

TECHNICAL EVALUATION OF TEST REPORT OF SOLAR HOME SYSTEMS

ITEM	Major Requirements as per DNIT	M/s Servotech Power Systems P. Ltd, New Delhi		M/s Su Solartech Systems (P) Ltd. Panchkula	M/s Dynamic Powers, Kundli Sonepat	M/s UM Green Lighting Pvt Ltd, Gurgaon
		1		5	6	8
	Test Laboratory	Bharat Test House	TUV		ETDC	TUV/Spectro (Fan)
Module	Make 150 W Efficiency-14%	Topsun 156 W 16.03 %	Navitas 156.73 W 14.70%	The firm did not submit the acknowledgement /test report online, hence not eligible	Inso Solar 162.010W 16.42%	Goldi Green 151.06W 15.18%
Battery	Make 12V, 120Ah@C/10-Lead Acid Tubular	Altima 125.1 Ah @C/10-Lead Acid Tubular	Altima 125.1 Ah at C/10		Altima Pass	Eastman/Southern OK @C/10-Lead Acid Tubular
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (5V, 1A) PV Charging Efficiency>90% Idle current-40mA Electronic Efficiency>85%	SAARA MPPT 2 nos. 96.08% 29.34 mA 87.23%	SAARA MPPT (12 V, 15 A) Not Mentioned 95.97% Not mentioned		Dynamic MPPT Provided Not Mentioned 26.07 mA 91.22%	UM Green MPPT Provided 17.51 mA 92.4 % 93.59%
LED Lights (Should meet the latest BIS specification IS 10322:2012))	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)	SAARA 5.8 W (42 Lux) 8.6 W (24 Lux)	SAARA 5.8 W 8.6 W, Lux not mentioned		Dynamic Complies Complies	Philips, APT (LED) 5W->32 Lux 7W>18 Lux (at working plane level)
Fan (12V, DC)	Make Type-Ceiling W-25 W (± 10%) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise- Max. 27 dB Motor Test (insulation, Temperature rise test, reliability test)	SAARA (Tested Separately from 2 labs) Ceiling 25.62 W Not mentioned Not mentioned 332 RPM 161.83 CMM 2 nos. 3 speed 22.7 dB Comply	SAARA Ceiling 26.4 W BLDC 1205 mm 340 RPM 163 CMM 2 nos. 3 speed 20 dB		Universal Green Ceiling 24.1W BLDC 48/1200 mm 317 RPM Not Mentioned 02 nos. 3 speed 25d B Pass	Maa Sharda Ceiling 22.6W BLDC 1205 mm 387 155 CMM 2 nos. 3 23 dB Comply
Electronics Protection	No load Protection Battery Over Charge & deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V(+0.2V)	Provided Provided Provided Provided Provided 12.4 V 11.28 V	Provided Provided Provided Provided Provided 12.37 V 11.28 V		Provided Provided Provided Provided Provided 12.57 V 11.28 V	Provided Provided Provided Provided Provided 12.67 V 11.28V
	Matching as per sample submitted	As per sample	Not as per sample		As per sample	As per sample

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ITEM	Major Requirements as per DNIT	M/s Communication and System Engg. Pvt. Ltd., Gurgaon	M/s Stimulus Info Systems P. Ltd, Sonapat	M/s Andy Solar Pvt Ltd, Panchkula	M/s Gautam Solar Pvt Ltd, Faridabad	M/s SBD Green Energy & India Pvt. Ltd, Gurgaon	M/s Ultimate Sun System Pvt Ltd, Gurgaon
	Test Laboratory	11	13	14	15	18	20
				ETDC		NISE	
Module	Make 150 W Efficiency-14%	Acknowledgement submitted	The firm did not submit the acknowledgement /test report online, hence not eligible	Rhine Solar 166.51W 16.81%	Acknowledgement submitted	Vikram Solar 146.7 W ($\pm 3\%$) 14.8%	Acknowledgement submitted
Battery	Make 12V, 120Ah @C/10-Lead Acid Tubular			Exide Pass @C/10-Lead Acid Tubular		Southern 12V 125 Ah @C/10-Lead Acid Tubular	
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (5V, 1 A) PV Charging Efficiency>90% Idle current-40mA Electronic Efficiency>85%			Andy MPPT Provided Not Mentioned 25.92 mA 91.38%		SBD MPPT Provided 97.75% 20.60 mA 83.06% (+3%)	
LED Lights (Should meet the latest BIS specification IS 10322;2012)	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)			Andy Solar 5.9 W (33 Lux) 8.9 W (21 Lux)		Not Provided 5.18/5.18 W (32.94 Lux) 9.82 W (28.35 Lux)	
Fan (12V, DC)	Make Type-Ceiling W-25 W ($\pm 10\%$) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise-27 dB Motor Test (insulation, Temperature rise test, reliability test)			Maa Sharda Ceiling 23.9 W BLDC 48/1200 mm 313 RPM Not Mentioned 02 nos. 3 speed 26.2 dB Pass		Not mentioned Ceiling 22.26 W BLDC 48/1200 mm Not mentioned Not Mentioned 02 nos. 3 speed Not mentioned Not Mentioned	
Electronics Protection	No load Protection Battery Over Charge & deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V($\pm 0.2V$)			Provided Provided Provided Provided Provided 12.52 V 11.28 V		Provided Provided Provided Provided Provided 12.41 V 11.10 V	
	Matching as per sample submitted			As per sample		Make of fan/LED can not be matched, other matched	

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ITEM	Major Requirements as per DNIT	M/s Mew Tools Pvt Ltd, D-56, Udyog Vihar, Phase-V, Gurgaon	M/s Skytech Engineers, Gurgaon	M/s Pushpak Commodial Pvt Ltd, Sonapat	M/s CLS Industries Pvt Ltd, New Delhi	M/s Balaji Hi Tech. Ind., Delhi
		21	22	25	27	28
	Test Laboratory			ETDC	TUV	Alpha Test House
Module	Make 150 W Efficiency-14%	The firm did not submit the acknowledgement /test report online, hence not eligible	Acknowledgement submitted	Inso Solar 163.4 W 16.61%	Enfros 153.7 W 15.58%	Sunfuel Not mentioned
Battery	Make 12V, 120Ah @C/10-Lead Acid Tubular			Altima Pass @C/10-Lead Acid Tubular	Power Build/Southern 12V 137 Ah/144Ah @C/10-Lead Acid Tubular	Not mentioned Not mentioned
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (5V, 1A) PV Charging Efficiency>90% Ideal current-40mA Electronic Efficiency>85%			Pushpak MPPT Provided Not mentioned 26.12 mA 91.04%	CLS MPPT Provided 92.84% 10.10 mA 95.6 %	Not mentioned MPPT Not mentioned Not mentioned Not mentioned
LED Lights (Should meet the latest BIS specification IS 10322:2012)	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)			Pushpak 5.9 W (complies) 8.7W (complies)	APT (LED) 5.0 W (complies) 6.9 W (complies)	Not mentioned Not mentioned Not mentioned
Fan (12V, DC)	Make Type-Ceiling W-25 W (± 10%) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise-27 dB Motor Test (insulation, Temperature rise test, reliability test)			Universal Green Ceiling 23.4 W BLDC 48/1200 mm 326 RPM Not Mentioned 02 nos. 3 speed 23.1 dB Pass	Maa Sharda Ceiling 22.6 W BLDC 48/1200 mm 387 RPM 155 CMM 02 nos. 3 speed 23.0 dB Pass	Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned
Electronics Protection	No load Protection Battery Over Charge & deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V (± 0.2V)			Provided Provided Provided Provided Provided 12.52 V 11.28 V	Provided Provided Provided Provided Provided 12.6 V 11.27 V	Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned Not mentioned
	Matching as per sample submitted					Make of fan/LED can not be matched, other matched

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ITEM	Major Requirements as per DNIT	M/s Ritika Systems Pvt Ltd, Noida, 201301-UP	M/s Arsh Electronics Ltd, Delhi	M/s Nitika Electronics, Indore	M/s Jain Irrigation Systems Ltd. Jalgaon, Maharashtra	M/s Sukam Power Systems Ltd, Gurgaon
		2	3	4	7	9
	Test Laboratory	NISE & BTH/NTH (Fan)			UL	
Module	Make 150 W Efficiency-14%	Ritika 153.8W 15.70%	Acknowledgement submitted	The firm did not submit the acknowledgement /test report online, hence not eligible	Jain 160.6 W 16.3 %	The firm did not submit the acknowledgement /test report online, hence not eligible
Battery	Make 12V, 120Ah @C/10-Lead Acid Tubular	Exide/southern Pass @C/10-Lead Acid Tubular			Luminous Pass @C/10-Lead Acid Tubular	
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (5V, 1 A) PV Charging Efficiency>90% Ideal current-40mA Electronic Efficiency>85%	Ritika MPPT 2 nos. (1 optional) 99.62% 20.88 mA 90.19%			Jain Irrigation MPPT Provided 99.6% 32.5 mA 85.2 %	
LED Lights (Should meet the latest BIS specification IS 10322:2012)	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)	Nichia (LED) 5.88 W-35.92 LUX 8.81 W-19.51 LUX (Tested as per IS, separate test report)			Cree (LED) 5.86 W (41 Lux) 8.71 W (24 Lux)	
Fan (12V, DC)	Make Type-Ceiling W-25 W (± 10%) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise-27 dB Motor Test (insulation, Temperature rise test, reliability test)	Ritika Ceiling 23.3 W BLDC 1191 mm 317 RPM 158 CMM 02 nos. 3 speed 23.4 dB Confirms			Not mentioned Ceiling 25 W BLDC Not tested Not tested Not Tested Not tested Not tested Not tested (Fan Not as per requirement)	
Electronics Protection	No load Protection Battery Over Charge & deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V (+ 0.2V)	Provided Provided Provided Provided Provided 12.5 V 11.46 V			Provided Provided Provided Provided Provided 12.7 V 11.17 V	
	Matching as per sample submitted	As per sample			Make of fan can not be matched, other matched	

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ITEM	Requirements as per DNIT	M/s REIL, Jaipur	M/s Premier Solar System Pvt Ltd, Secunderabad	M/s Madani Engineering Works, Kanpur	M/s Green Sol Renewable power Pvt Ltd, Bangalore
		10	12	16	17
	Test Laboratory			Bharat Test House	
Module	Make 150 W Efficiency-14%	Acknowledgement submitted	Acknowledgement submitted	Icon Other details not mentioned	Acknowledgement submitted
Battery	Make 12V, 120Ah@C/10-Lead Acid Tubular			Southern (details not mentioned) Lead Acid Tubular	
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (12V, 0.5 A) PV Charging Efficiency>90% Ideal current-40mA Electronic Efficiency>85%			Saiglowmore MPPT Provided 91.76% 30.71 mA 88.53 %	
LED Lights (Should meet the latest BIS specification)	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)			Philips 5.83 W (45 Lux) 8.71W (28 Lux)	
Fan (12V, DC)	Make Type-Ceiling W-25 W (\pm 10%) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise-27 dB Motor Test (insulation, Temperature rise test, reliability test)			Madhani Ceiling 23.64 W BLDC 1200 mm 332 RPM 165.81 CMM 2 nos. 3 22.9 dB OK	
Electronics Protection	No load Protection Battery Over Charge and deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V (\pm 0.2V)			Provided Provided Provided Provided Provided 12.7 V 11.25 V	
	Matching as per sample submitted			As per sample	

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ITEM	Requirements as per DNIT	M/s RBP Energy (India) Pvt Ltd, Raipur	M/s Ushus Energy System Pvt Ltd, Delhi	M/s Bharti Waters Pvt Ltd, Delhi	M/s Easy Photovoltech Pvt Ltd., Ghaziabad UP
		19	23	24	26
	Test Laboratory		ETDC		
Module	Make 150 W Efficiency-14%	Acknowledgement submitted	Inso Solar 164.51 W 16.69%	The firm did not submit the acknowledgement /test report online, hence not eligible	Acknowledgement submitted
Battery	Make 12V, 120Ah @C/10-Lead Acid Tubular		Altima Pass @C/10-Lead Acid Tubular		
Charge Controller (12V, 12-15A)	Make Type-MPPT USB-1 (12V, 0.5 A) PV Charging Efficiency>90% Ideal current-40mA Electronic Efficiency>85%		Ushus MPPT Provided 26.18 mA 90.91%		
LED Lights (Should meet the latest BIS specification)	Make Max. 6 W-2 (32 lux) Max. 9W-1(18 lux)		Ushus 5.9 W (complies) 9.0 W (complies)		
Fan (12V, DC)	Make Type-Ceiling W-25 W (\pm 10%) Motor-BLDC 48inch/1200 mm RPM>300 Air Delivery>150 CMM Bearing-2 nos. Speed-3 Noise-27 dB Motor Test (insulation, Temperature rise test, reliability test)		Universal Green Ceiling 23.8 W BLDC 48/1200 mm 312 RPM Not Mentioned 02 nos. 3 speed 25.0 dB Pass		
Electronics Protection	No load Protection Battery OverCharge & deep discharge Battery Reverse Polarity Fuse for Short Circuit Protection Reverse Flow protection Load Reconnect>12.5V Low Cut Off 11.3V (\pm 0.2V)		Provided Provided Provided Provided Provided 12.52 V 11.28 V		
	Matching as per sample submitted		As per sample		