

PROJECT

<i>Secondary Doc Ref</i>		<i>PO</i>	
<i>Document Item</i>			

Oil transformer
15-0,420 kV – 1250kVA
Data Sheets + identification plate

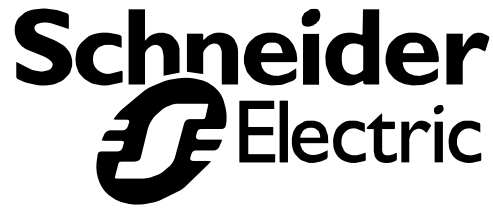
E	22 Jan 14	Issued for Construction		
D	15 Jan 14	Issued for Construction		
C	11 Dec 13	Issued for Construction		
B	25 Sep 13	Issued for Construction		
A	22 Aug 13	Issued for Review		
Rev	Date	Description	Written By	Approved By
Document Revisions				

DISTRIBUTION TRANSFORMERS

Rev.	QIL IMMERSED HV/LV (15/0,420 kV) SEALED TRANSFORMER		
1	ITEM:	QUANTITY	
2	Job specification:	9806J 0440 JSS 1641 002	Standards, codes: IEC
3	Manufacturer:		
4	ENVIRONMENTAL CONDITIONS		
5	Installation (indoor/outdoor) / Ambient Type	Outdoor, under sun shade, in safe area	Industrial, Dusty & corrosive atmosphere (Mining), sand storm
6	Ambient Design Temperature	Max: 47 °C	Min: 5°C
7	Altitude/Relative Humidity	a.s.l.: <1000m	
8	GENERAL REQUIREMENTS (VENDOR TO COMPLY WITH)		
9	Type	With conservator <input type="checkbox"/>	Sealed <input checked="" type="checkbox"/>
10		Dry type: <input type="checkbox"/> Impregnated <input type="checkbox"/>	Cast resin <input type="checkbox"/>
11	Kind of transformer	With separate windings <input checked="" type="checkbox"/>	Autotransformer <input type="checkbox"/>
12	No Load Voltage Ratio / Highest voltage Um	15 / 0,420 KV / KV	Refer to IEC 60076-3 kV / kV
13	Secondary voltage at rated power & P.F. of 0.8	0,4 kV	
14	Mode of operation (individual / parallel)	(Yes / Yes)	
15	Frequency/Phases	50 Hz 2 +/- %	No: 3 phase
16	Maximum primary system short circuit current rating	31,5 kA rms	
17	Maximum short circuit duration	2 sec According to IEC 60076-5	
18	Off Circuit Tap Changer	± 2,5 % per step	N° steps: 5 Total range: ± 5 %
19	On Load Tap Changer	± % per step	N° steps: Total range: ± %
20	Winding Connection and Vector Group	Dyn 11	
21	Insulation class	Class A	
22	Oil / Winding Temperature Rise (with ambient at 47°C)	Oil: 53 °C	Winding: 58 °C
23	Oil type	Mineral oil	
24	Transformer mounting	Skid <input type="checkbox"/>	Rollers <input type="checkbox"/> Bidirectionnal roller <input checked="" type="checkbox"/>
25	Accessories		
26	"DGPT2" type multifunction relay	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
27	Buchholz relay with 2 contacts (alarm / trip)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
28	Air breather and dryer	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
29	Oil filler plug	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
30	Conservator oil drain plug	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
31	Top oil thermometer with 2 contacts (alarm / trip)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
32	Dial thermometer with 2 contacts (alarm / trip)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
33	Liquid level gauge	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
34	Pressure relief valve with operating signal contact	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
35	Oil level gauge with alarm contact	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
36	Surge arrester (primary side)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
37	Lifting rings	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
38	Safety valve	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
39	Filling valve	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
40	Tank oil drain plug	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
41	2 filterpress connections	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
42	Insulation for tank earth protection	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
43	2 earthing clamps	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
44	Lugs and hooks	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
45	Drip pan	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
46	TRANSFORMER SPECIFIC'S DATA (VENDOR TO COMPLY WITH)		
47	Transformer tag		Quantity:
48	Cooling type (ONAN, ONAF,...)	ONAN	
49	Nominal Rating Natural Cooling (ONAN)	1250 kVA @ 47°C	
50	Nominal Rating Forced Cooling (ONAF)	-	
51	Impedance Voltage	5%	
52	Primary Connections	Bus Duct <input type="checkbox"/>	Cable <input checked="" type="checkbox"/> line 54 mm ²
53	Secondary Connections	Bus Duct <input type="checkbox"/>	Cable <input checked="" type="checkbox"/> line 55 mm ²
54		Primary 3 x 95 mm ² multipolar	
55	Cable Type & n° per phase	4 uni 500 mm ² per phase + 4 uni 150 mm ² for PEN	
56	CT on secondary (number per phase / ratio / class)		
57	Primary terminals	Box <input type="checkbox"/>	Plug in <input checked="" type="checkbox"/> Plug in connectors (mobile and fix part) to be supplied by Vendor
58	Secondary terminals	Box <input checked="" type="checkbox"/>	Plug in <input type="checkbox"/> Cable glands out of scope
59	Secondary / neutral brought out	Box <input checked="" type="checkbox"/>	Plug in <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
60	Neutral connection: cable type / section	HOLD HOLD mm ²	
61	CT ring on neutral (ratio / class)	NA NA	
62	Earthing resistor / resistor rating	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> NA Ω
63	Earthing resistor box / installation /protection degree	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

DISTRIBUTION TRANSFORMERS

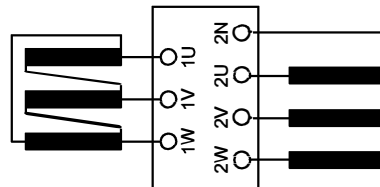
64	Earthing system	Prim.: IT through neutral earthing transformer (at main substation) Sec.: TNC (neutral solidly earthed)		
65	Auxiliary Connections			
66	Sound press. level at 1 m / Sound power level	< 85	LPA (dB)	LWA (dB)
67	Tropicalization	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
68	TRANSFORMER MANUFACTURER'S DATA (PART TO BE FILLED IN BY VENDOR)			
69	Manufacturer / Model	Schneider Electric DCU 4132		
70	Highest Voltage (rms)	Primary Winding: 17.5 kV	Secondary Winding: 1.1 kV	
71	Short Duration Power Frequency Withst. Volt. (rms)	Primary Line Term.: 38 kV	Second. Line Term.: 3 kV	
72	Lightning Impulse Withstand Voltage (peak)	Primary Line Term.: 95 kV	Second. Line Term.: - kV	
73	Short Duration Power Frequency Withst. Volt. (rms)	Primary Neut. Term.: 38 kV	Second. Neut. Term.: 3 kV	
74	Lightning Impulse Withstand Voltage (peak)	Primary Neut. Term.: 95 kV	Second. Neut. Term.: - kV	
75	No Load Losses / No Load Current (primary)	2 KW	0,8 % of full load	0,95%
76	Load Losses	4/4 Load: 15 kW	3/4 Load: 8.5 kW	2/4 Load: 3.75 kW
77	Full Load Voltage Drop at 0.8 Power Factor	3,92 %		
78	Efficiency at 0,8 Power Factor	4/4 Load: 98,26%	3/4 Load: 98,59%	2/4 Load: 98,84%
79	Efficiency at 1 Power Factor	4/4 Load: 98,64%	3/4 Load: 98,89%	2/4 Load: 99,08%
80	Impedance voltage (%) / with tolerance of %	Ucc: 5 %	Tolerance: ±10 %	
81	Zero- Sequence Impedance	4,5 %		
82	X/R	4,35		
83	Magnetizing / Inrush current	0,45	A	455,96 (Peak)
84	Primary Bushing Quantity / Type	N°: 3	Plug-in	
85	Secondary Bushing Quantity / Type	N°: 3 + 1 N	Porcelain	
86	Fan Motors (Quantity / Rating / Voltage)	N°: NA	kW	V
87	Weight Iron / Copper	1050	kg	440
88	Oil Weight	580 kg		
89	Total Weight	3100 kg		
90	Overall Dimensions (Length/Width/Height)	1950	mm	1440
91	When applicable, dimensions between rollers	820	mm	2080
92	Painting (Mfr standard,... / color)	Spec		
93	Tropicalization	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
94	Sound press. level at 1 m / Sound power level	60	LPA (dB)	72
95	Current density Primary / Secondary	3,4	A/mm²	3,8
96	Core material and grade	Conventional Grain Oriented Steel (CGOS)		
97	Regulation at 47°C	96,08 %		
98	Earthing resistor rating	-		
99	Straight fault current limitation	-		
100	Straight fault short time rating	-		



Schneider Enerji End. San. ve Tic. AS 41420 Kocaeli - Turkey

TYPE	DCU 4132	ANNÉE		NO.		IEC 60076
PUISSANCE NOMINALE	1250 kVA	MODÈLE	PT	PHASES	3	FREQUENCE 50 Hz
TENSION NOMINALE	COM.1	15750 V		V	TEMP. AMBIANTE	47 °C
	COM.2	15375 V		V	FONCTIONNEMENT	EN CONTINU
	COM.3	15000 V	420	V	COUPLAGE	Dyn 11
	COM.4	14625 V		V	TYPE DE REFROIDISSEMENT	ONAN
	COM.5	14250 V		V	POIDS TOTAL	3,20 t
COURANT NOMINAL	48,11 A		1718,3 A	POIDS DE L'HUILE	0,66 t	
TENSION DE COURT-CIRCUIT	%		VOLUME D'HUILE		741 lt	
COURANT DE COURT-CIRCUIT	kA		MASSE DE LA PARTIE ACTIVE		1,67 t	
TYPE D'HUILE	NYNAS NYTRO LYRA X		TAUX D'ISOLEMENT LI 95 kV AC 38 kV / LI - AC 3 kV			
ECHAUFFEMENT MOYEN DES ENROULEMENTS	58 °K		DUREE MAX DE COURT-CIRCUIT		2 sec	
ECHAUFFEMENT DE L'HUILE	53 °K		VIDANGE D'HUILE A 20°C		0 lt	

ATTENTION !
 TRANSFORMATEUR HERMETIQUE
 LE TRANSFORMATEUR EST HERMETIQUEMENT
 BLINDE ET DISPONIBLE AU SERVICE
 NE PAS OUVRIR !
 NE PAS PURGER LES TRAVERSEES !



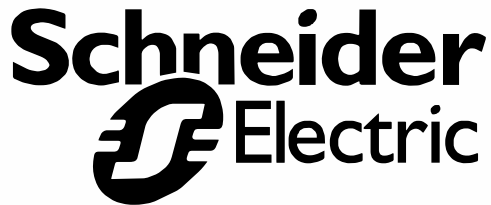
TAG NO	UNIT NO
143-TR-36-1	

PLATE D 148x148 SS304 T 0947

LES VALEURS MANQUANTS VONT ETRE INDIQUEES APRES LES ESSAIS

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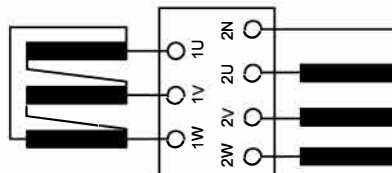
				Etabli le	15.11.2013	Remarque Plaque signalétique	Code Nr.	
				Groupe				
				Par				
				Verifie				
						Plan no:	Bl. Nr.	Blattz.
							1	1
Pos.	Revision	Etabli le	Nom	Modification		Annule par		Scale -/-



Schneider Enerji End. San. ve Tic. AS 41420 Kocaeli - Turkey

TYPE	DCU 4132	NR	YEAR	IEC 60076
RATED POWER	1250 kVA	MODEL	LT	PHASE 3
		FREQUENCY	50 Hz	
	POS.1	15750 V	V	AMBIENT TEMP. 47 °C
	POS.2	15375 V	V	SERVICE CONTINUOUS
RATED VOLTAGE	POS.3	15000 V	420 V	VECTOR GROUP Dyn11
	POS.4	14625 V	V	COOLING METHOD ONAN
	POS.5	14250 V	V	TOTAL WEIGHT 3,20 t
RATED CURRENT	48,11 A	1718,3 A	OIL WEIGHT	0,66 t
RATED IMPED.VOLTAGE	%	VOLUME OF OIL	741 lt	
SHORT-CIRCUIT CURRENT	kA	ACTIVE PART WEIGHT	1,67 t	
OIL TYPE	NYNAS NYTRO LYRA X		INSULATION LEVEL LI 95 kV AC 38 kV / LI - AC 3 kV	
WINDING TEMPERATURE RISE	58 °K	DURATION OF SHORT-CIRCUIT	2 s	
OIL TEMPPERATURE RISE	53 °K	OIL DRAIN IN 20°C	0 lt	

ATTENTION !
 HERMETICALLY SEALED TRANSFORMER
 TRANSFORMER IS FILLED UP AS HERMETIC
 AND READY FOR OPERATING
 DO NOT OPEN IT !
 DO NOT VENT BUSHINGS !



E2834958

Empty fields shall be engraved after factory tests.

Plate D148x148 CR-NI T0947

TAG NO	UNIT NO

				Dimensions without tolerance acc ISO 2768	App.		Class	Code Nr.
				Date	06.08.2013		RPL	
				Department		Rating plate		
				Designer				
				Check				
005								
004						Drawing no	Page no	Pages
003							1	1
002								Autocad
NO	Rev	Date	Name			Cancelled by drawing	Replaced by drawing	

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