D = DETERIORATED
- I = INVESTIGATE
- B = BAD

- H = HIGH VOLTAGE WINDING
- L = LOW VOLTAGE WINDING
- G = GROUND
- N = NEUTRAL BUSHING

EQUIVALENT CIRCUIT



COMMENTS:
DEFICIENCIES:

Form Number and Date: 93500, REVISED 11/8/2017
Serial Number: 1647 0414
Firmware Information: 2,0,630
Calibration Date:

THREE PHASE TTR TEST
WITH TAP CHANGER

DATE 2/24/2020 PAGE 1

AMBIENT TEMP. °C JOB #

SUBSTATION HUMIDITY % ASSET ID

POSITION TIRANE TEST STATUS

EQUIPMENT LOCATION

NAMEPLATE DATA HAS TERTIARY ☐ ALLOWED ERROR 0.5

MFR EMO OHRID CLASS PHASES 3

SER NO 0000 COOLANT OIL REASON Routine

YEAR 2003 TANK TYPE SEALED WEIGHT lb

WINDING MATERIAL Cu

OIL VOLUME kg

OIL TEMP 40 °C

IMPEDANCE 6.04 %

WEATHER Cloudy

BIL kV

Yd11

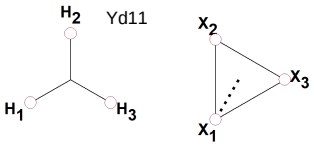


Diagram # 42 (ANSI)

Detect Transformer Type

BUSHING NAMEPLATE						
Dsg	SERIAL NUM	MFR.	TYPE/CLASS	kV	AMPS	YEAR

	VOLTAGE (kV)		kVA	RATED I	# TAPS	NOMINAL	CHANGER	TAP SETTING
	L-L	L-G						
PRIMARY:	35		3,200	52.79	1			
SECOND:	6		3,200	307.92	1			

COMMENTS:

HIGH SIDE TAPS TO LOW SIDE NOMINAL TURNS RATIO TESTS

							$H_1 - H_3 / X_1 - X_3$				$H_2 - H_1 / X_2 - X_1$				$H_3 - H_2 / X_3 - X_2$			
#	TAP H/L		Voltage H/L		Test V	TTR	Actual TTR	% Error	I exc mA	Phase (Deg)	Actual TTR	% Error	I exc mA	Phase (Deg)	Actual TTR	% Error	I exc mA	Phase (Deg)
1				6,000	80		3.376		4.0	-0.26°	3.375		2.6	-0.25°	3.377		4.4	-0.24°

HIGH SIDE NOMINAL TO LOW SIDE TAPS TURNS RATIO TESTS

							$H_1 - H_3 / X_1 - X_3$				$H_2 - H_1 / X_2 - X_1$				$H_3 - H_2 / X_3 - X_2$			
#	TAP H/L		Voltage H/L		Test V	TTR	Actual TTR	% Error	I exc mA	Phase (Deg)	Actual TTR	% Error	I exc mA	Phase (Deg)	Actual TTR	% Error	I exc mA	Phase (Deg)
1	Nominal	Nominal	35,000	0	80		3.376		4.0	-0.26°	3.375		2.6	-0.25°	3.377		4.4	-0.24°

COMMENTS:

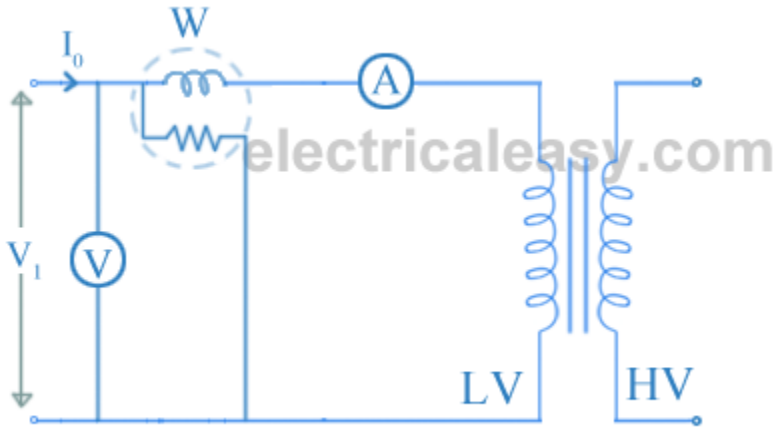
DEFICIENCIES:

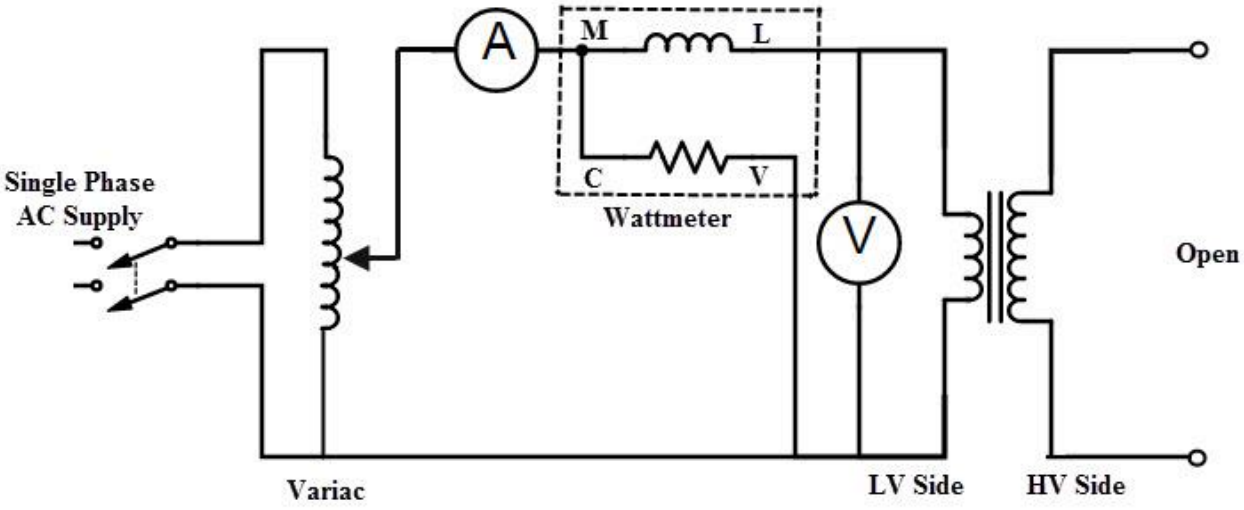
Form Number and Date: 56365, REVISED 5/3/2017 Serial Number: 71051

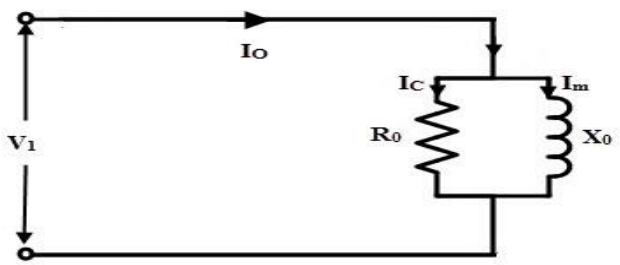
Firmware Information: 6. 6 Calibration Date: 07272017

SKEMAT E TESTIMIT TE TRANSFORMATOREVE

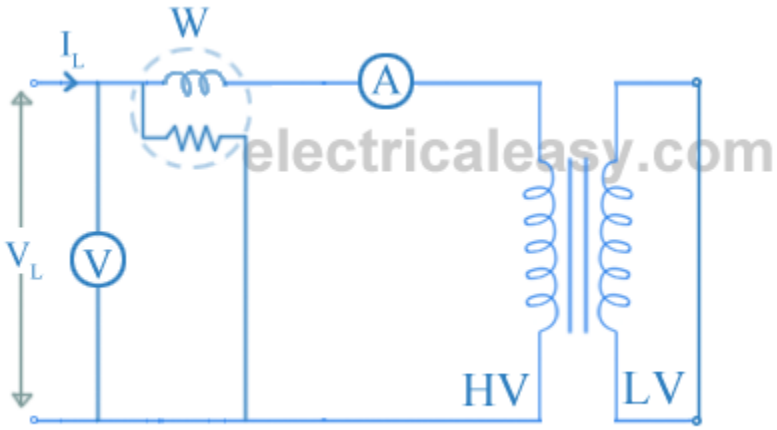
1.Prova e Punimit pa ngarkese

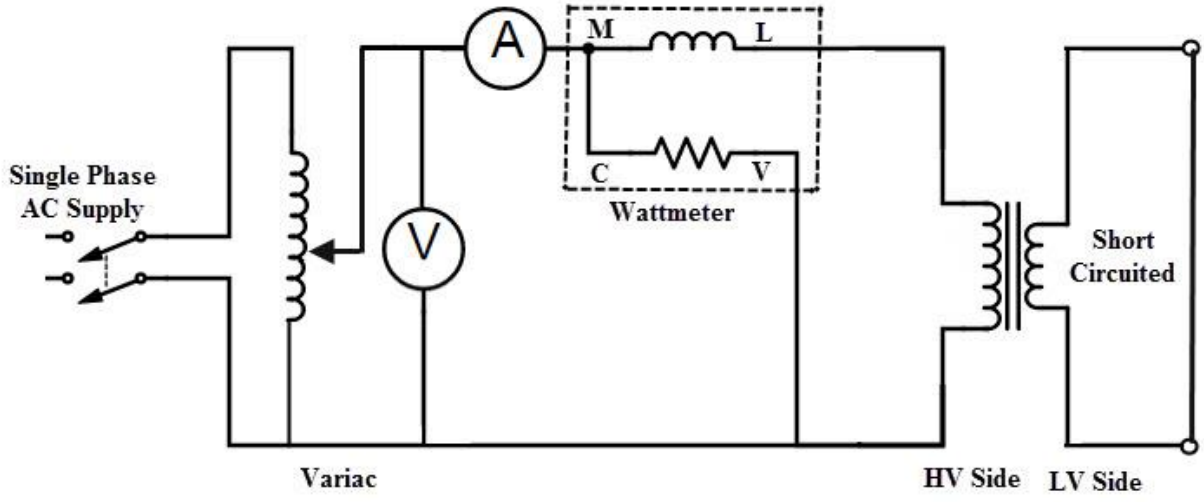


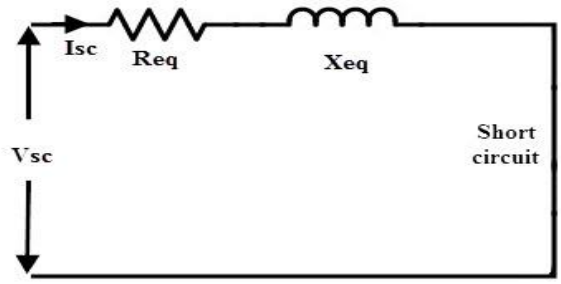




2.Prova e Lidhjes se Shkurter dhe Impedances







3.Teste Speciale

	Type of Problem	Magnetic Circuit Integrity	Magnetic Circuit Insulation	Winding Geometry	Winding/Bushing/OLTC Continuity	Winding/Bushing Insulation	Winding Turn to Turn Insulation
	Diagnostic Technique						
Basic Electrical	Winding Ratio	•					
	Winding Resistance			•			
	Magnetisation current	•					•
	Capacitance and DF/PF		•		•	•	•
	Leakage Reactance				•		
	Insulation Resistance		•			•	
	Core Ground Test					•	
Advanced Electrical	Frequency Response of Stray Losses			•	•		
	Frequency Response Analysis	•			•	•	•
	Polarisation/Depolarisation		•				
	Frequency Domain Spectroscopy		•				
	Recovery Voltage Method		•				
	Electrical Detection of PD	•	•				
	Acoustical Detection of PD	•	•				
	UHF Detection of PD	•	•				
	Dissolved Gas Analysis	•	•	•		•	•

Table 29: Electrical Tests and DGA Diagnostic Matrix