

VeraSol

Standardized Specifications Book

Manufacturer: Qingdao Sunshine New Energy Co., Ltd

Component Family Name: Solarchange Family

Date of Standardized Specifications Book Expiration: March 31, 2024

Verify Online: <https://data.verasol.org/products/sek/sc-family>

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This VeraSol Standardized Specifications Book presents a **component-level Standardized Specifications Sheet** listing the available components in the product family by component type, each individual component's performance rating, and performance results for each component tested according to the Edition 4 of IEC 62257-9-5. Following the component-level Standardized Specifications Sheet is a **list of the systems** covered by this Specifications Book that use combinations of these components.

NOTICE: Systems or kits developed using components from the component family will each perform differently and have not all been evaluated on a system-level basis. All systems listed in this Specifications Book are regarded to meet the requirements in IEC 62257-9-8.

Revision: 2022.04

Component-Level Standardized Specifications Sheet

Qingdao Sunshine New Energy Co., Ltd

Solarchange Family

Battery / Control Box

Name / Model Number	Battery Chemistry	Nominal Voltage (V)	Battery Capacity Rating (Ah)	Measured Battery Capacity (Ah)
6000 mAh battery	Lithium iron phosphate	6.4	6	6
12000 mAh battery	Lithium iron phosphate	6.4	12	12

PV Module

Name / Model Number	Peak Power at STC Rating (W)	Measured Peak Power at STC (W)
6 W PV module	6	6.1
10 W PV module	10	11
15 W PV module	15	not tested
20 W PV module	20	21

Light Sources*

Name / Model Number	Luminous Flux Rating (lm)			Measured Luminous Flux (lm)			Measured Lamp Efficacy (lm/W)		
	Brighter	Normal	On	Brighter	Normal	On	Brighter	Normal	On
LED bulb	170	not rated	--	190	not tested	--	110	not tested	--
Reading lamp (integrated into main unit)	--	--	48	--	--	64	--	--	64
Torch (integrated into main unit)	--	--	not rated	--	--	53	--	--	57

Appliances*

Name / Model Number	Description	Rated Power (W)	Measured Power During Use (W)	Rated Battery Capacity (Ah)	Measured Battery Capacity (Ah)
Radio (integrated into main unit)	Integrated battery (6.4 V, LiFePO4)	4.2	0.52	6 Ah or 12 Ah (depends on main unit)	6 Ah or 12 Ah (depends on main unit)

NOTICE: As indicated, not all components listed on this page were tested according to the Quality Test Method (QTM) in Edition 4 of IEC 62257-9-5. However, based on the satisfactory performance of the tested components in the family, the components that were not tested are regarded to have passed the requirements in IEC 62257-9-8. In addition, all tested components passed an internal inspection, the full array of applicable QTM durability tests, as well as ingress protection testing (where applicable).

*Light points and appliances may perform differently when used with different systems.

List of Covered Systems

Qingdao Sunshine New Energy Co., Ltd
Solarchange Family

System Name	Number of each component included in each system						
	LED bulb	Main unit with 6 Ah battery, integrated reading lamp, integrated torch, and integrated radio	Main unit with 12 Ah battery, integrated reading lamp, integrated torch, and integrated radio	6 W PV module	10 W PV module	15 W PV module	20 W PV module
SF-306	3	1	--	1	--	--	--
SF-310**	4	1	--	--	1	--	--
SF-315	4	--	1	--	--	1	--
SF-320	4	--	1	--	--	--	1

**Tested as full systems. Individual SSS available on VeraSol website.

NOTICE:

Only the SF-310 was fully tested as a system according to Edition 4 of IEC 62257-9-5. An individual Standardized Specifications Sheet (SSS) that report system-level performance are available for the SF-310 at <https://data.verasol.org/products/sek/sc-sf310>. Systems that were not tested, but that were developed using components from the component family will perform differently than the system(s) shown in the individual system-level SSS. All systems listed above are regarded to have passed the requirements in IEC 62257-9-8.

Unless otherwise noted, the following information applies to all listed systems and components:

Warranty Information

Locations outside of Rwanda: Two-year warranty on all kits and components.

Rwanda: Three-year warranty on all kits and components.

Available Daily Electrical Energy and Port Information

Qingdao Sunshine New Energy Co., Ltd

Solarchange Family

System Name	Available Daily Electrical Energy (Wh/day)	Includes ports for charging?
SF-306	22	yes
SF-310**	37	yes
SF-315	55	yes
SF-320	74	yes

**Tested as full systems. Individual SSS available on VeraSol website.

NOTICE:

The available daily electrical energy (Wh/day) is calculated for fully tested systems following the energy service calculations as described in IEC/TS 62257-9-5 Ed. 4. For products in a family that are not tested as a full system, estimations of available daily electrical energy (Wh/day) are calculated according to an alternative method using data from the test reports of fully-tested products and components. Estimating Wh/day values requires making assumptions about system efficiencies, power consumption, and user behavior. As with any calculation based on multiple assumptions, there is some degree of error in the Wh/day estimate, which may be greater or less than the actual value for a given product.