

shine24

**THE MOST POWERFUL
SOLAR MPPT INVERTER
RUNNING ON JUST
2 BATTERIES**



- ◆ Runs 1 HP Pump + ALL household loads*
- ◆ High-quality IGBT-based MPPT design
- ◆ Quick Battery Charging from Solar/ Grid: upto 65A/ 18A
- ◆ Can connect to PV Modules upto 2000W - Poly/ Mono/ Mono Perc
- ◆ Also Works for non-Solar home applications
- ◆ Compact, no-plastic, all-metal shell for toughness & long life
- ◆ 'LOADS' OF SMARTNESS: Multiple modes of operation, reduced gridconsumption, PV-generation data stored

DATASHEET

Parameter	RATING
Models	Shine 24
Nominal DC voltage	24 Volt
MPPT CHARGER	
Type of charger	MPPT
No of MPPT channels	One
Switching element	IGBT
Max. connected PV modules	2000 Watts
Max. MPPT output current	65 Amps
Max. battery charging current (Settable)	65 Amps
Max. open circuit PV voltage	105 Volts
MPPT voltage range	35-84 Volts
Min. PV voltage	28 Volts
Max. input PV current	50 Amps
Recommended PV configuration (for polycrystalline)	2 Series x 3 Parallel
Recommended PV configuration (for Mono/ Mono perc)	1 Series x 5 Parallel, 2 Series x 2 Parallel
MPPT peak efficiency	93%
SOLAR INVERTER	
Input power at peak load	2100 Watts
Discharging battery current at peak load	87 Amps
Switching element	MOSFET
Nominal battery voltage	24
Nominal output voltage	220 V
Nominal output frequency	50
Output voltage range (at nominal battery voltage)	180-220 Volts
Max. output nominal current	8 Amps
Overloads	100-125% (120 Seconds), 126-150% (5 Seconds), 151-200% (2.5 Seconds), >200% (Immediate)
Overload restart (not applicable for UPS mode)	3 Times auto restart and then manual reset
Controller type	DSP based
Output type	Pure sine wave
Input source	PV/Battery
Peak inverter efficiency	>85%
Total harmonic distortion	less than 5%
Changeover time in UPS mode	less than 15 msec
Changeover time in wide range mode	less than 25 msec
UPS mode (for IT loads)	Provided
Wide grid operation mode (for non IT loads)	Provided
BATTERY	
Battery under cut alarm	21.1 Volts (auto adjustable)
Battery under cut	20.5 Volts (auto adjustable)
Load dependent battery undercut feature	Provided
Float charging voltage (factory settable)	26.4V (tubular)/27V (SMF)/ 26.8V (flat plate)
Boost charging voltage (factory settable)	29.4 (tubular)/27.6V (SMF)/ 27.4V (flat plate)
GRID CHARGER	
Grid operating voltage range (UPS mode)	120-280 Volts (+/- 10V)
Grid under cut recovery voltage (UPS mode)	135 Volts (+/- 5V)
Grid over cut recovery voltage (UPS mode)	265 Volts (+/- 5V)
Grid operating voltage range (wide range mode)	180-260 Volts (+/- 10V)

PARAMETER	RATING
Grid under cut recovery voltage (wide range mode)	195 Volts (+/- 5V)
Grid over cut recovery voltage (wide range mode)	245 Volts (+/- 5V)
Load output voltage during byass mode	Same as input voltage
Grid input frequency range	47-53 Hz
Load output frequency during byass mode	Same as input frequency
Max battery charging current from grid	18 Amps (settable)
Battery charging from grid enable/ disable	Provided
Input source supported	Grid/Diesel generator
DISPLAY/PROTECTIONS/INDICATIONS	
Protections	PV: Reverse polarity, Battery reverse power, PV power limit Battery: Under voltage cut, Over voltage cut, Reverse polarity, Overcharge limit (BCL), Battery fuse Grid: Over voltage, Under voltage, Over frequency, Under frequency, Grid fuse Load: Overload, Short circuit, Over heat, Output low, Grid back feed, Prevent bypass in Ph-Ph condition
Display parameters	PV: Voltage, Amps, Power, Total KWH generation. Battery: Voltage, Amps, Charge/Discharge status Grid: Voltage, Frequency. Load: Voltage, Load%, Frequency. System: Operation modes (UPS/Wide range), Priority selection, Grid Charging enable / Disable, Battery status (Charging/Discharging)
Display faults	PV: PV over voltage, PV over load Battery: Battery under voltage, Battery over voltage Grid: Grid under voltage, Grid over voltage Load: Overload, O/P short circuit System: Over temperature
Audio buzzer	Overloads, Short circuit, Low battery alarm, Battery under cut, Change in grid status (beep)
Front panel LED	Power on, Inverter on, SPV present/ SPV charging, Grid present/ Grid charging, Battery under cut/ Alarm, Fault
Front panel switches	Reset for system On/Off, Up, Down, Back, Enter
Display type	16 x 2 Alpha numeric display with backlight
ENVIRONMENT	
Operating temperature	0-50 degrees ambient
Storage temperature	0-50 degrees ambient
Max. relative humidity @25°C (non condensing)	95%
Degree of protection	IP20
Dimensions(LxWxH)*	415 X 357 X 160 (in mm)
Cooling	Temp controlled fan cooled
Terminations	PV: 25mm ² Screw type terminal blocks Battery: 1mtr Cable lengths with ring type lugs Load: 6mm ² Pin type terminal block (3 Way) Grid: 1mtr 3 Core cable.
Accessories supplied	Manual, Battery fuse (3 Nos), Grid fuse (1 Nos), Warranty card, Battery connecting cable

*Specifications are subject to change without prior notice due to constant improvement in design and technology.

The above models are compatible with lead-acid batteries only.