MARSRIVA

Hybrid Solar Inverter

Three Phase - IP65 - High Frequency

Model: MR-SPH8K (SPH10K / SPH12K)-LP3-TL65E



2x2 IN OUT

WiFi

IP65

FEATURES

- IP65 waterproof and dustproof makes the inverter available for various working conditions
- Dual output for smart load control
- Two independent AC power sources connected and switched automatically
- Built-in WiFi for mobile monitoring (App is available)
- 150% unbalaned load support
- User-adjustable charging current and voltage
- Reserved communication port for BMS (RS485)
- 5 years warranty
- Parallel operation up to 6 units

SPECIFICATION

MODEL	MR-SPH8K-LP3-TL65E	MR-SPH10K-LP3-TL65E	MR-SPH12K-LP3-TL65E
MAXIMUM PV INPUT POWER	12kW	15kW	18kW
RATED OUTPUT POWER	8kW	10kW	12kW
MAXIMUM CHARGING POWER	8kW	10kW	12kW
GRID-TIE OPERATION			
PV INPUT (DC)			
Nominal DC Voltage / Maximum DC Voltage	720VDC / 900VDC	720VDC / 900VDC	720VDC / 900VDC
Start-up Voltage / Initial Feeding Voltage	150VDC / 150VDC	150VDC / 150VDC	150VDC / 150VDC
MPP Voltage Range	150VDC – 850VDC	150VDC – 850VDC	150VDC – 850VDC
Full MPP Voltage Range	400VDC – 850VDC	420VDC – 850VDC	400VDC – 850VDC
Number of MPP Trackers / Maximum Input Current	2 / A: 15A, B: 15A	2 / A: 18A, B: 18A	2 / A: 27A, B: 18A
GRID OUTPUT (AC)			
Nominal Output Voltage	230VAC (P-N) / 400VAC (P-P)		
Output Voltage Range	184VAC – 265VAC* per phase		
Nominal Output Current	11.6A per phase	14.5A per phase	17.4A per phase
Power Factor range	0.9 lag ~ 0.9 lead		
EFFICIENCY			
Maximum Conversion Efficiency (DC/AC)	>96%		
European Efficiency@ Vnominal	>95%		
OFF-GRID OPERATION			
AC INPUT			
AC Start-up Voltage / Auto Restart Voltage	120VAC - 140VAC per phase / 180VAC per phase		
Acceptable Input Voltage Range	170 - 290VAC per phase		
Maximum AC Input Current	40A		
PV INPUT (DC)			
Maximum DC Voltage	900VDC		
MPP Voltage Range	150VDC – 850VDC	150VDC – 850VDC	150VDC – 850VDC
Full MPP Voltage Range	400VDC – 850VDC	420VDC – 850VDC	400VDC – 850VDC
Number of MPP Trackers / Maximum Input Current	2 / A: 15A, B: 15A	2 / A: 18A, B: 18A	2 / A: 18A, B: 18A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	230VAC (P-N) / 400VAC (P-P)		
Output Waveform	Pure sine wave		
Efficiency (DC to AC)	>93%		

⚠ These figures are based on VDE-4105 standard. All figures may vary depending on different AC voltage and country requirements.
Power derating 1% every 100 m when altitude is over 1000m
Specifications are subject to change without notice, all product drawings are for reference only.

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MAXIMUM PV INPUT POWER	12kW	15kW	18kW
RATED OUTPUT POWER	8kW	10kW	12kW
MAXIMUM CHARGING POWER	8kW	10kW	12kW
HYBRID OPERATION			
PV INPUT (DC)			
Maximum DC Voltage	900 VDC		
Start-up Voltage / Initial Feeding Voltage	150VDC / 150VDC	150VDC / 150VDC	150VDC / 150VDC
MPP Voltage Range	150VDC – 850VDC	150VDC – 850VDC	150VDC – 850VDC
Full MPP Voltage Range	400VDC – 850VDC	420VDC – 850VDC	400VDC – 850VDC
Number of MPP Trackers / Maximum Input Current	2 / A: 15A, B: 15A	2 / A: 18A, B: 18A	2 / A: 18A, B: 18A
GRID OUTPUT (AC)			
Nominal Output Voltage	230VAC (P-N) / 400VAC (P-P)		
Output Voltage Range	184VAC – 265VAC* per phase		
Nominal Output Current	11.6A per phase	14.5A per phase	17.4A per phase
AC INPUT			
AC Start-up Voltage / Auto Restart Voltage	120VAC – 140VAC per phase / 180VAC per phase		
Acceptable Input Voltage Range	170VAC – 290VAC per phase		
Maximum AC Input Current	40A		
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	230VAC (P-N) / 400VAC (P-P)		
Efficiency (DC to AC)	>93%		
BATTERY & CHARGER			
Battery Voltage Range	40VDC – 60VDC		
Maximum Discharging Current	200A	220A	250A
Maximum Charging Current	160A	200A	240A
GENERAL			
PHYSICAL			
Dimension, D x W x H (mm)	247 × 500 × 650		
Net Weight (kgs)	50	50	54
INTERFACE			
Communication Port	RS-232, RS-485, USB, CAN and Wi-Fi		
Intelligent Slot	Optional for SNMP and Modbus cards		
ENVIRONMENT			
Humidity	0 – 100% RH (Non-condensing)		
Operating Temperature	-25 to 60°C, > 45°C power derating		
Altitude	0 – 1000 m**		
PROTECTION & CERTIFICATE			
Safety	IEC 62116, IEC 62727, IEC 61683, IEC 62109, IEC 61000-6-2:2019, IEC 61000-6-4:2019, IEC 61000-3-11:2019, EN 61000-3-12: 2011		
Grid Connection Standard	NRS097-2-1:2017, VDE-AR-N4105		

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