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MAKE IN INDIA

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SOLAR ENERGY

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COMPLETE ENERGY SOLUTIONS

INNOVATIVE • RELIABLE • SUSTAINABLE


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STAR SERIES

ON GRID SOLAR INVERTER

1KW TO 6KW
SINGLE PHASE



Key Features

- **BIG LCD DISPLAY**
- **COMPACT & EASY TO INSTALL**
- **POWER EXPORT LIMIT**
- **WIFI/GPRS/LAN COMMUNICATION OPTIONAL**

- Patented Cooling Design
- Unique H6 Topology Helps Prevent Leakage Current
- Dual Cooling System (Force + Natural)
- Built-in DC Switch

Smart Conversion. Maximum Solar Performance.

The Smarten STAR Series On-Grid Solar Inverter is engineered for efficient and reliable solar power conversion across residential and commercial applications. With advanced MPPT technology, intelligent cooling, comprehensive protection and flexible communication, the STAR Series delivers dependable performance across a wide range of operating conditions.

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SMARTEN POWER SYSTEMS LIMITED

ON-GRID SOLAR INVERTER
1KW TO 6 KW SINGLE PHASE

TECHNICAL SPECIFICATIONS

Model	S1KW	S1.5KW	S2.2KW	S3KW	S3.6KW	S4.2KW	S5KW	S6KW
DC SIDE / INPUT PARAMETERS								
Maximum DC Power (W)	1500W	2250W	3300W	4500W	5400W	6300W	7500W	7500W
Maximum DC Voltage (Vdc)	550	550	550	550	550	550	550	550
Minimum System Start/Shutdown Voltage (Vdc)	70/65	100/75	100/75	100/75	100/75	100/75	100/75	100/75
MPPT Voltage Range (Vdc)	70~500	100~500	100~500	100~500	100~500	100~500	100~500	100~500
Maximum Input Current (A)	18A					22A		
Max. Input Short-Circuit Current per MPPT	25A					30A		
Number of MPPT Trackers	1							
Strings per MPPT Tracker	1							
AC SIDE / OUTPUT PARAMETERS								
Nominal Output Power (W)	1000	1500	2200	3000	3600	4000	5000	6000
Maximum Output Power (W)	1100	1650	2420	3300	3960	4400	5500	6600
Nominal Output Voltage Range (V)	208, 220, 230, 240 / 180~270							
AC Grid Frequency Range (Hz)	50 Hz, 60 Hz (Auto-Selection) / 44–55 Hz; 54–65 Hz							
Maximum Output Current (A)	6	8	12	14.35	17.22	21	23	28
AC Connection (with PE)	Single-Phase							
Current Distortion (THDi)	<1.5%	<1.5%	<1.5%	<1.5%	<2.5%	<2.5%	<2.5%	<2.5%
Power Factor	~1 (Adjustable from 0.8 Leading to 0.8 Lagging)							
EFFICIENCY								
Maximum Conversion Efficiency	97.3%	97.3%	97.4%	97.5%	97.8%	97.8%	97.5%	97.6%
European Efficiency	97.0%	97.0%	97.1%	97.2%	97.3%	97.3%	97.2%	97.3%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
SAFETY AND PROTECTION								
DC Reverse-Polarity Protection	Yes							
Anti-Islanding / Overvoltage Protection	Yes							
Short-Circuit Protection	Yes							
Leakage Current Protection	Yes							
Grid Monitoring / Ground Fault Monitoring	Yes							
DC/AC Side SPD (Thermally Protected)	Yes							
GENERAL PARAMETERS								
Dimensions (L × W × H) (mm)	300 / 294 / 104					370 / 318.5 / 105.5		
Weight (kg)	5					7		
Embedded DC Switch	Optional							
Night Power Consumption (W)	< 0.2							
Isolation Type	Transformerless							
Degree of Protection	IP65 Compliant with IEC 60529							
Operating Temperature Range (°C)	-25 ~ +60							
Cooling Method	Smart Cooling							
Operating Altitude (m)	< 2000 m Without Power Derating							
Acoustic Noise Level (dB)	< 25							
Display	Graphic LCD							
Communication Interface	Standard WiFi, Optional RS485							

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STAR SERIES

ON GRID SOLAR INVERTER

5KW -25KW
THREE-PHASE



Key Features

- **BIG LCD DISPLAY**
- **COMPACT & EASY TO INSTALL**
- **POWER EXPORT LIMIT**
- **WIFI/GPRS/LAN COMMUNICATION OPTIONAL**

- Patented Cooling Design
- Unique H6 Topology Helps Prevent Leakage Current
- IP66 Protection
- Built-in DC Switch

Smarten STAR Series Three-Phase On-Grid Solar Inverter (5 kW-25 kW) Built for commercial and industrial solar applications, the Smarten STAR Series delivers maximum energy yield with up to 98.5% peak efficiency.

Advanced Efficiency: Transformerless design with dual MPPT trackers and a wide input voltage range of up to 850 V DC.

Enhanced Protection: Unique H6 topology helps prevent leakage current and includes a built-in DC breaker, SPDs, and an IP66-rated enclosure.

Smart Operation: Smart dual cooling system with LCD display and optional WiFi, GPRS, LAN, and RS485 communication.

Smart Conversion • Maximum Solar Performance

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ON-GRID SOLAR INVERTER
5KW -25KW THREE-PHASE

TECHNICAL SPECIFICATIONS

Model	TP5KW	TP6KW	TP8KW	TP10KW	TP12KW	TP15KW	TP17KW	TP20KW	TP25KW
INPUT (DC)									
Maximum DC Power (W)	6500W	7500W	9500W	11.5KW	18KW	22.5KW	25.5KW	30KW	30KW
Maximum DC Voltage (Vdc)	1000 V DC								
Minimum Operating Voltage (Vdc)	160 V DC.						250 V DC		
MPPT Voltage Range (Vdc)	160–850 V DC						200–850 V DC		
Maximum Input Current per String (A)	18 A / 18 A						26 A / 26A	36 A / 26 A	
Maximum Input Short-Circuit Current per MPPT	25A/25A						34 A / 34 A	46 A / 34 A	
Number of MPPT Trackers	2								
Strings per MPPT Tracker	1						2		
OUTPUT (AC)									
Nominal AC Power (W)	5000	6000	8000	10KW	12KW	15KW	17KW	20KW	25KW
Maximum AC Apparent Power (VA)	6000	7000	8800	11KVA	13.2KVA	16.5KVA	18.7KVA	22.0KVA	27.5KVA
Maximum Output Current (A)	10	12	15	17	20	23	25	30	36
Nominal AC Output Voltage (V)	50/60 Hz, 400 V AC								
AC Output Voltage Range (V)	45–55 Hz; 280–490 V AC (Adjustable)								
Power Factor	Adjustable from 0.8 Leading to 0.8 Lagging								
Harmonics	< 5%								
Grid Connection	3P + N + PE								
EFFICIENCY									
Maximum Efficiency	98.2%	98.2%	98.3%	98.4%	98.4%	98.4%	98.5%	98.5%	98.5%
European Efficiency	97.7%	97.7%	97.8%	97.9%	97.9%	98.0%	98.1%	98.1%	98.2%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

SAFETY AND PROTECTION	
DC Reverse-Polarity Protection	Yes
DC Circuit Breaker	Yes
DC/AC Surge Protection Device (SPD)	Yes
Leakage Current Protection	Yes
Insulation Impedance Detection	Yes
Residual Current Protection	Yes

GENERAL PARAMETERS		
Dimensions (W × H × D) (mm)	480 × 476 × 157	520 × 510 × 160
Weight (kg)	16	23
Operating Temperature Range (°C)	–25 °C to +60 °C	
Degree of Protection	IP65	
Cooling Method	Smart Cooling	
Topology	Transformerless	
Display	LCD	
Relative Humidity	0–95% RH (Non-Condensing)	
Communication Interface	RS485/WiFi/GPRS	

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