FRANKLINWH

aPower S

Complete solar and battery system

The aPower S is a battery storage device with integrated inverters to support a direct connection to solar (PV) panels. The front wiring design makes installation easier and more efficient.

The aPower S also supports parallel AC-coupled connection with FranklinWH aPower 2 batteries to expand power and capacity for homes at the same time. It can be flexibly deployed according to customer requirements. Excellent load adaptability provides the best backup experience to users.

aPower S has a 15 kWh capacity, which can provide whole home backup with a single battery. It provides a 60 MWh throughput or 15-year warranty, helping users to easily achieve reliable energy independence and freedom over the long term.



- Four built-in MPPTs
- 15 A per MPPT
- RTE 90.5%
- Safer LFP battery cell chemistry
- Built-in hybrid inverter
- 15 kWh per unit, up to 225 kWh (15 units) per aGate
- Max 11.5 kW continuous / 15 kW peak for 10 seconds
- Built-in heating blanket ensures reliable cold-weather performance
- Stable operations in extreme 131° F (55° C)
- IP67 weather protection

Performance Specifications

Name	aPower S
SKU	APRS-10K15V1-US[1] APRS-10K15V1.1-US[2] APRS-10K15V1.1DCP-US[3]
Nameplate Model	aPower S-10
Certification / CEC Listing Name	aPower Syyy
Battery Chemistry	Lithium Iron Phosphate (LFP)
Usable System Energy	15 kWh per unit, up to 15 units per aGate[10]
Aggregate Warrantied Throughput	60 MWh
Max Real Power (Charge)	8 kW continuous[4]
Max Real Power (Discharge) - With PV Input - Battery Only	 11.5 kW continuous[4] 10 kW continuous[4]
Nominal AC Voltage	120 / 240 V, 120 / 208 V, 60 Hz
Coupling	Hybrid-Coupled
Phase	2 W+N+PE
Round Trip Efficiency (Solar – Battery – Load)	90.5%[5]
Solar to Home / Grid - CEC Efficiency	97.5%[6]
Maximum Short-Circuit Current Rating	10 kA
Work Modes	Self-Consumption Time of Use Emergency Backup
Noise Emission	30 dBA Typical 45 dBA Maximum
Flood Resistance (IP67)	Up to 29" from the aPower S base
AC Metering	Revenue Grade (+/- 0.5%, ANSI C12.20)
Safety Protections	Integrated arc fault circuit interrupter(AFCI), Isolation Monitor Interrupter
User Interface	FranklinWH App
Warranty[7]	15 years or 60 MWH throughput

Solar Technical Specifications

Maximum Solar STC Input	20 kW
Withstand Voltage	600 Vdc
PV DC Input Voltage Range	60 - 600 Vdc
PV DC MPPT Voltage Range	90 - 480 Vdc
MPPTs	4
Maximum Current per MPPT (Imp)	15 A[8]
Maximum Short Circuit Current per MPPT (Isc)	20 A
Maximum Power per MPPT	5 kW
Maximum Continuous Total MPPT Output	15 kW

Performance Specifications

Power Rated

Nominal Output Power (AC)	5 kW	7.6 kW	9.6 kW	10 kW	11.5 kW
Maximum Apparent Power	5 kVA	7.6 kVA	9.6 kVA	11.5 kVA	11.5 kVA
Maximum Continuous Current	21 A	32 A	40 A	48 A	48 A
Overcurrent Protection Device	30 A	40 A	50 A	60 A	60 A
Maximum Continuous Input Power	5 kW	7.6 kW	8 kW	8 kW	8 kW
Power Factor	±1	±1	±1	±0.87	±1

Off-Grid Specifications[9]

THDU	<1%
Voltage Regulation Accuracy	±1%
Frequency Accuracy	±0.1 Hz
Max Half-Wave Load Capability	5 kW[4]
Max Peak Output Power	15 kW @ 10 S[4]
Max Transient load capacity	25 kW @ 1 S[4]
Load Imbalance Ratio	100%
Load Start Capability	185 A LRA[4]

Compliance Information

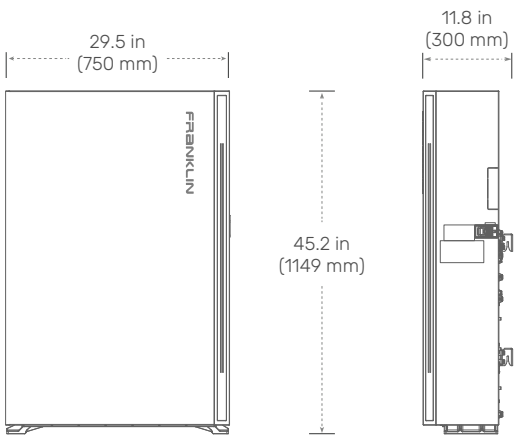
Certifications	UL9540; UL9540A; UL1973; UL1741; UL1741 SB; UL1741 PCS; UL 1741 Multimode; UL 1741 CRD; UL 3141; UL1699B; UL1998; UN38.3; IEEE 1547; IEEE 1547.1; CSA 22.2 No.107.1;
Seismic	AC 156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65
Emissions	FCC Part 15 Class B, ICES 003

Environmental Specifications

Enclosure Type	Type 3R
Ingress Protection	IP55 (Wiring) IP67 (Battery Pack & Inverter)
Operating Temperature	-4 °F to 122 °F (-20 °C to 50 °C) Operates up to 131 °F (55 °C) derated output
Operating Humidity (RH)	Up to 100% RH, condensing
Altitude	Maximum 9,843 ft (3,000 m)
Environment	Indoor / Outdoor

Mechanical Specifications

Dimensions (H × W × D)	45.2 in × 29.5 in × 11.8 in (1149 mm × 750 mm × 300 mm)
Weight, aPower S complete	388 lbs (176 kg)
Weight, without Cover	365 lbs (166 kG)
Mounting	Wall or floor mount
Cooling	Natural



Compatibility

	RSD Duo (FranklinWH)	RSD-S/RSD-D (APsmart)	TS4-A-F/TS4-A-2F (Tigo)
aPower S (SKU: APRS-10K15V1-US)	✗	✓	✓
aPower S (SKU: APRS-10K15V1.1-US)	✓	✓	✓
aPower S (SKU: APRS-10K15V1.1DCP-US)	✓	✓	✓

Note:
The Compatibility Table shows the compatibility between aPower S and RSD devices.

The aPower 2 (APR-10K15V2-US and APR-10K15V2DCP-US) is an AC coupled ESS and cannot be directly connected to an RSD device; therefore, compatibility with RSD Duo is not applicable.

1. Battery energy storage unit with integrated inverters for direct solar connection (4 MPPTs), 15 kWh, incompatible with RSD Duo.
2. Battery energy storage unit with embedded RSD Duo transmitter.
3. Battery energy storage unit with embedded FRSD transmitter. Meets DCP requirements and compliant with 2026 and 2027 MACR requirements.
4. At rated power of 11.5 kW.
5. At beginning of life: 3 kW charge/discharge power, 77° F (25° C).
6. Tested in accordance with the CEC-weighted efficiency approach.
7. For more details, please refer to the FranklinWH System Limited Warranty for End Users available in the Documentation Center on the FranklinWH website.
8. If the selected PV module has an IMPP exceeding 15 A, the MPPT will automatically limit the current to 15 A. The total open-circuit voltage must not exceed the maximum input voltage of 600 V.
9. The output performance is designed with reference to IEC 62040-3 (Uninterruptible Power Systems - Part 3: Method of specifying the performance and test requirements. A number of core indicators meet the requirements of high-performance UPS.
10. Maximum 15 aPowers (aPower 2 + aPower S) with maximum 8 aPower S units per aGate.

For aPower connection, use ONLY copper conductors, rated to a minimum of 194° F (90° C).

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