

Standardized Specifications Sheet Guidelines

Version 2.1

July 2026

This document provides guidelines for creating VeraSol Standardized Specifications Sheets (SSS) which describe the characteristics of off-grid lighting products. The goal of the SSS is to provide clear, verifiable, and accurate information on the quality and performance of the certified product to potential buyers, with a focus on distributors and bulk purchasing agents.

Standardized Specification Sheet requirements are useful to understand for the broad market, since they are typically the primary way to communicate and share third-party test results. Table 1 lists examples of how an SSS could be used:

Table 1 – Example applications of VeraSol Standardized Specification Sheets

Entity	Example application using VeraSol SSS
General market support (e.g. VeraSol)	Administer a third-party certification program and provide accurate information about products in the form of a publicly available SSS.
Manufacturing/ Distribution	Use the product's SSS to advertise products, compare products, and/or select products for distribution.
Bulk procurement	Use SSS's from third-party verified sources to screen potential products for purchase.
Trade regulation	Use SSS's from third-party verified sources to screen applicants for import/tax programs.

Qualification Standards and Testing Requirements

Original testing

To qualify for VeraSol's Standardized Specification Sheet program, a product shall meet the IEC TS 62257-9-8 Quality Standards with Quality Test Method (QTM) test results obtained in accordance with the Quality Test Method (QTM) or Accelerated Verification Method (AVM) of the latest edition of International Electrotechnical Commission (IEC) Technical Specification 62257-9-5.

Retesting and updates

Table 2 lists the requirements for retesting to update a product's Standardized Specification Sheet.

Table 2 – Requirements for retesting to update a product's Standardized Specification Sheet

Trigger for testing	Scope of testing	Test requirements	Notes
Three years from the IEC 62275-9-5 report test end date	Any element on SSS	Renewal Test According to IEC 62257-9-8 or MCM Primary Check Test of IEC 62257-9-5. For aspects that have changed, testing should be conducted.	The SSS will be updated every time an element is retested.
Product update with minor changes in performance aspects (less than $\pm 10\%$ change), or changes that improve performance	None required	The SSS will not be updated for elements that are not tested; if the company requests that the aspect be updated, the aspect must be tested, using randomly procured samples.	Performance aspects include light output and run time aspects.
Product update that may result in poorer performance (changes in performance aspects greater than $\pm 10\%$, 15% for light output)	Elements that are different	Aspects related to element that is changing aspect must be using randomly procured samples (an MCM Secondary Check Test).	The SSS will be updated every time an element is retested.
Product update with changes in quality or durability aspects or new, non-lighting features	Elements that are updated	Aspects related to an element that is changing must be tested	Quality aspects include water protection, lumen maintenance, drop test, etc. The SSS will be updated for those elements that are tested.
A program-initiated market check test (in accordance with MCM)	Any element on SSS	MCM Primary Check Test	The SSS will not be updated for elements tested with a sample size of $n=2$ for market check testing unless the results indicate a decrease in performance.

Reporting Precision

The qualitative portions of the specification sheet (warranty, company name, lighting type, etc.) should always be accurate and up-to-date.

Quantitative portions of the specification sheet that are reported on a continuous scale may be rounded for ease of interpretation. Quantitative values include run times (in hours), light output (in lumens), lighting service (in lumen-hours/solar-day), colour rendering (CRI, in Ra), colour temperature (CCT, in K), PV module power (in watts), and battery capacity (in amp-hours). The rounded specification shall be reported to two (2) significant figures¹, with the exception of battery capacity, light output, lm-hr per day, and Wh/day, which will be reported to three (3) significant figures if the value is greater than 1000 mAh, lm, lm-hr/day or Wh/day, respectively. The rounding should be according to standard conventions ($\geq 0,5 = 1$; $< 0,5 = 0$). For example, a measured run time of 4.33 hours would round to 4.3 hours, and a measured run time of 36.6 hours would round to 37 hours.

If the product's performance exceeded advertised values, the company may request the values on the SSS to be adjusted to align with advertised values, though adjustments must be in the direction of lower performance. The SSS cannot report performance that is better than what was measured. For example, the measured run time of 36.6 h could be reported as 36 hours or lower, but could not be reported as any value higher than 37 h.

Results Verification

Each SSS includes a unique internet URL that is directed toward a web page of the certified product's listing that is managed by VeraSol. When visiting the web page of such a product's listing, it is possible to download a current copy of the SSS to ensure its veracity and validity.

Section Descriptions

The following sections describe in detail what is to be included in each section of the Standardized Specification Sheet. For examples of standard SSS see: <https://data.verasol.org/products/solar-energy-kit>

Required Sections

The below sections are required in all VeraSol Standardized Specification Sheets.

Header

This section includes the name of the product, brand of the product, expiration date of the product's VeraSol certification, and a link to verify the product on the VeraSol website. In addition, there is a sentence that reads "Results based on test procedures detailed in IEC TS 62257-9-5:2024 and IEC TS 62257-9-8:2025."² The header elements are white text on a dark gray background.

Below the header is a list of key product "features" in the following order:

¹ See the following for a description of significant figures: http://en.wikipedia.org/wiki/Significant_figures

² Note that specification sheets produced in early 2021 and earlier may state: "Results based on test procedures detailed in IEC 62257-9-5 v.4."

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1. All products will have a green check mark graphic to indicate the product meets IEC TS 62257-9-8.
2. Products that have mobile phone charging capability using the components in the packaging (i.e., the user does not have to purchase extra components) will have a mobile phone graphic next to text that reads, "Mobile Charging".
3. Products that have a pay-as-you-go option will have an orange graphic "PAYG" next to text that reads "Pay-As-You-Go Option Available".
4. All products will have a number indicating how many individual light points the product has. All light points that connect to the main battery and light points with their own batteries are included in this count.
5. Products that are plug-and-play will have an extension cord graphic with a play sign in the center next to text that reads, "Plug and play".
6. Products with screw terminals will have a screw driver graphic next to the words, "Electrical connections require tools*"; towards the bottom of this header section, there will be text that reads, "*Some terminals on this product are not plug-and-play. VeraSol certification assesses the performance of the system, but cannot assess proper installation of the product.".
7. To the right of the list of key product "features" is a "thumbnail" image of the product (color image on white background with no border), only including items that are included in the package.

Only the content (the element names are not indicated) is displayed in this section. Table 3 lists all elements present in the "Header" section of the Standardized Specification Sheet.

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Table 3 – Elements present in the Standardized Specification Sheet “Header” section

Element	Display type	Optional/ Required	Origin of information	Notes
Product name	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The product name should be “complete” enough to differentiate it from other similar products in the same manufacturing line.
Product model/ID number	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The product model number is often more detailed than the product name and may include a version number. The name and model number from the test report is used on the SSS. The test lab must report the name that is shown on the packaging and/or user manual of the sampled products.
Brand selling the product	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The brand name of the company or “official” marketing firm for the product.
Verification link	Text	Required	Generated by VeraSol	This unique link points to a webpage where the original, up-to-date SSS is available for verification.
Expiration date	Text	Required	From test report	A month and year is reported. See the “product support expiration policy” for details.
Origin of test procedure statement	Text	Required	Generated by VeraSol	A sentence reading, “Results based on test procedures detailed in IEC 62257-9-5:204 and IEC 62257-9-8:2025.”
Product “features”	Graphic, Text	Required	IEC 62257-9-5 Annex D for PAYG and Annex F for mobile charging capability and number of light points; generated by VeraSol for other items.	An iconographic summary to show that the product meets the Quality Standards, and indicate if the product has mobile phone charging capability, PAYG options, or plug-and-play options. There is also text to indicate how many individual light points the product has, and if the electrical connections require tools.
Thumbnail image	Image	Required	IEC 62257-9-5 Annex D	The image should show the product against a white background.

Warranty Information

The warranty information section contains a brief (less than 200 characters) textual description that highlights the duration of warranty coverage for the product. This information is provided by the company (Annex D of IEC 62257-9-5) or found during the visual inspection (Annex F of IEC 62257-9-5).

Performance Details

Table 4 lists elements present in the “Performance Details” section of the Standardized Specification Sheet for SHS and pico products with and without ports. The solar charging run time is presented for appliances used alone and in combination. For SHS products, it is specified whether the appliances are included in the kit or sold separately.

Table 4 – Elements present in the Standardized Specification Sheet “Performance Details” section

Element	Display type	Optional/ Required	Origin of information	Notes
VeraSol certified?	Text	Required	Generated by VeraSol	“Yes” indicates that the listed component has been tested by VeraSol. “No” indicates that the listed component is advertised for use with the kit but has not been tested by VeraSol.
Included in kit?	Text	Required	Generated by VeraSol	“Yes” indicates that the component listed is sold with the kit. “No” indicates that the component is advertised for use with the kit but is purchased separately from the kit.
Name and description of the setting or appliance	Text	Required	IEC 62257-9-5 Annex GG, Annex D, and/or Annex F	For products with ports, provides name and a succinct description of each appliance included in the performance details table. For products without ports, provide the name and a succinct description of each light output setting that was measured.

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Element	Display type	Optional/ Required	Origin of information	Notes
Run time per day of solar charging [hr]	Text	Required (for solar products)	IEC 62257-9-5 Annex GG	For <u>products with ports</u> , specifies a solar run time for both advertised and included appliances tested alone and in combination. ³ The run time for the lights is reported for the brightest setting. Products with ports may also report a “Featured Combination” if requested by the company, but this is optional. For <u>products without ports</u> , specifies a run time, the number of light points, and power consumption for at least two settings,.
Full-battery run time [hr]	Text	Required	IEC 62257-9-5 Annex GG	Specifies a full-battery run time for the main unit tested.
Available daily electrical energy [Wh/day]	Text	Required (for fully-tested products)	IEC 62257-9-5 Annex GG	Specifies the energy available per day after one day of solar charging. Note: For <u>families of products</u> , this metric may be calculated and reported for products not fully tested for a fee; otherwise, specification books do not report this metric.
Total lighting service [lm-hr/solar day]	Text	Required	IEC 62257-9-5 Annex I and either Annex M, Annex O, Annex P, or Annex R	Specify the total lighting service for the highest setting tested. For <u>solar products</u> , this equals the product of solar run time and light output (in lumen-hours/solar day). For <u>AC/central charged products</u> , this equals the product of full-battery run time and light output (in lumen-hours/full charge). For <u>electromechanically charged products</u> this equals the product of electromechanical run time and light output (in lumen-hours/electromechanical charge)

³ Certain appliances will be included in the combination run time for the product if they are advertised for use with the product, regardless of whether they are included in the kit. These appliances include: light points, TV’s, fans, radios, torches, basic mobile phones, and smart phones. Individual run times for additional included or advertised appliances may be listed at the request of the company. An alternate company-specified combination run time can be included if requested.

Element	Display type	Optional/ Required	Origin of information	Notes
Total light output [lm]	Text	Required	IEC 62257-9-5 Annex I	Specifies the light output (in lumens) for each setting tested. For <u>products with ports</u> , this will appear in the description of the main lighting and any auxiliary lights. For <u>products without ports</u> , this will appear in a separate column.

Lighting Details

Table 5 lists elements present in the “Light Output” section of the Standardized Specification Sheet. Only products with ports are required to report the results for the highest setting. Products without ports are required to report all settings tested (at least two). If multiple settings are tested for any product, however, results for each setting tested must be reported.

Table 5 – Elements present in the Standardized Specification Sheet “Lighting Details” section

Element	Display type	Optional/ Required	Origin of information	Notes
Lamp name	Text	Required	IEC 62257-9-5 Annex F	Includes the company-given name of the product’s lamp(s).
Number of Lamps	Text	Required	IEC 62257-9-5 Annex F	Includes the number of the lamp(s) specified
Number of settings, Setting name(s)	Text	Required	IEC 62257-9-5 Annex F	Includes the number of settings and their names as found in the consumer facing documentation for the product.
Light output [lm]	Text	Required	IEC 62257-9-5 Annex I	Specifies the light output (in lumens) for each tested setting of the product’s lamp(s).
Power consumption [W]	Text	Required	IEC 62257-9-5 Annex FF	Specifies the power consumption of the product’s lamp(s)
Lumen efficacy [lm/W]	Text	Required	IEC 62257-9-5 Annex I or Annex CC	Specifies the lumen efficacy of the product’s lamp(s). This is done by dividing the total lumen output by the product of the current and voltage at the product.

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Element	Display type	Optional/ Required	Origin of information	Notes
Color characteristics	Text	Required	IEC 62257-9-5 Annex I	Includes the color rendering index (CRI) and correlated color temperature (CCT) range for the brightest setting of the product's lamp(s).

Ports

Table 6 lists elements present in the "Ports" section of the Standardized Specification Sheet. This section is only required for products that have ports.

Table 6 – Elements present in the Standardized Specification Sheet "Ports" section

Element	Display type	Optional/ Required	Origin of information	Notes
Description of included ports	Text	Required	IEC 62257-9-5 Annex F	Lists the type(s) of port(s) the product includes (<i>e.g. USB ports, 12 V barrel jacks, cigarette lighter socket, etc.</i>), the number of each type, and a description of each type.

Durability

Table 7 lists elements present in the "Durability" section of the Standardized Specification Sheet.

Table 7 – Elements present in the Standardized Specification Sheet "Durability" section

Element	Display type	Optional/ Required	Origin of information	Notes
Overall durability and workmanship	Text	Required	IEC 62257-9-5 Annex F and Annex W	Indicates "pass". (all products shall pass this requirement to have an SSS)
Durability tests passed	Text	Required	IEC 62257-9-5 Annex U and Annex W	Lists the durability tests the product passed. (<i>e.g., level of physical ingress protection, drop test, switch/connector test, gooseneck test, PV durability test, etc.</i>) If a product did not undergo specific durability tests, those tests will be eliminated from the list.

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Element	Display type	Optional/ Required	Origin of information	Notes
Level of water protection	Text	Required	IEC 62257-9-5 Annex U and Annex V	Indicated the level of water protection for each component or appliance. If a product or component met the requirements for water protection by providing a warning label or using a technical level of water protection, this will be noted here.

Solar Details

Error! Reference source not found. Table 8 lists elements present in the “Solar Details” section of the Standardized Specification Sheet.

Table 8 – Elements present in the Standardized Specification Sheet “Solar Details” section

Element	Display type	Optional/ Required	Origin of information	Notes
PV module type	Text	Required for solar charged products	IEC 62257-9-5 Annex D and/or Annex F	Indicates the PV chemistry of the product. (<i>e.g. mono-Si</i>)
PV maximum power [W] (tested)	Text	Required for products that provide service for auxiliary loads	IEC 62257-9-5 Annex Q	Specifies the PV power at standard test conditions (STC) of the product.
PV maximum power [W] (rated)	Text	Required for solar charged products	IEC 62257-9-5 Annex F and/or company declaration	Specifies the PV power at standard test conditions (STC) of the product.
PV open circuit voltage [V] (rated)	Text	Required for solar charged products	IEC 62257-9-5 Annex F	Specifies the PV’s maximum voltage when not connected to a load.

Main Unit Battery Details

Table 9 lists elements present in the “Main Unit Battery Details” section of the Standardized Specification Sheet.

Table 9 – Elements present in the Standardized Specification Sheet “Main Unit Battery Details” section

Element	Display type	Optional/ Required	Origin of information	Notes
Battery replaceability	Text	Required	IEC 62257-9-5 Annex F	Indicated that the product’s battery is either “easily replaceable with common tools” or “not easily replaceable with common tools.” If the product’s warranty becomes void if the product is opened, this will be also noted in this section.
Battery chemistry	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	Indicates the product’s battery chemistry. For lithium-ion batteries, the specific chemistry is required. (e.g., LiFePO_4 , LiCoO_2 , LiMn_2O_4 , LiNiMnCoO_2). Note: On specification sheets produced prior to 2021, lithium chemistries were only classified as either Li-ion or LiFePO_4 .
Battery package type	Text	Optional	IEC 62257-9-5 Annex D and/or Annex F	Indicates the product’s battery package type and/or size. If the product includes more than one battery, both batteries will be listed here.
Battery capacity [Ah] (tested)	Text	Required	IEC 62257-9-5 Annex K	Indicates the product’s measured battery capacity.
Battery capacity (rated)	Text	Required	IEC 62257-9-5 Annex F	Indicates the product’s rated battery capacity.
Battery nominal voltage [V]	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	Indicates the nominal voltage of the product’s battery.
Battery status / other indicator lights	Text	Optional	IEC 62257-9-5 Annex F	Indicates how the product indicates the battery’s state of charge.

Product Details

Table 10 lists elements present in the “Product Details” section of the Standardized Specification Sheet.

Table 10 – Elements present in the Standardized Specification Sheet “Product Details” section

Element	Display type	Optional/ Required	Origin of information	Notes
Company name	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The full name of the company or “official” marketing firm for the product.
Company brand name	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The consumer-facing brand name of the company or official marketing firm for the product. The brand name must appear somewhere on the product’s packaging.
Product name	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The name of the product. The product name should be “complete” enough to differentiate it from other similar products in the same manufacturing line.
Product model/ID number	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	The model number or ID number of the product. The product model number is often more detailed than the product name and may include a version number. The name and model number from the test report is used on the SSS. The test lab must report the name that is shown on the packaging and/or user manual of the sampled products.
Contact information	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	An email address or phone number that can be used to contact the company.
Website	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	A URL for the company or product webpage.
Mass (g)	Text	Required	IEC 62257-9-5 Annex D and/or Annex F	Mass of the product.

SSS Information

Table 11 lists elements present in the “SSS Information” section of the Standardized Specification Sheet.

Table 11 – Elements present in the Standardized Specification Sheet “SSS Information” section

Element	Display type	Optional/ Required	Origin of information	Notes
SSS expiration date	Text	Required	IEC 92257-9-5 report	A month and year is reported. See the “ product support expiration policy ” for details.
Revision	Text	Required	Generated by VeraSol	Indicate an SSS revision tracking number of the form: YYYY.MM Where: MM is a two-digit number (e.g., 2020.05) YYYY is the year

Optional Sections

The below sections are **not** required in VeraSol Standardized Specification Sheets.

Special Features

Table 12 lists elements present in the “Special Features” SSS section of the Standardized Specification Sheet. Again, this section is **optional**.

Table 12 – Elements present in the Standardized Specification Sheet “Special Features” section

Element	Display type	Optional/ Required	Origin of information	Notes
Special features	Text	Optional	IEC 62257-9-5 Annex D and/or Annex F	Specifies other features (e.g. housing material, indicators, special features of the product, etc.) at the request of the company.

Example sheets

For examples of standard SSS see: <https://data.verasol.org/products/sek>

About VeraSol

An evolution of Lighting Global Quality Assurance, the VeraSol program supports high-performing, durable off-grid products that expand access to modern energy services. VeraSol builds upon the strong foundation for quality assurance laid by the World Bank Group and expands its services to encompass off-grid appliances, productive use equipment, and component-based solar home systems. Like Lighting Global Quality Assurance, the VeraSol program is managed by CLASP in collaboration with the Schatz Energy Research Center at California State Polytechnic University, Humboldt. Foundational support is provided by the World Bank Group's Lighting Global program, UKaid, IKEA Foundation, Good Energies Foundation, and others.

Please visit [VeraSol.org](https://verasol.org) for more information.