

E4 STANDARD AMORPHOUS TRANSFORMER DATA SHEET

S.No.	Description	Units	Particulars
1	Manufacturer		Wilson Power Solutions Ltd
2	Applicable Standard		IEC 60076
3	General Arrangement Dwg		WPS-E4-1000-AL-GA
4	Transformer Rating	kVA	1000
5	Rated High Voltage @ No Load	Volts	11000
6	Rated Low Voltage @ No Load	Volts	415
7	Minimum Insulation class HV LI	kV	75
8	Minimum Insulation class HV AC	kV	28
9	Minimum Insulation class LV LI	kV	-
10	Minimum Insulation class LV AC	kV	3
11	Line Current LV / HV	A	1391.25 / 52.49
12	Insulating Fluid		Mineral Oil
13	Fans		No
14	Pumps		No
15	Type of Cooling		ONAN
16	Number of Phases		3
17	Frequency	Hz	50
18	Vector Group		Dyn11
19	Impedance Voltage (Z) (Subject to +/- IEC tolerance limits)	%	4.75
20	Symmetrical Short Circuit Current in LV	kA	28.19 (Approx.)
21	Symmetrical Short Circuit Current in HV Rated Tap	kA	1.06 (Approx.)
22	Core Material		Amorphous
23	No Load Losses	W	460
24	Load Losses @ 75°C	W	5610
25	Losses as per EU Regulation No. 548/2014		Exceeds Tier-2 Requirement
26	Resistance	%	0.56 (Approx.)
27	Reactance	%	4.72 (Approx.)
28	Positive sequence resistance at principal tap	P. U.	0.0056 (Approx.)
29	Positive sequence reactance at principal tap	P. U.	0.0472 (Approx.)
30	Positive sequence reactance at minimum tap	P. U.	0.0447 (Approx.)
31	Positive sequence reactance at maximum tap	P. U.	0.0497 (Approx.)
32	Zero sequence resistance	P. U.	0.0045 (Approx.)
33	Zero sequence reactance	P. U.	0.0380 (Approx.)
34	Regulation type		DETC
35	Tapping on HV	%	+7.5,+5.0, +2.5, 0.0, -2.5, -5

36	Design Ambient Temperature	°C	40
37	Temp Rise of Top Oil	°C	60
38	Temp Rise of Winding	°C	65
39	Altitude	m	<1000
40	Pollution class		C4H
41	HV Conductor Material		Aluminium
42	LV Conductor Material		Aluminium
43	Paint Finish Colour		Dark Admiralty Grey (BS 632 shade)
44	Transformer Type		Free Breathing, bolted cover
45	HV termination type		Cable Box - 12kV, 3-Pole, (Facing-'E' BS:2562) with 1 take off per phase
46	LV termination type		Cable box - 1.1kV, 4-Pole, (Facing-'F', BS:2562) with 2 take off per phase & Neutral
47	Neutral		Located inside - cable box
48	Harmonics distortion	THD%	<5%
Accessories			
49	Drain Valve & Sampling Valve		Yes
50	Radiator Valves		No
51	Dehydrating Breather		Yes
52	Pressure Relief Device		No
53	Oil Temperature Indicator		No
54	Buchholz unit		No
55	Winding Temperature Indicator		No
56	Magnetic Liquid Level Indicator		No
57	Conservator		No
58	HV CTs		No
59	LV CTs		No
60	Neutral CTs		No
61	Disconnecting links HV		No
62	Disconnecting links LV		No
63	Marshalling box		No
64	Bund		No
Overall Dimensions			
65	Length	mm	2028
66	Width	mm	1601
67	Height	mm	1768
68	Oil	L	1106
69	Weight	kg	4550

Testing Requirement			
70	Routine tests		Yes, kindly refer below for the list of routine tests conducted at manufacturing facility.
	<p>Comments: All losses, dimensions & weights are provisional only subject to confirmation following detailed design.</p> <p>List of Routine Tests - Per IEC 60076-1:</p> <ol style="list-style-type: none"> 1. Measurement of winding resistance (11.2) 2. Measurement of voltage ratio and check of phase displacement (11.3) 3. Measurement of short-circuit impedance and load loss (11.4) 4. Measurement of no-load loss and current (11.5) 5. Dielectric routine tests (IEC 60076-3) 6. Tests on on-load tap-changers, where appropriate (11.7) 7. Leak testing with pressure for liquid-immersed transformers (tightness test) (11.8) 8. Check of the ratio and polarity of built-in current transformers 9. Check of core and frame insulation for liquid immersed transformers with core or frame 		
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