



Brochure

AiON-SIS™
STRING INVERTER SYSTEM

Modular String Inverter System

Powerful and Flexible

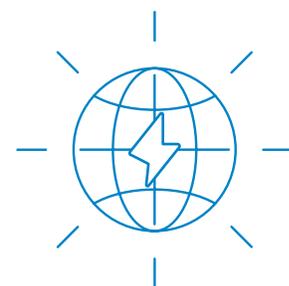
AiON-SIS is the third generation of string inverters from LS Energy Solutions designed for energy storage. With industry-leading power density, the AiON-SIS offers the patented ability to parallel on both AC and DC sides, making it easily configured into any size inverter for almost any application. The AiON-SIS can operate from 620 VDC up to 1500 VDC, making it compatible with most current and future energy storage technologies. Air-cooled, the AiON-SIS can operate in environments up to 55°C/131°F (with derating), making it suitable for wide range of project sites.



The unique AiON-SIS inverter is a cost efficient design with a compact architecture. Based on a standard 19" rack mounting configuration and front-mounted touch-safe parallel connections, integration into complete solutions is simple. The inverter can either fit into the same rack structure as most batteries or be placed in a separate rack. The AiON-SIS is designed as a string inverter, but its patented ability to be hard paralleled on both AC and DC sides allows it to be configured into a central string inverter, giving it the advantages of both central and string inverter concepts. Because AiON-SIS can be configured into the appropriate size based on the same 140kVA building block, it is suitable for both front of the meter and behind the meter applications.

Modular AiON-SIS architecture comes with multiple advantages

- + **Enables right-sizing of inverter systems** to optimally match power requirements by paralleling multiple, independent 140kVA string inverters.
- + **Enhances safety and reduces cost** with reduced short-circuit currents due to dividing the DC bus into multiple manageable DC busses.
- + **Enables energy and power augmentation options** Modular SIS can be configured into multiple DC busses, which opens opportunities for flexibility and expansion.
- + **Improves system availability** through smaller inverter sizing and through ability to create smaller, independent strings of batteries and inverters on separate DC busses.
- + **Optional grid-forming capability** makes the AiON-SIS suitable for multiple applications including microgrid.





Modular String Inverter System

SCALABLE BUILDING BLOCK INVERTER FOR ENERGY STORAGE

CONFIGURATION	400 VAC VARIANT	480 VAC VARIANT	600 VAC VARIANT
Input Data: (DC Interface)			
Operating Voltage Range	620V to 1150V	720V to 1150V	900V to 1500V
DC Pre-charge	Selectable as option		
Output Data (Grid Interface)			
Rated AC Output Voltage (+/- 10%)	400 VAC	480 VAC	600 VAC
Rated AC Output VA (At +45°C, nominal VAC)	116 kVA	140 kVA	140kVA
Rated AC Amps	168 Amps AC	168 Amps AC	134 Amps AC
Overload Capability	120% for 10 seconds		
Grid Frequency	50 / 60 Hz (±5%)		
Aux Control Power	24VDC, 300VA. AiON-SIS separates the aux fan power from the control power. This will allow connection of the control power to a UPS to keep the communications and control platform operational during power outages (required for black start operation), which also provides inverter DC/AC power and health monitoring telemetry		
Local User Interface			
Comms Ports	Modbus TCP CAT 5. High speed inverter to inverter communications and precise synchronization during grid following or forming operating modes		
Remote Interface			
Remote Comm.	Modbus TCP		
Inverter Power Termination			
	Touch Safe lug type termination standard		
Mechanical			
Ingress Protection	Nema 1 / IP20 (Indoor)		
Ambient Temp. Range, Operating	-20°C to 55°C (Power Derate 2%/°C above 45°C. 90% power at 50°C, 80% power at 55°C)		
Dimensions	483mm (W) x 263mm (H) x 843mm (D) (19" x 10.4" x 33.2")		
Weight	100kg (220lbs)		
Standards Compliance	IEEE 1547, UL1741- SA including CA Rule 21 and HECO Rule 14H, CSA (CE - IEC 62109-1 (LVD of IEC), CSA - 22.2, Australia - AS4777.2 ¹ , UL1741-SB ¹		

1. pending

Service and Support

LS Energy Solutions provides extensive post-sales support and service, including commissioning assistance, training, preventative maintenance service, spare part and warranty support, and remote diagnostics and troubleshooting.

About Us

LS Energy Solutions, an LS Group company, is a leading provider of grid-connected energy storage solutions. The company brings over a decade of experience innovating energy storage and related technologies, from the first grid-connected lithium-ion storage system and to now having over 1.5 GW and 2.6 GWh deployed across 300 projects. The company offers a flexible range of battery and power electronics systems for both front-of and behind-the-meter applications, supported by an advanced global manufacturing and testing infrastructure. LS Energy Solutions is a convenient and competitive one-stop supplier for energy storage, from advanced inverters and associated components to fully integrated all-in-one systems. For more information visit www.ls-es.com.