

TMC TRAFO

TECHNICAL DATA			
Type		TCFA-AA0Ak	
		Primary	Secondary
Nominal rating AN	kVA	1000	1000
Temporarily nominal rating AF	kVA	/	/
Rated voltage	kV	6,3	0,41
Frequency	Hz	50	
Off load tapping links	%	2x±2,5	/
Connection		Star	Star+N
Vector group		Yyn0	
Operation conditions		Distribution	
Highest Voltage for equipment	kV	7,2	1,1
Rated Power Frequency Voltage	kV	20	3,0
Rated Lightning Impulse Voltage	kV	60	/
Winding Material		Al	Al
Type of winding		Vacuum cast resin	Vacuum impregnated
Standard		IEC 60076-11 / EN50708-1	
Installation		Indoor	
Degree of protection		IP00	
Type of cooling		AN	
Maximum ambient temperature	°C	40	
Installation altitude	m	< 1000 a.m.s.l	
Guaranteed values at AN operation			Reference temperature 120°C
Standard tolerances are applicable to the following values			
No-load loss	W	1395	
Load loss	W	9000	
Impedance	%	6	
No-load current	%	0,3	
Partial discharge value	pC	≤ 10	
Short Circuit Duration		2 s	
Sound level LpA / LwA	dB(A)	≤ 50 / ≤ 64	
Environm., climatic, fire class		E3-C3-F1	
		Primary	Secondary
Insulation class			
Temperature Class of Insulation		F	F
Winding temperature rise	K	100	100
Overall dimensions and mass (Preliminary)			
L x W x H	mm	1560 x 1000 x 1780	
Base roller center	mm	820 x 820	
Mass	kg	2560	
Note: Measurements are approximated and without obligation			
Painting			
Core		RAL 9005	
Windings		RAL 3011	
Frame		galvanized	
Wheels		Iron	
Enclosure		/	
Scope of supply		Quantity	Remark
HV terminals		3	Bushings on HV coils
LV terminals (with CUPAL sheet)		4	vertical busbars
Off load tapping links		5	on HV coils
Rating plate		1	
Lifting lugs		4	
Earth terminals		2	
Bi-directional rollers		4	
Temperature probes PTC		6	Alert 130 °C / Trip 140 °C
Temperature control relay TEC T119DIN		1	AC/DC24-240V
Tests			
Routine tests in accordance with applicable Standard			
Type and special tests can be arranged on request at additional cost			

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TMC
TRAFO

TEST REPORT

serial nr. **13900**

three-phase cast resin transformer

Year 2021

Characteristics		Altitude service <1000 m	
		Primary	Secondary
AN	Rating (kVA)	1000	1000
	Current (A)	91.64	1408.17
	Rating (kVA)		
	Current (A)		
	Voltage (V)	6300	410
	Tappings	±2x2,5%	
Connection		Star	Star+n
Temperature class		F	F
Temperature rise (K)		100	100
Insulation class (kV)		7.2	1.1
		LI 60 AC 20	LI AC 3

Vector group: **Yyn0**
Frequency: **50 Hz**

ROUTINE TESTS						Altitude test <1000 m		Standards IEC 60076-11	
G U A R A N T E E S	Ratio: 6300 / 410 V.			Temperature reference: 120 °C			EFFICIENCY (6300 / 410 V.)		
	No-load losses	No-load current	Load losses	Impedance voltage	Total losses	Load	cosφ = 0,9	cosφ = 1	
	Guaranteed values	1550 W	0.4%	9000 W	6.00%	10550 W	1000 kVA	98.89	99.00
	Tolerance (%)	+0%	30%	+0%	± 10.0%	+0%	750 kVA	99.07	99.16
	Measured values	1452 W	0.40%	8663 W	6.12%	10114 W	500 kVA	99.20	99.28
	Deviation (%)	-6.4%	0.7%	-3.7%	2.1%	-4.1%			
	Result								

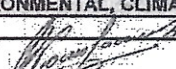
INSULATION TESTS								
Induced overvoltage test					Separate source voltage withstand test			
Winding supplied	Test voltage	Test frequency	Duration	Test result	Winding supplied	Test voltage	Duration	Test result
410 V	820 V	150 Hz	40"		Primary	20.0 kV	60"	
					Secondary	3.0 kV		

RESISTANCE MEASUREMENTS								Ambient temperature 20 °C
Winding	6300 V	Winding	410 V	Winding	410 V	Winding	Ω	
Phase	Ω	Phase	Ω	Phase	Ω	Phase	Ω	
1U-1V	0.2843957	1U-1V		2u-2v	0.000659	2u-2v		
1U-1W	0.2835385	1U-1W		2u-2w	0.0006776	2u-2w		
1V-1W	0.28364	1V-1W		2v-2w	0.0006596	2v-2w		

PARTIAL DISCHARGES MEASUREMENTS							
Un	Pre-stress	Measure	Phase U	Phase V	Phase W	Acceptance level	Test result
6300 V	11340 V for 30"	8190 V for 3"	4.0 pC	3.0 pC	4.0 pC	< 10 pC	

RATIO MEASUREMENTS AND CHECK OF PHASE DISPLACEMENT											
(Tolerance ±0.5%)											
Ratio 6300 / 410 V.			Ratio			Ratio			Ratio		
Tap. step	2.50%		Tap. Step			Tap. Step			Tap. Step		
Position	Measure	Result	Position	Measure	Result	Position	Measure	Result	Position	Measure	Result
5.00%	16.11										
2.50%	15.74										
0	15.37										
-2.50%	15.00										
-5.00%	14.63										

Dimensional check: dimensions in compliance with the drawing										
Instruments used										
OHM1	RAP1	TA1	TA2	TA3	TV1	TV2	TV3	MAG1	WBPA1	DMS1

ENVIRONMENTAL, CLIMATIC, FIRE BEHAVIOUR CLASS : E3 - C3 - F1										Date
Signatures for acceptance: 										19.05.21
Customer: _____										

6.3/0.4/11