

Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 1 of 9

Auftraggeber/Applicant: LUXEN SOLAR ENERGY CO.,LTD
NO.22, North Guandu Road, Wuzhong District, 215104 Suzhou, Jiangsu Province, P.R.China.

Fertigungsstätte/Production facility: LUXEN SOLAR ENERGY CO.,LTD
NO.22, North Guandu Road, Wuzhong District, 215104 Suzhou, Jiangsu Province, P.R.China.

Geräteart/Type of equipment: Poly-crystalline Silicon Photovoltaic (PV) Module

Typenbezeichnung/Type/model:

- a) 72 cells module:
LNSF-xxxP (xxx=290-350, in step of 5)
- b) 60 cells module:
LNSE-xxxP (xxx=245-290, in step of 5)
- c) 54 cells module:
LNSD-xxxP (xxx=220-260, in step of 5)
- d) 48 cells module:
LNSC-xxxP (xxx=195-230, in step of 5)
- e) 36 cells module:
LNSA-xxxP (xxx=145-175, in step of 5)
xxx stands for rated output power.

Rated Output Power at STC:

- a) 290, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350 W.
- b) 245, 250, 255, 260, 265, 270, 275, 280, 285, 290 W.
- c) 220, 225, 230, 235, 240, 245, 250, 255, 260 W.
- d) 195, 200, 205, 210, 215, 220, 225, 230 W.
- e) 145, 150, 155, 160, 165, 170, 175 W.

Min. Value of Output Power or Deviation at STC: 0 ~ +3 %

Maximum System Voltage: 1500 V DC

Max. over-current protection rating: 15 A

Module Dimensions (L x W x H):

- a) 1956 x 992 x 40 [mm]
- b) 1640 x 992 x 40 or 35 [mm]
- c) 1482 x 992 x 40 or 35 [mm]
- d) 1324 x 992 x 40 or 35 [mm]
- e) 1482 x 676 x 40 or 35 [mm]

Weight:

- a) 23 kg (approx)
- b) 20 kg (approx)
- c) 17 kg (approx)
- d) 15 kg (approx)
- e) 10.5 kg (approx)

Cell technology:

- Monocrystalline Silicon
- Polycrystalline Silicon
- Thin-film (amorphous Silicon)
- CIGS

Prüfbericht Nr. / Test Report No.: 70.406.18.070.02-00

Ort / place: SuZhou

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 2 of 9

		CdTe	<input type="checkbox"/>
		Other	<input type="checkbox"/>
Application classes:	Class	A: General access, hazardous voltage, hazardous power applications	<input checked="" type="checkbox"/>
	Class	B: Restricted access, hazardous voltage, hazardous power applications	<input type="checkbox"/>
	Class	C: Limited voltage, limited power applications	<input type="checkbox"/>
Types of terminations:		Type A: wire of flying lead	<input checked="" type="checkbox"/>
		Type B: tags, threaded stubs, screws, etc.	<input type="checkbox"/>
		Type C: connector	<input type="checkbox"/>
		Junction box	<input checked="" type="checkbox"/>
Protection devices:		By-pass Diode	<input checked="" type="checkbox"/>
		Fuse	<input type="checkbox"/>
		Other	<input type="checkbox"/>
Fire safety class:	Class	A	<input type="checkbox"/>
	Class	B	<input type="checkbox"/>
	Class	C	<input checked="" type="checkbox"/>
Frame:		Framed	<input checked="" type="checkbox"/>
		Frameless	<input type="checkbox"/>
Mechanical load tested:		2400 Pa	<input type="checkbox"/>
		5400 Pa	<input checked="" type="checkbox"/>
		routing holes location see below:	
Module Design - Minimum Distances:		Between cells:	2 mm
		Between cell and edge of laminate:	
		a)	16.5 mm
		b)	16.5 mm
		c)	16.5 mm
		d)	16.5 mm
		e)	16.5 mm
		Between any current carrying part and edge of laminate:	
		a)	15 mm
		b)	15 mm
		c)	15 mm
		d)	15 mm
		e)	15 mm
Materials:	Superstrate	Tempered Glass	<input checked="" type="checkbox"/>
		Normal Glass	<input type="checkbox"/>
		Other: _____	<input type="checkbox"/>
	Encapsulant	EVA	<input checked="" type="checkbox"/>
		Other	<input type="checkbox"/>
	Substrate	TPT	<input type="checkbox"/>
		TPE	<input type="checkbox"/>

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 3 of 9

Frame

Other: see below for details
Aluminium
Other: _____

Supplementary information:

Prüfbericht Nr. / Test Report No.: 70.406.18.070.02-00

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 4 of 9

Sicherheitsrelevante Bauteile: (Schalter, Temperaturregler, Heizkörper, Stecker, Fassungen, Leitungen, Kondensatoren, Motoren und sonstige Wicklungen z.B. Transformatoren, Magnetspulen)
(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschranken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen)
Safety relevant components: (switch, temperature regulator, heating element, plug, socket, wiring, capacitor, motors and other components with windings e.g. transformers, coils)
(emergency off devices, 2-hand-control-devices, interlock switches, safety light barriers, safety valves, programmable electronic controllers -PLC, hydraulic controllers, pneumatic controllers)

Bauteil/ Kind of component	Hersteller/ Manufacturer	Angaben über Typ, Stromstärke, Leistung, Transformatorspezifikationsnummer, Isolationsklasse/ Information about type, current, power, transformer specification number, insulating class	Prüfzeichen von Test mark from (VDE, BSI, UL etc.)
1. Solar Cell	Jiangsu Shunfeng Photovoltaic Technology Co., Ltd.	Poly-Si, Cell type: 156M-C219.2-FB.-4BB (101G), 4 busbars. Cell dimensions L x W: 156 x 156 (mm) Cell thickness: 210±20 (µm) Cell area:243.36 (cm²)	Test with appliance
2. Superstrate	CSG Holding Co., Ltd.	Material: coated glass Thickness: 3.2 (mm)	Test with appliance
3. Substrate (backsheet)	Chang Zhou Hui Tian New Material Co., Ltd.	Type: HTPV350S Material: PVDF/PET/PE Thickness: 25/275/60(µm),total thickness: 380 µm Max. permissible system voltage: 1500VDC.	TÜV Rh.
4. Encapsulant	Hangzhou First Material Co., Ltd.	Material: EVA, type: F406P(glass surface), F806P(backsheet surface) Thickness: 0.45mm	Test with appliance
5. Junction box	Suzhou Xtong Potovoltaic Technologies Co., Ltd	Type: PV-XT1206xy, 1500V DC, 15A, 85°C, IP67	TÜV SÜD
Connector	Suzhou Xtong Potovoltaic Technologies Co., Ltd	Type: PV-XT101 (XT) , 1500V DC, 35A, 85°C IP67, class A.	TÜV Rh.
Cable	Suzhou Xtong Potovoltaic Technologies Co., Ltd	Type: PV1500DC-F, 1 x 4.0 mm² , 1500V DC, 90°C.	TÜV Rh.
Bypass diode	Yangzhou Yangjie Electronic Technology Co., Ltd	Schottky, Type: GFMK3045 Max. peak reverse voltage 45V, Max. Average Forward current 15A. Max junction temperature 200°C Family a) to family b): Cells per bypass diode: 24/20 No. of bypass diodes: 3	Test with appliance
Adhesive for junction box	Shanghai Huitian New Material Co., Ltd.	Type: HT906Z	Test with appliance
Potting material	Shanghai Huitian New Material Co., Ltd.	Type: 5299S-S	Test with appliance

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 5 of 9

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(Not-Aus Geräte, 2-Handsteuerungen, Verriegelungsschalter, Sicherheits-Lichtschranken, Sicherheitsventile, Programmierbare Steuerungen-SPS, hydraulische Steuerungen, pneumatische Steuerungen)
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6. Cell interconnector	Suzhou YourBest New Materials Co., Ltd.	Cross section: 1.2 x 0.25 (mm), Base Cu(≥99.95%), Coating material: Sn60Pb40	Test with appliance
7. String connector	Suzhou YourBest New Materials Co., Ltd.	Cross section: 6 x 0.4 (mm) Material: Sn60Pb40	Test with appliance
8. Soldering material	Singapore Asahi Chemical and Solder Industries Pte Ltd	Type: ANX-3012.	Test with appliance
9. Frame	Yixing Qiaoshen Aluminium Co. Ltd.	Anodized Aluminium frame, 6063 T5.	Test with appliance
10. Adhesive for frame	Shanghai Huitian New Material Co., Ltd.	Type: HT906Z	Test with appliance
11. Insulated sheet	Same as backsheet	Same as backsheet	Same as backsheet
12. Markings as below: a) Rating label			Test with appliance

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Data form for electrical equipment and machinery



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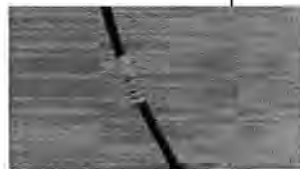
b) Serial No. code bar



c) Grouping symbol



d) Warning label attached on the cable



e) Coding rule for S/N

X	X	X	X	X	X	XX	XX	XX	XXXX
1	2	3	4	5	6	7	8	9	10

条形码位码	代表类号	编码
1	电池片规格	F(125), S(156), C(切割片)
2	组件电池片数量	A=36, C=48, E=60, F=72
3	电池片类型	M(单晶), P(多晶), G(类单晶)
4	生产产地	C=中国, 苏州
5	最大系统电压	0=1000V, 5=1500V
6	当日订单序号	1~9
7	生产年份	加18, 如15年——编码为, 33
8	生产月份	加58, 如4月——编码为, 62
9	生产日期	加68, 如3日——编码为, 71
10	产品序号	0001~9999

Prüfbericht Nr. / Test Report No.: 70.406.18.070.02-00

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 7 of 9

Product Electrical Ratings at STC:							
Module	LNSF-290P	LNSF-295P	LNSF-300P	LNSF-305P	LNSF-310P	LNSF-315P	LNSF-320P
open-circuit voltage [V]:	44.6	45.3	45.3	45.3	45.3	45.5	45.5
voltage at max. power [V]:	36.0	36.5	36.5	36.5	36.5	36.7	36.7
current at max. power [A]:	8.05	8.08	8.22	8.35	8.49	8.58	8.72
short-circuit current [A]:	8.61	8.72	8.79	8.94	9.07	9.17	9.32
max. power (with tolerance) [W]:	290(0~+3%)	295(0~+3%)	300(0~+3%)	305(0~+3%)	310(0~+3%)	315(0~+3%)	320(0~+3%)
Module	LNSF-325P	LNSF-330P	LNSF-335P	LNSF-340P	LNSF-345P	LNSF-350P	LNSE-245P
open-circuit voltage [V]:	45.7	45.7	45.9	45.9	46.1	46.1	37.1
voltage at max. power [V]:	36.9	37.1	37.2	37.2	37.3	37.3	30.0
current at max. power [A]:	8.81	8.89	9.01	9.14	9.25	9.38	8.17
short-circuit current [A]:	9.39	9.47	9.58	9.70	9.82	9.95	8.74
max. power (with tolerance) [W]:	325(0~+3%)	330(0~+3%)	335(0~+3%)	340(0~+3%)	345(0~+3%)	350(0~+3%)	245(0~+3%)
Module	LNSE-250P	LNSE-255P	LNSE-260P	LNSE-265P	LNSE-270P	LNSE-275P	LNSE-280P
open-circuit voltage [V]:	37.2	37.3	37.4	37.5	38.2	38.2	38.5
voltage at max. power [V]:	30.1	30.2	30.4	30.5	30.9	30.9	31.1
current at max. power [A]:	8.30	8.43	8.55	8.68	8.74	8.90	9.01
short-circuit current [A]:	8.87	9.00	9.11	9.21	9.30	9.35	9.44
max. power (with tolerance) [W]:	250(0~+3%)	255(0~+3%)	260(0~+3%)	265(0~+3%)	270(0~+3%)	275(0~+3%)	280(0~+3%)

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 8 of 9

Product Electrical Ratings at STC:							
Module	LNSE-285P	LNSE-290P	LNSD-220P	LNSD-225P	LNSD-230P	LNSD-235P	LNSD-240P
open-circuit voltage [V]:	38.5	38.6	33.8	34.1	34.6	35.0	35.0
voltage at max. power [V]:	31.3	31.3	26.9	27.0	27.4	27.7	27.7
current at max. power [A]:	9.10	9.26	8.74	8.85	8.42	8.50	8.66
short-circuit current [A]:	9.54	9.69	8.17	8.34	8.95	9.01	9.14
max. power (with tolerance) [W]:	285(0~+3%)	290(0~+3%)	220(0~+3%)	225(0~+3%)	230(0~+3%)	235(0~+3%)	240(0~+3%)
Module	LNSD-245P	LNSD-250P	LNSD-255P	LNSD-260P	LNSC-195P	LNSC-200P	LNSC-205P
open-circuit voltage [V]:	35.2	35.2	35.5	35.6	29.7	30.1	30.5
voltage at max. power [V]:	28.0	28.0	28.0	28.2	23.4	23.8	24.1
current at max. power [A]:	8.75	8.93	9.11	9.22	8.34	8.42	8.50
short-circuit current [A]:	9.16	9.35	9.51	9.63	8.85	8.95	9.01
max. power (with tolerance) [W]:	245(0~+3%)	250(0~+3%)	255(0~+3%)	260(0~+3%)	195(0~+3%)	200(0~+3%)	205(0~+3%)
Module	LNSC-210P	LNSC-215P	LNSC-220P	LNSC-225P	LNSC-230P	LNSA-145P	LNSA-150P
open-circuit voltage [V]:	31.3	31.3	31.5	31.7	31.9	21.9	22.4
voltage at max. power [V]:	24.7	25	25.2	25.3	25.5	17.4	17.8
current at max. power [A]:	8.50	8.60	8.73	8.89	9.02	8.34	8.42
short-circuit current [A]:	9.01	9.16	9.21	9.32	9.45	8.85	8.95
max. power (with tolerance) [W]:	210(0~+3%)	215(0~+3%)	220(0~+3%)	225(0~+3%)	230(0~+3%)	145(0~+3%)	150(0~+3%)

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Aufbauübersicht für Elektrogeräte und Maschinen

Data form for electrical equipment and machinery



Seite von
Page 9 of 9

Product Electrical Ratings at STC:							
Module	LNSA-160P	LNSA-165P	LNSA-170P	LNSA-175P	--	--	--
open-circuit voltage [V]:	23.1	23.3	23.5	23.8	--	--	--
voltage at max. power [V]:	18.2	18.4	18.6	18.9	--	--	--
current at max. power [A]:	8.79	8.97	9.14	9.26	--	--	--
short-circuit current [A]:	9.28	9.47	9.65	9.77	--	--	--
max. power (with tolerance) [W]:	160(0~+3%)	165(0~+3%)	170(0~+3%)	175(0~+3%)	--	--	--

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