VeraSol
Standardized Specifications Book

Manufacturer: Shenzhen Poweroak Newener Co., Ltd

Component Family Name: P-Series Family

Date of Standardized Specifications Book Expiration: August 31, 2024

Verify Online: https://data.verasol.org/products/sek/po-pfamily

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

Quality Standards Framework Version: 2021
Revision: 2024.7

Component-Level Standardized Specifications Sheet

Shenzhen Poweroak Newener Co., Ltd

P-Series Family

Battery / Control Box

Name / Model Number	Battery Chemistry	Nominal Voltage (V)	Battery Capacity Rating (Ah)	Measured Battery Capacity (Ah)
Main unit with 103 Wh battery	Lithium iron phosphate	12.8	8	8.1
Main unit with 152 Wh battery	Lithium iron phosphate	12.8	12	not tested
Main unit with 205 Wh battery	Lithium iron phosphate	12.8	16	16
Main unit with 256 Wh battery	Lithium iron phosphate	12.8	20	not tested
Main unit with 307 Wh battery	Lithium iron phosphate	12.8	24	not tested
Main unit with 359 Wh battery	Lithium iron phosphate	12.8	28	28
Radio battery	Lithium-ion	3.7	--	1

PV Module

Name / Model Number	Peak Power at STC Rating (W)	Measured Peak Power at STC (W)
55 W PV module	55	51
75 W PV module	75	not tested
110 W PV module	110	not tested
160 W PV module	160	143

Light Sources*

Name / Model Number	Luminous Flux Rating (lm)			Measured Luminous Flux (lm)			Measured Lamp Efficacy (lm/W)		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
1.2 W Lamp	130	--	--	150	--	--	130	--	--
2.5 W Lamp	260	--	--	370	--	--	150	--	--
5.7 W Lamp	520	--	--	810	--	--	140	--	--

Appliances*

Name / Model Number	Description	Rated Power (W)	Measured Power During Use (W)	Rated Battery Capacity (Ah)	Measured Battery Capacity (Ah)
Radio	portable radio	3	0.32	--	1
Stand Fan	16" diameter	13	13	--	--
24" TV	TV with 24" Diagonal screen	--	13	--	--
32" TV	TV with 32" Diagonal screen	--	15	--	--

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 applicable Lighting Global Quality Standards or 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

Shenzhen Poweroak Newener Co., Ltd

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System Name	Number of each component included in each system															
	1.2 W Lamp	2.5 W lamp	5.7 W lamp	55 W PV Module	75 W PV Module	110 W PV Module	160 W PV Module	Main Unit with 103 Wh battery	Main Unit with 152 Wh battery	Main Unit with 205 Wh battery	Main Unit with 256 Wh battery	Main Unit with 305 Wh battery	Main Unit with 359 Wh battery	Radio	Stand Fan	24" TV	32" TV
P-100-55_LP2255**	--	2	2	1	--	--	--	1	--	--	--	--	--	--	--	--	--
P-100-55_LPxxxxx	0-6	0-6	0-6	1	--	--	--	1	--	--	--	--	--	--	--	--	--
P-100-55_LP2255_RD	--	2	2	1	--	--	--	1	--	--	--	--	--	1	--	--	--
P-150-55_LPxxxxx	0-6	0-6	0-6	1	--	--	--	--	1	--	--	--	--	--	--	--	--
P-200-75_LPxxxxx	0-6	0-6	0-6	--	1	--	--	--	--	1	--	--	--	--	--	--	--
P-250-110_LPxxxxx	0-6	0-6	0-6	--	--	1	--	--	--	--	1	--	--	--	--	--	--
P-300-110_LPxxxxx	0-6	0-6	0-6	--	--	1	--	--	--	--	--	1	--	--	--	--	--
P-350-160_LPxxxxx	0-6	0-6	0-6	--	--	--	1	--	--	--	--	--	1	--	--	--	--
P-100-55_LP222_SF	--	3	--	1	--	--	--	1	--	--	--	--	--	--	1	--	--
P-150-55_LP2222_RD_SF	--	4	--	1	--	--	--	--	1	--	--	--	--	1	1	--	--
P-200-75_LP222_RD_SF_SF	--	3	--	--	1	--	--	--	--	1	--	--	--	1	2		--
P-100-55_LP2222_TV24_RD	--	4	--	1	--	--	--	1	--	--	--	--	--	1	--	1	--
P-100-55_LP2222_TV24_RD_KEYP	--	4	--	1	--	--	--	1	--	--	--	--	--	1	--	1	--
P-150-55_LP222_RD_SF_KEYP	--	3	--	1	--	--	--	--	1	--	--	--	--	1	--	--	--
P-150-75_LP222222_TV24_RD	--	6	--	--	1	--	--	--	1	--	--	--	--	1	--	1	--
P-150-75_LP222222_TV32_RD	--	6	--	--	1	--	--	--	1	--	--	--	--	1	--	--	1
P-200-75_LP222222_TV32_RD	--	6	--	--	1	--	--	--	--	1	--	--	--	1	--	--	1
P-250-110_LP222222_TV32_SF_RD_KEYP	--	6	--	--	--	1	--	--	--	--	1	--	--	1	1	--	1
P-250-110_LP222222_TV32_SF_RD	--	6	--	--	--	1	--	--	--	--	1	--	--	1	1	--	1
P-300-110_LP555555_TV32_SF_RD	--	--	6	--	--	1	--	--	--	--	--	1	--	1	1	--	1
P-350-160_LP555555_TV32_SF_RD	--	--	6	--	--	--	1	--	1	--	--	--	1	1	1	--	1

P-AA-BB_LPxxxxxx_C_KEYP_D	0-6	0-6	0-6	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

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

The SKUs in the table above are interpreted as follows:

In **P-AA-BB_LPxxxxxx_C_KEYP_D**, the following letters may be changed as follows:

AA - can be 100, 150, 200, 250, or 350 (used to represent battery capacity)

BB - can be 55, 75, 110, or 160 (used to represent PV module size)

xxxxxx - each x can be either 1, 2, 5, or blank (used to represent the type and number of lamps; 1.2 W, 2.5 W, and 5.7 W)

C - VeraSol verified appliances such as RD (radio), 24TV (24" TV), 32TV (32" TV), SF (stand fan), or blank

KEYP -is used to note PAYG version of the product

D - can be TBx (x is used to represent the number of T-branch connectors included)

NOTICE:

Only the P-100-55_LP2255 Solar Home System was fully tested as a system according to Edition 4 of IEC 62257-9-5. Individual Standardized Specifications Sheets (SSS) that report system-level performance are available for the P-100-55_LP2255 Solar Home System 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 Lighting Global Quality Standards or the 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/workmanship defects for the battery, solar panel, and lights and a 1-year warranty for appliances.

Marks and Certifications	
Factory certification	ISO 9001:2015; ISO 14001:2015; ISO 45001:2018

Available Daily Electrical Energy and Port Information

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System Name	Available Daily Electrical Energy (Wh/day)	Includes ports for charging?
P-100-55_LP2255**	110	yes
P-100-55_LP2222_TV24_RD_KEYP	110	yes
P-150-55_LP222_RD_SF_KEYP	170	yes
P-250-110_LP222222_TV32_SF_RD_KEYP	300	yes

****Tested as full system. 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.