

**"TOTEM" Transformer with built-in Inductance + "TPC" 3 phase protect. & trip. Device**

 phase number **Three** insulating liquid **Oil**
**INSTALLATION**

 Operation **Step down** type installation **under enclosure**  
 cooling **ONAN** max. sea level **1 000 m**  
 air ambient temperature **-40 to +40 °C** normative referencee **IEC 60076-1 to 5 IEC 60076-6 IEC 60076-13**
**ELECTRICAL CHARACTERISTIC**

 rated power **315 kVA** frequency **50 Hz** vector group **ZN(d)yn11**  
 sound power level **61 dBA** temperature rise **60 K** winding **65 K**  
 coordination diagram **to be define** no load losses **650 W +5%**  
 load losses at 75°C **3 600 W +5%**  
 total losses **4 250 W +5%**

	Primary	Secondary
voltage	<b>22 000 V</b>	<b>240 V</b>
Off-load tap changing (%)	<b>+2 x 2,5%</b>	
Off-load tap changing (V)	<b>+2 x 550V (+-0,4 %)</b>	
vector group	<b>ZN</b>	<b>yn</b>
Highest voltage for hte equipment	<b>24 kV</b>	<b>1,1 kV</b>
Power frequency withstand voltage	<b>50 kV</b>	<b>6 kV</b>
Rated lightning impulse voltage	<b>125 kV</b>	
Short-circuit impedance	<b>4,0 % ( +10% )</b>	
rated current	<b>8,27 A</b>	<b>758 A</b>
Winding conductor material	<b>Al</b>	<b>Al</b>

**INDUCTANCE WINDING**

 voltage = **12 702 V** Ix (inductive) = **15 A**
**TIME FOR EARTH FAULT CURRENT**

 time = **300 s** The criterion is a max. temperature rise of the windings 100K and oil 90 K (duration > 10s and < 2 hours), as per § 11.5 of the IEC 60289.

**MAX. ACTIVE CURRENT**

 Ia = **< 2,5% Ix**

 Linearity variation of the total zero-sequence impedance < 2%  
 Linearity variation of the zero-sequence inductance alone < 1,5%

Steps % : 0,2 - 0,5 - 1,0 - 5 - 10 - 25 - 50 - 75 - 100 - 110

efficiency	Power factor = 1	Power factor = 0,8	voltage drop	Power factor = 1	Power factor = 0,8
<b>Load =100%</b>	<b>98,67%</b>	<b>98,34%</b>	<b>Load =100%</b>	<b>1,22 %</b>	<b>3,24 %</b>
<b>75%</b>	<b>98,88%</b>	<b>98,60%</b>	<b>80%</b>	<b>0,96 %</b>	<b>2,59 %</b>
<b>50%</b>	<b>99,03%</b>	<b>98,78%</b>			
<b>25%</b>	<b>98,90%</b>	<b>98,63%</b>			

**CONNECTIONS**

	Primary	Secondary
Definition	<b>plug - in bushings</b>	<b>Porcelain bushings</b>
Codification	<b>PF 250 A</b>	<b>4x 1000A</b>
standard	<b>HN 52 S 61</b>	<b>DIN 42 530</b>

**DIMENSIONS**

Nominal values	<b>length 1 380 mm</b>	<b>width 910 mm</b>	<b>height 1 500 mm</b>	<b>oil mass 400 kg</b>	<b>total mass 1 950 kg</b>
Tolerances	<b>+10 %</b>	<b>+10 %</b>	<b>+10 %</b>	<b>+15 %</b>	<b>+15 %</b>

**TANK PROTECTION**

 Surface preparation; epoxy powder 40µ finishing: polyester powder 40µ (total 80µ) Color **RAL 7033**
**TESTS**
**Routine tests systematically performed on each transformer and object of a certificate :**

- |  |  |
|--|--|
| - Voltage ratio measurement                              | - Load losses, Short-circuit impedance   |
| - Winding resistance measurement                         | - No-load losses and current measurement   |
| - Short duration power withstand voltage on each winding | - Induced voltage withstand test at twice the rated voltage during 30 seconds at 200Hz |
| - Short-circuit characteristics measurement .            |  |
| - Zo (earthing reactor + transformer)                    |  |
| - Max active current Ia                                  |  |

**Type test :**

- Linearity variation of zero-sequence impedance + inductance

**Societe Nouvelle TRANSFIX Toulon**

	Date <b>08/03/2017</b>	Author <b>GM</b>	Checked by <b>GM</b>
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