

Huawei SUN2000-33KTL-US
Short Circuit Data

Huawei Technologies Co., Ltd.

Version	Created by	Date	Remarks
01	Zeyu Yi	03/25/2017	

SUN2000-33KTL-US Short Circuit Data

1.1 Resistance and Reactance

Max design fault contribution current	50A, RMS
Harmonics	<3%
Short-Circuit Equivalent Pos. Seq. Resistance (R1), valid for initial 2 to 6 cycles (p.u.)	0.14
Short-Circuit Equivalent Pos. Seq. Reactance (XL1), valid for initial 2 to 6 cycles (p.u.)	0.96
Short-Circuit Equivalent Neg. Seq. Resistance (R2), valid for initial 2 to 6 cycles (p.u.)	2.97
Short-Circuit Equivalent Neg. Seq. Reactance (XL2), valid for initial 2 to 6 cycles (p.u.)	19.80
Short-Circuit Equivalent Zero. Seq. Resistance (R0), valid for initial 2 to 6 cycles (p.u.)	15.00
Short-Circuit Equivalent Zero. Seq. Reactance (XL0), valid for initial 2 to 6 cycles (p.u.)	100.00

Output Overload Test, UL1741 Sec. 47.2, Cl. 6.6

The ac voltage is to be adjusted to provide for the maximum output current. The utility is not to be adjusted less than the utility trip voltage rating. The inverter is to remain in the loaded condition until it shuts down, reaches thermal stabilization, or has operated for seven hours, whichever occurs first.

Firmware or software controlling the temperature limits had been disabled.

Test Performed on Model: SUN2000-33KTL-US
Ambient temperature: 50C

The unit operated continuously for 7 hours with 44kW output.

As a result of the tests, the unit did not emit flame or molten metal or become a risk of fire, electric shock, or injury to persons. 3 A fuse did not open.

Tested By:	Weishigui	Witnessed by:	Kyle Song	Compliance:	Yes
Equipment:	ACDEFGHIJKVWXZ(AA)(AD)			Date:	2016-10-21

Output Short Circuit Test, UL 1741 Sec. 47.3, Cl. 6.6

Test performed under islanding condition by disable the anti-islanding protection, just generating the nominal voltage, afterwards we performed a short circuit between Lines to Lines and line to Ground.

Test setup: 200KVA Transformer connected between inverter and AC source

Performed on model: SUN2000-33KTL-US, 750Vdc Input, 480Vac Output, 60Hz, 40 kW

Phases	#	Peak Current (A)	Duration (ms)	RMS Current over 1 cycle (A)	RMS Current over 3 cycles (A)	RMS Current over 5 cycles (A)	RMS A overall event(A)
L1 to L2	1	-107.2	70.713	60.59	53.69	45.86	49.77
	2	-104.0	78.844	60.06	52.54	46.81	48.12
	3	104.0	82.453	58.07	52.55	48.1	48.88
	4	110.4	76.453	56.99	56.99	47.25	49.29
L1 to L3	1	107.2	70.439	57.7	52.5	45.04	48.93
	2	-190.4	79.063	55.76	50.07	45.08	46.36
	3	-107.2	79.877	64.83	57.63	52.99	54.12
	4	110.4	81.367	62.23	54.34	48.24	50.84
L2 to L3	1	113.6	76.713	66.77	58.88	50.25	55.2
	2	-107.2	81.627	60.11	52.69	47.09	47.58
	3	-158.4	67.93	59.3	59.3	44.42	49.19
	4	-190.4	79.672	58.23	51.11	45.54	46.57
L1 to N	1	177.6	90.891	104.3	96.66	92.07	90.81

	2	174.4	76.453	104.5	97.28	86.23	90.0
	3	113.6	86.107	67.08	59.24	54.15	56.03
	4	177.6	90.717	107.5	97.76	90.06	89.77
L2 to N	1	-174.4	84.063	105.6	97.05	89.42	89.19
	2	-177.6	83.672	88.57	91.93	87.92	87.74
	3	-174.4	73.93	104.4	96.75	84.77	90.18
	4	180.8	90.412	111.5	98.07	92.39	92.0
L3 to N	1	129.6	80.322	65.59	56.91	50.31	51.22
	2	-171.2	81.268	102.8	96.72	89.31	90.43
	3	-171.2	91.586	103.2	96.93	92.56	90.7
	4	113.6	85.977	67.65	59.24	53.51	55.1
L1 to PE	1	48.0	1183	3.577	3.511	3.493	3.388
	2	-16.0	1193	3.609	3.579	3.553	3.475
	3	12.0	1199	3.68	3.647	3.647	3.615
	4	-44.0	1177	3.575	3.502	3.49	3.402
L2 to PE	1	-44.0	1170	3.603	3.554	3.562	3.515
	2	12.0	1142	3.521	3.514	3.519	3.449
	3	12.0	1226	3.552	3.537	3.532	3.452
	4	12.0	1154	3.453	3.409	3.39	3.329
L3 to PE	1	12.0	1198	3.418	3.452	3.417	3.365
	2	56.0	1241	3.659	3.565	3.547	3.439
	3	-16.0	1249	3.472	3.401	3.392	3.354
	4	-44.0	1166	3.385	3.304	3.281	3.181

After fault removed the unit continued to operate normally.
3 Amps fuse remained intact.
No hazards observed.

Tested By:	Weishigui	Witnessed by:	Kyle Song	Compliance:	Yes
Equipment:	ACDEFGHIJKMVWX(AD)			Date:	2016-12-08