



## SPAR Hybrid Energy Storage Converter

LVC3- Hybrid grid connected Bi-directional energy storage inverter provides reliable control of the Energy Storage System (ESS) from renewable resources, backed-up with the grid. Integrated controls provide complete management of the charge and discharge of the ESS. It is compatible with the range of storage solutions, including traditional battery systems, lithium-ion batteries, Lithium Iron Phosphate (LiFePO<sub>4</sub>) and Super-capacitors, can be packaged with the ESS as an integral plug and play system.

## FEATURES

### Microgrid

Stabilizes a microgrid against transient events caused by step loads and renewable power sources.

- Grid following and forming modes.

Seamless Mode Transfer

- Seamless transfer between grid forming, and following modes.,

### Flexibility

Designed for a wide range of applications and compatible with virtually any power source.

### Lower Fuel Consumption

- Integration with generator sets minimizes fuel consumption and emissions.

### Energy Storage Management

Built-in intelligent controls for charging, discharging, equalization, and state-of-charge estimation for energy storage elements.

Operational in Autonomous or Remote-Control modes (works in conjunction with supervisory controller).

### DC Inputs

- PV Input
- Battery input

### Touch Screen

User friendly touch-screen display offers real-time system information, configurable data logging, remote access, and more



Model	LVC3-K50	LVC3-K100	LVC3-K150
<b>AC (Grid-Connected Mode)</b>			
Apparent power (kVA)	55	110	165
Rated power (kW)	50	100	150
Rated voltage AC, 3ph.	190-240	190-240	190-240
Rated current (A)	152-120	304-341	361-456
Rated frequency (Hz.)	50/60	50/60	50/60
Frequency range (Hz)	45-55/55-65	45-55/55-65	45-55/55-65
THDI (%)	<3	<3	<3
PF	0.8 Lead/lag	0.8 Lead/lag	0.8 Lead/lag
<b>AC (Off-grid, Island mode)</b>			
Apparent power (kVA)	55	110	165
Rated power (kW)	50	100	150
Rated voltage AC, 3ph.	145-120	190-240	190-240
Rated current (A)	304-341	304-341	361-456
Rated frequency (Hz.)	50/60	50/60	50/60
THDV (%)	<2%	<2%	<2%
Overload capacity (% for 10 min.)	11000%	11000%	11000%
Overload capacity (% for 1 min.)	120	120	120
<b>DC (Battery and PV)</b>			
Max PV open circuit voltage	1000	1000	1000
Max PV power (kWp)	75	150	225
PV MPPT voltage range (Vdc)	480-800	480-800	480-800
Battery voltage range at max. Power (VDC)	400-600	500-600	500-600
Battery voltage range (Vdc)	352-600	352-600	352-600
Max. charge power (kW)	75	150	225
Max. discharge power (kW)	55	110	165
Max. charge current (A)	150	300	450
Max. discharge current (A)	138	313	467
<b>General Information</b>			
Protection degree	IP 20	IP 20	IP 20
Noise emission dBA (at 1m)	<65	<65	<65
Operating temperature	-25 to +55 Deg. C	-25 to +55 Deg. C	-25 to +55 Deg. C
Cooling	Forced air	Forced air	Forced air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Maximum altitude (m)	3000	3000	3000
Dimensions mm (LXHXD)	950X1860X750	1200X1900X800	1200X1900X800
Weight (kg)	590	984	1230
Transfer between on/off grid	Automatic <= 10 ms.	Automatic <= 10 ms.	Automatic <= 10 ms.
Standby consumption (W)	<30	<30	<30
<b>Communication</b>			
Display	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN