

VeraSol Standardized Specifications Book

Manufacturer: Spark

Component Family Name: Spark Start Family

Date of Standardized Specifications Book Expiration: August 31, 2022

Verify Online: <https://data.verasol.org/products/sek/rs-ssfamilly>

Contact Information: shagun@sparkenergy.io

Website: www.sparkenergy.io



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 have passed the applicable Lighting Global Quality Standards or to meet the requirements in IEC 62257-9-8.

Revision: 2022.03

Component-Level Standardized Specifications Sheet

Spark

Spark Start Family

Battery / Control Box

| Name / Model Number | Battery Chemistry | Nominal Voltage (V) | Battery Capacity Rating (Ah) | Measured Battery Capacity (Ah) |
|---------------------|------------------------|---------------------|------------------------------|--------------------------------|
| Spark Battery | Lithium iron phosphate | 12.8 | 3.3 | 3.5 |
| Torch | Lithium-ion | 3.7 | 2 | 1.9 |

PV Module

| Name / Model Number | Peak Power at STC Rating (W) | Measured Peak Power at STC (W) |
|---------------------|------------------------------|--------------------------------|
| 10W PV module | 10 | 10 |
| 20W PV module | 20 | 23 |
| 30W PV module | 30 | Not tested |
| 50W PV module | 50 | Not tested |
| 75W PV module | 75 | 71 |
| 100W PV module | 100 | 93 |

Light Sources*

| Name / Model Number | Luminous Flux Rating (lm) | Measured Luminous Flux (lm) | Measured Lamp Efficacy (lm/W) |
|---------------------------------|---------------------------|-----------------------------|-------------------------------|
| | Maximum | Maximum | Maximum |
| Spark light | -- | 170 | 120 |
| Spark light (without reflector) | 200 | 210 | 150 |
| Torch | 90 | 95 | 94 |

Appliances*

| Name / Model Number | Description | Rated Power (W) | Measured Power During Use (W) | Rated Battery Capacity (Ah) | Measured Battery Capacity (Ah) |
|---------------------|---------------|-----------------|-------------------------------|-----------------------------|--------------------------------|
| Radio | Li-Ion, 3.7V | -- | 0.27 | 0.8 | 0.76 |
| 24" TV | 24" diagonal | 15 | 11 | -- | -- |
| 32" TV | 32" diagonal | 15 | 11 | -- | -- |
| 16" Fan | 16" table fan | 9 | 7.8 | -- | -- |

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

Spark

Spark Start Family

| System Name | Number of each component included in each system | | | | | | | | | | | | | |
|-----------------------|--------------------------------------------------|--------|--------|--------|--------|--------|---------|---------------------------|----------------------------------|-------|--------|--------|---------|-------|
| | Spark Light | 10W PV | 20W PV | 30W PV | 50W PV | 75W PV | 100W PV | Additional 3.5 Ah battery | Control unit with 3.5 Ah battery | Radio | 24" TV | 32" TV | 16" Fan | Torch |
| Spark Start 10** | 4 | 1 | | | | | | 0 | 1 | 1 | | | | |
| Spark Start 10_1 | 3 | 1 | | | | | | 0 | 1 | | | | | |
| Spark Start 20 | 4 | | 1 | | | | | 0 | 1 | 1 | | | | |
| Spark Start 20_1 | 3 | | 1 | | | | | 0 | 1 | | | | | 1 |
| Spark Steady 30 | 4 | | | 1 | | | | 1 | 1 | 1 | | | 1 | |
| Spark Steady 40 | 3 | | 2 | | | | | 1 | 1 | | | | 1 | 1 |
| Spark Steady 50 | 4 | | | | 1 | | | 1 | 1 | 1 | | | 1 | 1 |
| Spark Strong 50_3B_24 | 4 | | | | 1 | | | 2 | 1 | 1 | 1 | | | |
| Spark Strong 50_3B_32 | 4 | | | | 1 | | | 2 | 1 | 1 | | 1 | | |
| Spark Strong 75_4B_24 | 4 | | | | | 1 | | 3 | 1 | 1 | 1 | | | 1 |
| Spark Strong 75_4B_32 | 4 | | | | | 1 | | 3 | 1 | 1 | | 1 | | 1 |
| Spark Supreme 100_32 | 5 | | | | | | 1 | 5 | 1 | 1 | | 1 | 1 | 1 |
| Spark Supreme 60 | 3 | | 3 | | | | | 3 | 1 | | | 1 | 1 | 1 |

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

NOTICE:

Only the Spark Start 10 was fully tested as a system according to Edition 4 of IEC 62257-9-5. A Individual Standardized Specifications Sheets (SSS) that reports system-level performance is available for the Spark Start 10 at <https://data.verasol.org> 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 applicable requirements in IEC 62257-9-8.

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

Warranty Information

A 2-year warranty covering manufacturing defects and protection from early component failure.

Available Daily Electrical Energy and Port Information

Spark

Spark Start Family

| System Name | Available Daily Electrical Energy (Wh/day) | Includes ports for charging? |
|-----------------------|--------------------------------------------|------------------------------|
| Spark Start 10** | 33 | yes |
| Spark Start 20 | 47 | yes |
| Spark Start 20_1 | 47 | yes |
| Spark Steady 40 | 100 | yes |
| Spark Steady 50 | 100 | yes |
| Spark Strong 50_3B_24 | 150 | yes |
| Spark Supreme 100_32 | 310 | yes |
| Spark Supreme 60 | 200 | 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.