

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	1 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
--------------	---------------------------------------	--------------------------------	--	---

AT LABORATORY

I. POWER STABILISERS AND UPS

1.	Uninterruptable Power Supply (Single Phase) Upto 3kVA	Control and monitoring signals Input Voltage -Steady state input voltage tolerance	IEC 62040 – Part III-1999 Cl - 6.3.1 IEC 62040 – Part III-1999 6.3.2 Cl - 6.3.2.1 Cl.6.3.3	150V – 300V for 1Φ AC
		UPS Output characteristics test- static condition - Normal and stored energy mode of operation -Output – normal mode –no load -Output – normal mode –full load -Output- stored energy mode-no load -Output-stored energy mode-full load	IEC 62040 – Part III-1999 Cl - 6.3.4 IEC 62040 – Part III-1999 Cl - 6.3.4.1 Cl - 6.3.4.2 Cl - 6.3.4.3 Cl - 6.3.4.4	100V – 300V AC Upto 3 kVA Upto 10V DC
		UPS output characteristics – overload and short-circuit -Output – normal mode- overload -Output – stored energy mode- overload -Output – normal mode-short- circuit	IEC 62040 – Part III-1999 Cl.- 6.3.5.1 Cl.-6.3.5.2 Cl.- 6.3.5.3 Cl.-6.3.5.4	Upto 3 kVA 100 V- 300 V AC 1Φ

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	2 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		-Output- stored energy mode- short- circuitUPS rated output fault clearing capability- normal mode UPS rated output fault clearing capability- store energy mode	Cl.- 6.3.5.5 Cl.- 6.3.5.6	1s – 300 s
		Stored energy and restored energy mode Stored and restored energy time mode Stored energy time Restored energy time	Cl.6.3.9 Cl.6.3.9.1 Cl.6.3.9.2	Upto 3 kVA for 1Φ
		Efficiency Input power factor	Clause No. 6.3.10	Upto 100% 0.5 to unity
2.	Stabilized power supplies, DC output	Insulation Resistance Insulation Voltage Efficiency Power factor Source Distraction Relative harmonic content of source current Ripple on DC source current	IS: 7204(Part 4) -1980 (RA 2006) Cl : 26 Cl : 27 Table 3 of IS 7204(Part 2) Table 3 (Part 2) Table Table 3 (Part 2) Table 3 (Part 2)	1M Ω- 100MΩ at 500 V DC Upto 5 kV AC Upto 100% 0.5 - unity 0 - 40% Upto 5%
3.	Solid state Inverters Run from storage Batteries Upto 500VA	Visual Inspection High Voltage Insulation resistance No- load Output Harmonic content	IS 13314: 1992 (RA 1998) Clause 7.5 Clause 7.6 Clause 7.7 Clause 7.8 Clause 7.9 (7.9.1- 7.9.3) Clause 7.11	1MΩ -100MΩ at 500 V DC 150V – 300V, Upto 3A 150V – 300V, Upto 3A Upto 10%

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	3 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Servo-Motor operated Automatic Line voltage Correctors Upto 3kW	Insulation Resistance High voltage Output voltage No- load current No load loss and efficiency	IS: 9815:2000 (RA: 1994) Cl 11.4 Cl 11.5 Cl 11.6 Cl 11.7 Cl 11.9	1 MΩ - 100 MΩ at 500 V DC Upto 5 kV 150 V - 300 V Upto 10 A 3 kW
5.	Switch Mode Power Supply Upto 200W	Visual Inspection Line Effect Load Regulation Power Output Output Voltage Efficiency Overload protection	IS: 14886:2000 (RA: 2003) Table 1	Qualitative Upto 50 V/10A Upto 10 A DC Upto 200 W Upto 50 V Upto 100 %
6.	UPS (Single Phase & 3 phase) Upto 80kVA	Stored energy and restored energy tests Stored and restored energy time test -Stored energy time -Restored energy time Efficiency Input power factor	Cl 6.3.9 Cl-6.3.9.1 Cl .-6.3.9.2 Clause No. 6.3.10	Upto 10 kVA for 1Ph Upto 50 kVA for 3Ph Upto 10 hours Upto 100 % 0.5 to unity
7.	Photovoltaic Systems - Power Conditioners IS/IEC/61683	Output Voltage Frequency Input Voltage Ripple and Distortion Resistive loads (utility grid)	IEC 61683-1999 Cl.4.3 IEC 61683-1999 Cl.4.4 IEC 61683-1999 Cl.4.5 IEC 61683-1999 Cl.4.6	Upto 300 V Upto 70 Hz Upto 300 V Upto 10 % 1 MΩ -100MΩ at 500 V DC

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	4 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II. POWER SYSTEM PROTECTION RELAYS				
1	Electrical Relays: Over current relay Earth Fault relay Motor Protection Differential (1Ph & 3 Ph)	-Accuracy -Pick up and Drop of -Rated Burden -Verification of Marking -Test Related to Accuracy & Operating characteristics -Input and auxiliary energizing quantities -Characteristics quantities and setting range -Restraint percentage -Resetting and disengaging ratios -Operation and accuracy -Methods of presenting relay characteristics and performance	IEC 60255-3 Cl :4/ IEC 60255-6 Cl :7 IEC 60255-23 Cl :4.4.2 IEC 60255-6 Cl :8 / IEC 60255-13 Cl: 11/ IEC 60255- 23 Cl :4.4.2 IEC 60255-13 Cl: 13 IEC 60255-13 Cl: 15 IEC 60255-13 Cl: 3.1 IEC 60255-13 Cl: 3.3 IEC 60255-13 Cl: 3.4 IEC 60255-13 Cl: 3.5 IEC 60255-13 Cl: 4 IEC 60255-13 Cl: 5.0	0-250 V AC 0-24 V DC/0-110 VDC 0-400 A AC 0.00-1.00 99.999 Hz-999.99Hz 0-9999 s

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	5 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	AC Voltage Frequency Relay PF Relay and all protection Relay	Insulation - Dielectric - Insulation Resistance	IEC 755 Cl 8.8/ IEC 60255-13 Cl: 12 IEC 60255-6 Cl: 9 IEC 60255-5 Cl: 6.0 IEC 60255-5 Cl: 7.0	DC V – 0-2000V /0-1000V AC V- 0-1000V/0-5000V 1 MΩ - 100 MΩ at 500 V DC
III.	BATTERIES			
1.	Sealed Lead Acid (SMF) Batteries. Tubular Batteries	Verification for Construction and Designation Marking polarity(Visual) Capacity (C/10, C/20)	JIS 8702-1:2003 IS 13369:1992 IS 15549: Cl.4.1 to 4.9 8.1 JIS 8702-1:2003. Cl.1.0 IS 13369:1992. Cl.4.2.1-4.2.3 IS 1651: Cl. 4.2.1 -4.2.3 IS 15549: Cl.4.1 to 4.9 8.1 JIS 8702-1:2003. Cl.1.0 IS 13369:1992. Cl.11.1.2 IS 1651: Cl. 12.2 -3-4 IS 15549: Cl.4.1 to 4.9 8.1 JIS 8702-1:2003. Cl. IS 13369:1992. Cl.10.5 IS 1651: Cl. 11.7 IS 15549 Cl. 12.1& 12.2	2V-6V-12V C/20 C/10 , C/5, C/3 C/1 Upto 300Ah
2.	Stationary Cells & Batteries, Lead-acid type (with tubular positive plates) IS:1651-1991	Voltage during discharge Ampere hour & watt hour efficiency tests	IS:1651-1991, Cl.12.10 IS:1651-1991, Cl.12.9	Upto 12 V/300Ah 2 V/600 Ah Upto 12 V/300Ah 2 V/600 Ah

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	6 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Loss of capacity on storage	IS:1651-1991, Cl.12.7	Upto 12 V/300Ah 2 V/600 Ah
		Endurance test	IS:1651-1991, Cl.12.8	Upto 12 V/300Ah 2 V/600 Ah
3.	Stationary Valve Regulated Lead-acid Batteries IS:15549-2005	Verification of Visual Examination	IS:15549-2005, Cl.4.1 to 4.9 & 8.1	Qualitative
		Checking of Dimensions as per manufacturer's drawing	IS:15549-2005, Cl.10.1.1.b	Upto 600 mm
		C ₁₀ Capacity and voltage during discharge	IS:15549-2005, Cl.12.1	Upto 12 V/300Ah 2 V/600 Ah
		C ₁ Capacity and voltage during discharge	IS:15549-2005, Cl.12.2	Upto 12 V/300 Ah 2 V/600 Ah
		Test for for Capacity at other discharge rates	IS:15549-2005, Cl.12.3	Upto 12V/300Ah 2V/600Ah
		Ampere hour efficiency	IS:15549-2005, Cl.12.4	Upto 12 V/300 Ah 2 V/600 Ah
		Watt hour efficiency	IS:15549-2005, 12.5	Upto 12 V/300 Ah 2 V/600 Ah
		Test for retention of charge	IS:15549-2005, Cl.12.6	Upto 12V/300 Ah 2 V/600 Ah

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	7 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Acid Retention Capability test on separators	IS:15549-2005, Cl.12.7	Upto 12V/300 Ah 2 V/600 Ah
		Wicking test on separators	IS:15549-2005, Cl.12.7	Upto 12 V/300 Ah 2 V/600 Ah
		Test on vent seal operation	IS:15549-2005, Cl.12.8	Upto 12 V/300 Ah 2 V/600 Ah
		Oxygen recombination efficiency	IS:15549-2005, Cl.12.9	Upto 12 V/300 Ah 2 V/600 Ah
		Endurance life cycle	IS:15549-2005, Cl.12.1	Upto 12V/300 Ah 2 V/ 600Ah
4.	Stationary Lead-acid Batteries (with tubular positive plates) in monobloc container IS:13369-1992	Ampere hour & watt hour efficiency	IS:13369-1992, Cl.11.8	Upto 12 V/300 Ah
		Loss of capacity on storage	IS:13369-1992, Cl.11.6	Upto 12 V/300 Ah
		Endurance	IS:13369-1992, Cl.11.7	Upto 12 V/300 Ah
5.	Small-sized valve regulated lead-acid batteries - General requirements, functional characteristics - Method of tests JIS C 8702-1-2009/2003	Verification of Marking Items	JIS C 8702-1-2009, Cl.4.3	Qualitative
		High Rate Discharge Characteristics	JIS C 8702-1-2009, Cl.7.2	Upto 300 Ah
		Cycle Service Endurance	JIS C 8702-1-2009, Cl.5.3 & 7.3	Upto 300 Ah

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	8 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Storage characteristics	JIS C 8702-1-2009, Cl.5.4 & 7.4	Upto 300 Ah
		Maximum permissible current characteristics	JIS C 8702-1-2009, Cl.5.5 & 7.5	Upto 300 Ah
		Charge acceptance characteristics after deep discharge	JIS C 8702-1-2009, Cl.5.6 & 7.6	Upto 300 Ah
		Endurance in trickle application	JIS C 8702-1-2009, Cl.5.7 & 7.7	Upto 300 Ah
		Endurance in trickle application at 40°C	JIS C 8702-1-2009, Cl.5.8 & 7.8	Upto 300 Ah
		Gas emission intensity	JIS C 8702-1-2009, Cl.5.9 , 7.9.1 & 7.9.2	Upto 300 Ah
		Gas recombination characteristics	JIS C 8702-1-2009, Cl.5.10 , 7.10.1 & 7.10.2	Upto 300 h
6.	Lead Acid Storage Batteries for Motor Vehicles with Light Weight and High Cranking Performance	Verification of Physical Examination	IS:14257-1995, Cl.9.3.1	Qualitative
		Verification of Dimensions and Layout	IS:14257-1995, Cl.9.3.2	Qualitative
		Verification of Marking	IS:14257-1995, Cl.9.3.3	Qualitative

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	9 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Charging Acceptance	IS:14257-1995, Cl.9.3.6	Upto 300 Ah
		Capacity (5 hr rate)	IS:14257-1995, Cl.9.3.4	Upto 300 Ah
		Life Cycle	IS:14257-1995, Cl.9.3.7	Upto 300 Ah
		Overcharge Endurance	IS:14257-1995, Cl.9.3.9	Upto 300 Ah
7.	Secondary cells and batteries for photovoltaic energy systems (PVES)	Capacity	IEC 61427:2005, Cl.8.1	Upto 300 Ah
		Endurance in Cycle	IEC 61427:2005, Cl.8.2	Upto 300 Ah
		Charge Retention	IEC 61427:2005, Cl.8.3	Upto 300 Ah
		Cycle endurance test in Photovoltaic application (Extreme conditions)	IEC 61427:2005, Cl.8.4	Upto 300 Ah
		Charge Efficiency	IEC 61427:2005, Cl.5.2	Upto 300 Ah
		Deep discharge protection	IEC 61427:2005, Cl.5.3	Upto 300 Ah
		Verification of Marking	IEC 61427:2005, Cl.5.4	Qualitative

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	10 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
--------------	---------------------------------------	--------------------------------	--	---

AT SITE

I. POWER STABILISERS & UPS

1.	Stabilized power supplies, DC output	Insulation Resistance Insulation Voltage Efficiency Power factor Source Distraction Relative harmonic content of source current Ripple on DC source current	IS: 7204(Part 4) -1980 (RA 2006) CI : 26 CI : 27 Table 3 Table 3 Table 3 Table 3 Table 3	1 M Ω to 100M Ω at 500 V DC Upto 5kV Upto 100% 0.5 - unity 0 - 40% Ripple up to 5%
2.	Solid state Inverters Run from storage Batteries Upto 500VA	Visual Inspection High Voltage Insulation resistance No- load Output Harmonic content	IS 13314: 1992 RA1998 Clause 7.5 Clause 7.6 Clause 7.7 Clause 7.8 Clause 7.9 Clause 7.11	Qualitative 1M Ω to 100 M Ω at 500 V DC 150 V – 300 V, upto 3A 150 V – 300V, upto 3A Upto 10 %
3.	Servo-Motor operated Automatic Line voltage Correctors Upto15kVA	Insulation Resistance High voltage Output voltage No- load current	IS: 9815:2000 (RA: 1994) CI 11.4 CI 11.5 CI 11.6 CI 11.7	1 M Ω - 100 M Ω at 500 V DC Upto 5 kV 150 V -300 V Upto 10A

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	11 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Switch Mode Power Supply Upto 200W	Visual Inspection Line Effect Load Regulation Power Output Output Voltage Efficiency Overload protection	IS: 14886:2000 (RA: 2003) Table 1	Qualitative Upto 50 V Upto 10 A DC Upto 200 W Upto 50 V Upto 100 %
5.	UPS (Single Phase & 3 Phase) Upto 80kVA	Control and monitoring signals Input Voltage -Steady state input voltage tolerance UPS Output characteristics test- static condition - Normal and stored energy mode of operation -Output – normal mode –no load -Output – normal mode –full load -Output- stored energy mode-no load -Output-stored energy mode-full load -Output – Voltage Unbalance test -DC component in the output	IEC 62040 – Part III-1999 Cl - 6.3.1 IEC 62040 – Part III-1999 6.3.2 Cl - 6.3.2.1 IEC 62040 – Part III-1999 Cl - 6.3.4 IEC 62040 – Part III-1999 Cl - 6.3.4.1 Cl - 6.3.4.2 Cl - 6.3.4.3 Cl - 6.3.4.4 Cl - 6.3.4.5 Cl - 6.3.4.6	150 V – 300 V for 1Φ AC 100 V – 300 V AC Upto 80 kVA Upto 10 V DC

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	12 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		UPS output characteristics – overload and short-circuit -Output – normal mode- overload -Output – stored energy mode- overload -Output – normal mode-short- circuit -Output- stored energy mode- short- circuit -UPS rated output fault clearing capability- normal mode -UPS rated output fault clearing capability- store energy mode	IEC 62040 – Part III-1999 Cl.- 6.3.5.1 Cl.-.6.3.5.2 Cl.- 6.3.5.3 Cl.-6.3.5.4 Cl.- 6.3.5.5 Cl.- 6.3.5.6	Upto 3 kVA for 1 pH Upto 80 kVA for 3pH Time 1s - 300s
II. POWER SYSTEM PROTECTION RELAYS				
1.	Electrical Relays: Over current relay Earth Fault relay Motor Protection Differential (1Ph &3Ph)	Accuracy Pick up and Drop of Rated Burden Verification of Marking and Data Test Related to Accuracy & Operating characteristics and Frequency	IEC 60255-3 Cl :4/ IEC 60255-6 Cl :7 IEC 60255-23 Cl :4.4.2 IEC 60255-6 Cl :8 / IEC 60255-13 Cl: 11/ IEC 60255- 23 Cl :4.4.2 IEC 60255-13 Cl: 13 IEC 60255-13 Cl: 15	0-250 V AC 0-24 V DC/ 0-110 V DC 0-400 A AC 0.00-1.00 99.999 Hz-999.99 Hz 0-9999 s

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	13 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		-Input and auxiliary energizing quantities	IEC 60255-13 Cl: 3.1	0-250 V AC 0-24 V DC/ 0-110 V DC
		-Characteristics quantities and setting range	Cl: 3.3	0-400 A AC 0.00-1.00 99.999 Hz-999.99 Hz 0-9999 s
		-Restraint percentage	Cl: 3.4	
		-Resetting and disengaging ratios	Cl: 3.5	
		-Operation and accuracy	Cl: 4	
		-Methods of presenting relay characteristics and performance	Cl: 5.0	
2.	AC Voltage Frequency Relay PF Relay and all protection Relay	Insulation -Dielectric -Measurements of the insulation resistance	IEC 755 Cl 8.8/ IEC 60255-13 Cl: 12 IEC 60255-6 Cl: 9 IEC 60255-5 Cl: 6.0 IEC 60255-5 Cl: 7.0	DC V – 0-2000 V /0-1000 V AC V- 0-1000 V/0-5000 V 1 MΩ - 100 MΩ at 500 VDC
III.	BATTERIES			
1.	Stationary Cells & Batteries, Lead-acid type (with tubular positive plates) IS:1651-1991	Verification of Constructional Requirements	IS:1651-1991, Cl.12.2	Qualitative
		Verification of Marking	IS:1651-1991, Cl.12.3	Qualitative
		Verification of Dimensions	IS:1651-1991, Cl.12.4	Upto 600 mm

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	14 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Capacity (at C ₁ hr to C ₁₀ rate)	IS:1651-1991, Cl.12.5	Upto 12 V/300 Ah 2 V/600 Ah
		Voltage during discharge	IS:1651-1991, Cl.12.10	-
2.	Stationary Valve Regulated Lead- acid Batteries IS:15549-2005	Visual Examination	IS:15549-2005, Cl.4.1 to 4.9 & 8.1	Qualitative
		Verification of Dimensions as per manufacturer's drawing	IS:15549-2005, Cl.10.1.1.b	Upto 600 mm
		C ₁₀ Capacity and voltage during discharge	IS:15549-2005, Cl.12.1	Upto 12 V/300 Ah 2 V/600 Ah
		C ₁ Capacity and voltage during discharge	IS:15549-2005, Cl.12.2	Upto 12 V/300 Ah 2 V/600 Ah
		Capacity at other discharge rates	IS:15549-2005, Cl.12.3	Upto 12 V/300 Ah 2 V/600 Ah
3.	Stationary Lead acid Batteries (with tubular positive plates) in monobloc container IS:13369- 1992Stationary Lead-	Verification of Constructional Requirements	IS:13369-1992, Cl.11.2	Qualitative
		Verification of Marking	IS:13369-1992, Cl.11.4	Qualitative
		Verification of Dimensions	IS:13369-1992, Cl.11.4	Upto 600 mm
		Capacity C/10/C5/C3/C1	IS:13369-1992, Cl.11.5	Up to 12 V/300 Ah 2 V/600 Ah

Laboratory	Nisaki Technology Services, # 46, Park Road, 2nd Main, 10th Cross Wilson Garden, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electrical Testing	Issue Date	04.07.2014
Certificate Number	T-1401	Valid Until	03.07.2016
Last Amended on	-	Page	15 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Small-sized valve regulated lead-acid batteries - General requirements, functional characteristics - Method of tests JIS C 8702-1- 2009/2003	Verification of Construction	JIS C 8702-1-2009, Cl.4.1	Qualitative
		Verification of Mechanical Strength	JIS C 8702-1-2009, Cl.4.2	Qualitative
		Verification of Marking Items	JIS C 8702-1-2009, Cl.4.3	Qualitative
		Verification of Marking of Polarity	JIS C 8702-1-2009, Cl.4.4	Qualitative
		Actual Capacity at the 20 hr rate	JIS C 8702-1-2009, Cl.5.1a & 7.1a	Upto 12 V/300 Ah 2 V/600 Ah
		Actual Capacity at the 1 hr rate	JIS C 8702-1-2009, Cl.5.1 b & 7.1 b	Upto 12V/300 Ah 2 V/600 Ah
5.	Photovoltaic Systems - Power Conditioners As per IS/IEC/61683	Output Voltage and frequency	IEC 61683-1999 Cl.4.3	Upto 10 kW
		Input Voltage	IEC 61683-1999 Cl.4.4	Upto 300V
		Ripple and Distortion	IEC 61683-1999 Cl.4.5	Upto 10%
		Resistive loads (utility grid)	IEC 61683-1999 Cl.4.6	1MΩ - 100MΩ at 500 V DC

-X-X-X-X-X-X-X-X-X-X-X-X-