

Medha String Inverter

MSI-045-10-30kW



- High ROI with dual MPPT for maximum energy harvest
- Highest European efficiency 98.2%
- Electrolytic free design for maximum reliability
- Integrated string combiner
- Natural convection cooling for maximum reliability
- Robust enclosure with IP65 rating for outdoor installation



High Return on Investment

- High conversion efficiency
- Two independent Maximum Power Point Tracking (MPPT) inputs
- High PV input voltage reduces losses on the DC wiring
- Low start up and stop voltages resulting maximised energy harvest
- Intelligent firmware and architecture to ensure continuous operation against excessive panels to ground capacitance



Easy and Safe Service

- Touch-safe fuse holder provided for easy and protective fuse replacement
- Easy firmware upgrade via ethernet with auto/ manual upgradation
- Both DC and AC Surge Protection Device (SPD) with included monitoring to protect inverter from lightning threat



Remote monitoring and control

- Easy interface to the Internet enables quick access to all inverter parameters and fault monitoring results in lower operation and maintenance cost

Add on Features

- Fuse holder
- SPD with remote monitoring
- String current monitoring



Protections

Anti islanding-loss of mains	✔ Yes (Both Active and Passive methods)
DC over voltage protection category	Class II
AC over voltage protection category	Class III
DC overvoltage protection - varistor	✔ 3 / 3
Output overvoltage protection - varistor	✔ 4
DC reverse polarity protection	✔ Yes
DC short circuit and over load protection	✔ Yes
Output short circuit and over load protection	✔ Yes
AC over voltage protection	✔ Yes
DC over voltage protection	✔ Yes
Leakage current protection	✔ Yes
Insulation monitoring and protection	✔ Yes
Monitoring of dc current injection into grid	✔ Yes



Compliance

Isolation method	Transformerless
Protective class	Class I
Standards compliance	Safety: IEC 62109-1, IEC 62109-2 Grid: IEC 61727 Islanding: IEEE 1547.1 Efficiency: IEC 61683 EMC: IEC 61000-6-2, IEC 61000-6-4 Environmental: IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-30
Warranty, years (standard/ optional)	5 /(extended up to 10 years)



Mechanical Data

Cooling	Natural convection
Dimensions w x h x d, mm	550 × 780 × 300
Mounting Method	Wall bracket or panel mounting
Weight, kg	< 62
Enclosure Material	Aluminium

DC Data

Max. input Power, kWp	36
Nominal DC input voltage, V	620
MPPT Range, V	300-950
MPPT voltage range without power deration, V	500-850
DC start voltage, V	300
Max. DC voltage, V	1000
No. of MPPT trackers	2
Maximum MPPT power, kWp	18
Number of DC inputs per MPPT	4
MPPT Efficiency, %	>99.9
Max. current of each input connector, A	12
Input current protection fuse rating, A	15 (Optional)
Maximum DC current for each MPPT, A	35
Maximum input short circuit current for each MPPT, A	50
DC connection type	Tool-free PV connector Phoenix Sunclix

AC Data

Rated AC power, kW	30
Maximum apparent power, kVA*	33
Rated voltage AC, V	400
Voltage range AC, V	360-460
Rated frequency, Hz	50
Output frequency range, Hz	50 ± 3
AC power supply connection	3LNPE
Rated power factor / range	> 0.99/-0.8....+0.8
Max. AC current, A	3x45
Max. distortion factor THD, %	< 3
DC current Injection, %,	<0.5
Feed-in starting at, W	50
AC connection type	Screw Clamp terminal
Max. cable size, SWG	25

* Maximum Output 33 kVA up to 40°C, Rated output 30 kVA at 50°C Ambient

Operating Performance

Max. efficiency, %	98.38
Weighted European efficiency, %	98.16
Weighted CEC efficiency, %	98.26
Internal consumption in night operation, W	<0.5
Standby power	<10 W

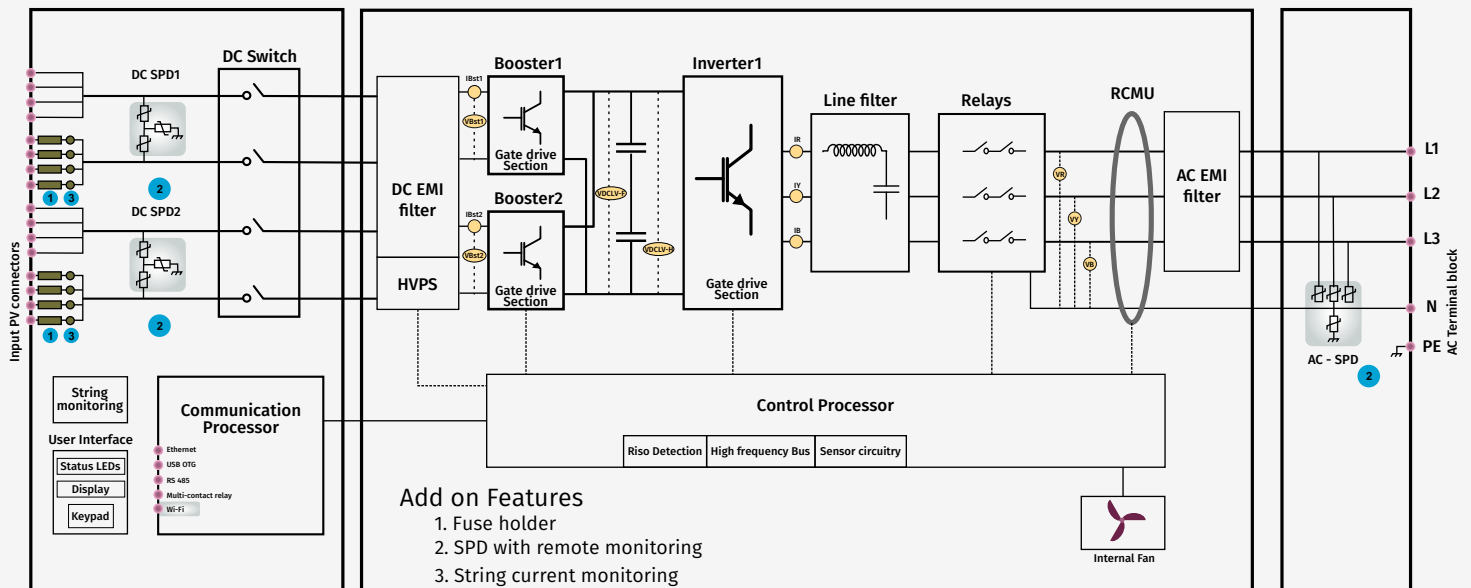
Environmental Data

Ambient temperature, °C	-25°C to 60°C (Above 50°C power deration)
Ingress protection	IP65
Relative ambient humidity, %	4 - 100% condensing
Pollution Degree	III
Noise Emission, dBA	< 55 dB (A) @ 1 m
Maximum operating altitude without derating, m	2000/ 6560 ft

Communication

User interface	128 x 64 dot matrix User Interactive Display and keypad
Field bus connectivity	Ethernet

Medha string inverter design diagram:



Medha Servo Drives Pvt. Ltd.

2-3-2/A, Behind Mint Compound, Cherlapally, R.R.Dist.
Hyderabad - 500 051 Telangana, India