



**HAVELLS**

**LET THE SUN  
POWER YOUR HOME**



**Havells Residential Solar  
Grid-Tie Inverter**



**7 YEARS  
WARRANTY**



## Introduction of

# Havells

Havells India Limited is a leading Fast Moving Electrical Goods (FMEG) Company and a major power distribution equipment manufacturer with a strong global presence. Havells enjoys enviable market dominance across a wide spectrum of products, including Industrial & Domestic Circuit Protection Devices, Cables & Wires, Motors, Fans, Modular Switches, Home Appliances, Air Conditioners, Electric Water Heaters, Power Capacitors, CFL Lamps, Luminaires for Domestic, Commercial and Industrial Applications.

Today, Havells owns some of the most prestigious brands like Havells, Lloyd, Crabtree, Standard and Promptec. Its network constitutes of 4000 professionals, over 7575 dealers and 40 branches in the country. Our products are available in 40 countries. The company has twelve state-of-the-art manufacturing plants in India located at Haridwar, Baddi, Sahibabad, Faridabad, Assam, Alwar and Neemrana, manufacturing globally acclaimed products, synonymous with excellence and precision in the electrical industry.

The company pioneered the concept of exclusive brand showroom in the electrical industry with 'Havells Galaxy'. Today over 415 Havells Galaxies across the country are helping customers, both domestic and commercial, to choose from a wide variety of products for different applications. Havells became the first FMEG Company to offer door step service via its initiative 'Havells Connect'. Thanks to the quality of products and quicker service, it has minimum customer complaints and highest customer satisfaction.

Today, Havells along with its brands, have earned the distinction of being the preferred choice of electrical products for discerning individuals and industrial consumers both in India and abroad. Havells offers same quality products for both Indian and International markets. It is committed to keep powering the world with its state-of-the-art innovations and energy-efficient solutions. Currently over 90% of its product offerings are energy efficient and manufactured in-house.

Social and environmental responsibility has been at the forefront of Havells Operating Philosophy and as a result the company consistently contributes to socially responsible activities. For instance, the company is providing mid-day meal in government schools in Alwar district, covering more than 57000 students per day. The group company, QRG Healthcare runs a 140 bed hospital in Faridabad. In the past, the company has generously contributed to the society during various national calamities like the Bihar Flood, Tsunami and Kargil National Relief Fund, etc.

The essence of Havells' success lies in the expertise of its fine team of professionals, strong relationships with associates and the ability to adapt quickly & efficiently, coupled with the vision to always think ahead.



### **SINGLE PHASE INVERTER, SINGLE MPPT & Wi-Fi**

Enviro GTi 1100 - 1.1 kW | Enviro GTi 2200 - 2.2 kW | Enviro GTi 3000 - 3 kW

### **SINGLE PHASE INVERTER, DUAL MPPT & Wi-Fi**

Enviro GTi 4000D - 4 kW | Enviro GTi 5000D - 5 kW

### **THREE PHASE INVERTER, DUAL MPPT, DC Switch & Wi-Fi**

Enviro GTi 5500TX - 5.5 kW | Enviro GTi 8800TX - 8.8 kW | Enviro GTi 11000TX - 11 kW |  
Enviro GTi 15000T - 15 kW | Enviro GTi 20000TD - 20 kW

### **FEATURES**

- 7 years warranty
- Single and Dual MPPT for optimum generation
- Wide Input Voltage Range
- Maximum 98.2% Inverter Efficiency
- In-Built 25 Year Data Storage Capability
- Remote Monitoring – free for 25 years
- 10.16 cm (4") LCD display
- Detachable cover for easy installation & maintenance
- Safety Protection- Anti islanding, Ground Fault monitoring
- Anti Reverse Power Controller - zero export (Optional)
- IEC Certification - As per MNRE

# TECHNICAL SPECIFICATION OF SINGLE PHASE SOLAR GRID TIE INVERTER

DATASHEET	Enviro GTi 1100	Enviro GTi 2200	Enviro GTi 3000
<b>Input (DC)</b>			
Max. Input Power	1200 W	2400 W	3300W
Number of MPPT/String per MPPT	1/1		
Max. input voltage	450 V	500 V	
Start-up input voltage	100 V	120 V	
Rated input voltage	360 V		
MPPT voltage range	80-450 V	100-500 V	
Full load DC voltage range	110-450 V	170-500 V	200-500 V
Max. input current	10 A	13 A	15 A
<b>Output (AC)</b>			
Rated Power	1000 W	2100 W	3100 W
Max. AC Power	1000 VA	2100 VA	3100 VA
Max. AC Output Current	4.5 A	9.5 A	13 A
Nominal Grid Voltage	230 V		
Grid Voltage Range	180~270 V (According to local standard)		
Nominal Frequency	50 / 60 Hz		
Grid Frequency Range	47~53 Hz		
THDi	<3%		
Power factor	1 ( adjustable +/-0.8)		
Grid connection	Single phase		
Power Limit export	Zero export or adjustable power limit export		
<b>Efficiency</b>			
Max. efficiency	97%		97.2%
Euro efficiency	95.2%	96.1%	96.5%
MPPT adaptation efficiency	>99.9%		
<b>Standard</b>			
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		
Safety standards	IEC62116, IEC61727, IEC61683, IEC60068 (1,2,14,30) IEC62109-1/2.		
<b>Protection</b>			
Anti-Islanding Protection	Yes		
DC Reverse Polarity Protection	Yes		
Over Temp Protection	Yes		
Leakage Current Protection	Yes		
Over Voltage Protection	Yes		
Over Current Protection	Yes		
SPD	MOV : Type III standard		
<b>Communication</b>			
Standard Communication Mode	WiFi, RS485, GPRS(optional), SD card		
Operation Data Storage	25 years		
I/O	Yes		
<b>General Data</b>			
DC Switch	optional		
Ambient temperature range	-25° C...+60° C		
Topology	Transformerless		
Cooling	Natural		
Allowable relative humidity range	0-100% no condensing		
Max. operating altitude	2000 m		
Noise	<25dB@1 m		
Degree of Protection ( per IEC 60529)	IP65		
Dimension	405 mm x 314 mm x 135 mm		
Weight	11 kg	12 kg	
Self-consumption at night	<1 W		
Display	LCD display		
Warranty	7 years		

# TECHNICAL SPECIFICATION OF SINGLE PHASE SOLAR GRID TIE INVERTER

DATASHEET	Enviro GTi 4000 D	Enviro GTi 5000 D
<b>Input (DC)</b>		
Max. Input power	4400 W	5500 W
Max. DC power for single MPPT	2600 W (200 V - 520 V)	3000 W (250 V - 520 V)
Number of independent MPPT	2	
Number of DC inputs	1/1	
Max. input voltage	600 V	
Start-up input voltage	120 V	
Rated input voltage	360 V	
MPPT voltage range	90 V - 580 V	
Full load DC voltage range	200 V - 520 V	250 V - 520 V
Max. input current per MPPT	11 A / 11 A	
<b>Output (AC)</b>		
Rated Power	4000 W	5000 W
Max. AC Power	4000 VA	5000 VA
Max. Output Current	18.2 A	22.8 A
Nominal Grid Voltage	L/N/PE, 220 V, 230 V, 240 V	
Grid Voltage Range	180~270 V (According to local standard)	
Nominal Frequency	50 Hz / 60 Hz	
Grid Frequency Range	47~53 Hz (According to local standard)	
Active power adjustable range	0~100%	
THDi	<3%	
Power factor	1 ( adjustable +/-0.8)	
Power Limit export	Zero export or adjustable power limit export	
<b>Performance</b>		
Max. efficiency	98.0%	
Weighted eff. (EU/CEC)	97.5%	
Self-consumption at night	<1 W	
Feed-in start power	50 W	
MPPT efficiency	>99.9%	
<b>Protection</b>		
DC Reverse Polarity Protection	Yes	
DC Switch	optional	
Protection class/overvoltage category	I/III	
Input / output MOV (III)	Yes	
Safety protection	Anti islanding, RCMU, Ground fault monitoring	
Certification	IEC 62116, IEC 61727, IEC 61683, IEC 60068 (1,2,14,30), IEC 62109-1/2, IEC 61000.	
SPD	MOV : Type III standard	
<b>Communication</b>		
Power management unit	According to certification and request	
Standard Communication Mode	RS485 WiFi/GPRS (optional), SD card	
Operation Data Storage	25 years	
<b>General Data</b>		
Ambient temperature range	-25° C~+60° C	
Topology	Transformerless	
Degree of protection	IP65	
Allowable relative humidity range	0...100 % no condensing	
Max. operating altitude	4000 m	
Noise	<25 dB	
Weight	11.5 kg	
Cooling	Natural convection	
Dimension	405 mm x 315 mm x 135 mm	
Display	LCD display	
Warranty	7 years	

# TECHNICAL SPECIFICATION OF THREE PHASE SOLAR GRID TIE INVERTER

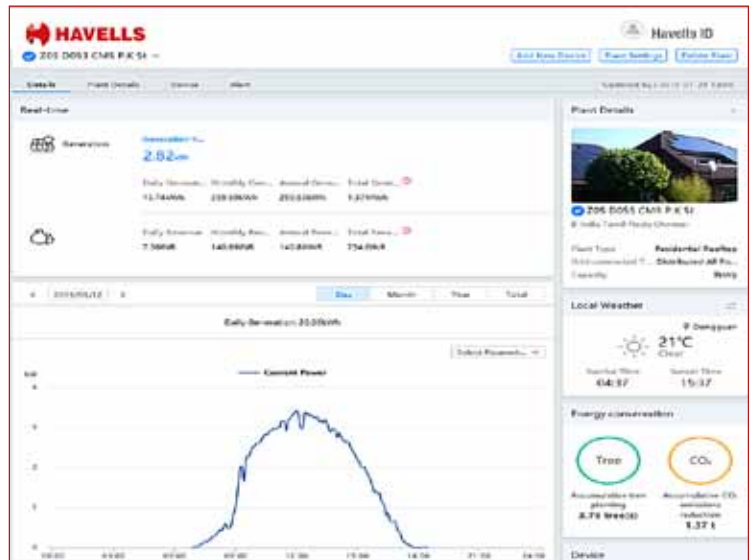
DATASHEET	Enviro GTi 5500TX	Enviro GTi 8800TX	Enviro GTi 11000TX
<b>Input (DC)</b>			
Typical PV Power	6000 W	9600 W	12000 W
Max. DC power per MPPT	6000 W (545 V - 850 V)	8800W (800 V-850 V)	8800 W (800 V-850 V)
Number of independent MPPT	2		
Number of DC inputs	1 for each MPPT		
Max. input voltage	1000 V		
Start-up input voltage	180 V		
Rated input voltage	600 V		
MPPT voltage range	160 V - 960 V		
Full load DC voltage range	240 V - 850 V	380 V - 850 V	480 V - 850 V
Max. input current per MPPT	11 A / 11 A		
Input short circuit current for each Mppt	14 A		
<b>Output (AC)</b>			
Rated Power	5000 W	8000 W	10000 W
Max. AC Power	5500 VA	8800 VA	11000 VA
Max. Output Current	8.0 A	12.8 A	15.9 A
Nominal Grid Voltage	3/N/PE, 220 / 380 V or 3/N/PE, 240 / 415 V or 3/N/PE, 230 /400 Vac		
Grid Voltage Range	184~276 V (According to local standard)		
Nominal Frequency	50 Hz / 60 Hz		
Grid Frequency Range	50 Hz, +/-5 Hz (According to local standard)		
Active power adjustable range	0~100%		
THDi	<3%		
Power factor	1 ( adjustable +/-0.8)		
<b>Performance</b>			
Max. efficiency	98.0%	98.3%	
Weighted eff. (EU/CEC)	97.5%	98%	
Self-consumption at night	<1 W		
Feed-in start power	45 W		
MPPT efficiency	>99.9%		
<b>Protection</b>			
DC Reverse Polarity Protection	Yes		
DC Switch	Yes		
Safety protection	Anti islanding, RCMU, Ground fault monitoring		
Certification	IEC 62116, IEC 61727, IEC 61683, IEC 60068 (1,2,14,30), IEC 62109-1/2, IEC61000		
ARPC	Anti Reverse Power Controller(optional)		
<b>Communication</b>			
Power management unit	According to certification and request		
Standard Communication Mode	RS485 WiFi/GPRS (optional), SD card		
Operation Data Storage	25 years		
<b>General Data</b>			
Ambient temperature range	-25° C~+60° C		
Topology	Transformerless		
Degree of protection	IP65		
Allowable relative humidity range	0....100% no condensing		
Max. operating altitude	2000 m		
Noise	<29 dB		
Weight	21 kg	22 kg	
Cooling	Natural		
Dimension	483 mm x 452 mm x 200 mm		
Display	LCD display		
Warranty	7 years		

# TECHNICAL SPECIFICATION OF THREE PHASE SOLAR GRID TIE INVERTER

DATASHEET	Enviro GTi 15000T	Enviro GTi 20000TD
<b>Input (DC)</b>		
Max. Input power	16500 W	26000 W
Max. DC power for single MPPT	10500 W (500 V - 850 V)	13000 W
Number of independent MPPT	2	
Number of DC inputs	2 for each MPPT	
Max. input voltage	1000 V	1100 V
Start-up input voltage	350 V	250 V (+/-1 V)
Rated input voltage	600 V	620 V
MPPT voltage range	250 V - 960 V	230 V - 960 V
Full load DC voltage range	370 V - 850 V	480 V - 850 V
Max. input current per MPPT	21 A / 21 A	24 A / 24 A
Input short circuit current for each MPPT	27 A	-
<b>Output (AC)</b>		
Rated Power (@230V, 50 Hz)	15000 W	20000 W
Max. AC Power	15000 VA	22000 VA
Max. output current	22 A	32 A
Nominal Grid Voltage	3/N/PE, 220/380 V or 3/N/PE, 240/415 V or 3/N/PE, 230/400 Vac	
Grid Voltage Range	180~270 V	310~480 Vac
Nominal Frequency	50 Hz / 60 Hz	
Grid Frequency Range	47~53 Hz (According to local standard)	45~55 Hz (According to local standard)
Active power adjustable range	0~100%	
THDi	<3%	
Power factor	1 ( adjustable +/-0.8)	
<b>Performance</b>		
Max. efficiency	98.2%	98.2%
Weighted eff. (EU/CEC)	97.9% / 98%	98%
Self-consumption at night	<1 W	
Feed-in start power	45 W	
MPPT efficiency	>99.9%	
<b>Protection</b>		
DC Reverse Polarity Protection	Yes	
DC Switch	Yes	
Protection class/overvoltage	I/III	
Input / output SPD (II)	Optional	Optional
Safety protection	Anti islanding, RCMU, Ground fault monitoring	
Certification	IEC 62116, IEC 61727, IEC 61683, IEC 60068 (1,2,14,30), IEC 62109-1/2, IEC 61000	
SPD	MOV : Type III standard/Type II optional	
ARPC	Anti Reverse Power Controller (optional)	
<b>Communication</b>		
Power management unit	According to certification and request	
Standard Communication Mode	RS485 WiFi GPRS (optional), SD card, Multi-function relay	
Operation Data Storage	25 years	
<b>General Data</b>		
Ambient temperature range	-25 C~ + 60 C	
Topology	Transformerless	
Degree of protection	IP65	
Allowable relative humidity range	0....100% no condensing	
Max. operating altitude	<2000m	
Noise	<45dB	<30dB
Weight	45 kg	37 kg
Cooling	Natural	
Dimension	707 mm x 492 mm x 240 mm	666 mm x 512 mm x 254 mm
Display	LCD display	
Warranty	7 years	

## FEATURES

- Web based Remote monitoring
- User-friendly & easy access via Internet
- Real Time Data-logging and historical data storage for analysis
- Data available with various graph and format options for easy understanding and analysis
- Automatic alarms for any malfunctions via Email or SMS



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Although every effort has been made to ensure accuracy in the compilation of the technical detail within this publication. Specifications & performance data are constantly changing.

Current details should therefore be checked with Havells Group.

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