



HAVELLS

**LET THE SUN
POWER YOUR HOME**



IS 16221 (PART 2):2015/IEC 62109-2 :2011
IS 16169 :2014/IEC 62116 :2008



R-41165239

www.bis.gov.in

**Havells Residential Solar
Grid-Tie Inverter 1 kW to 10 kW**





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 / GPRS

Enviro GTi 1100 NG - 1.1 kW | Enviro GTi 2200 NG - 2.2 kW |
 Enviro GTi 3000 NG - 3 kW | Enviro GTi 3300 NG- 3.3 kW

SINGLE PHASE INVERTER, DUAL MPPT & Wi-Fi / GPRS

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

THREE PHASE INVERTER, DUAL MPPT, DC Switch & Wi-Fi / GPRS

Enviro GTi 5500TX - 5 kW | Enviro GTi 6600TX - 6 kW | Enviro GTi 8800TX - 8 kW |
 Enviro GTi 11000TX - 10 kW.

FEATURES

- 10 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
- **BIS CERTIFIED** - Enviro GTi 1100 NG to 11000TX

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* SD card is not available for 1.1 kW to 3.3 kW NG series

** 1.1 kW to 5 kW single Phase inverter had 85x 35 mm display

TECHNICAL SPECIFICATION OF SINGLE PHASE SOLAR GRID TIE INVERTER

DATASHEET		Enviro GTi 1100 NG	Enviro GTI 2200 NG	Enviro GTi 3000 NG	Enviro GTi 3300 NG
Input (DC)					
Recommended Max. PV input power		1500 Wp	3000 Wp	4100 Wp	4500 Wp
Max. Input voltage		500 V	500 V	550 V	550 V
Start-up voltage		70 V	70 V	70 V	70 V
Rated input voltage		360 V	360 V	360 V	360 V
MPPT operating voltage range		50 - 500 V	50 - 500 V	50-550 V	50-550 V
Full power MPPT voltage range		110 - 450 V	200 - 450 V	270-500 V	300-500 V
Max. Input current MPPT		12 A	12 A	12 A	12 A
Maximun DC input short circuit current per MPPT		15 A	15 A	15 A	15 A
Number of MPPT/ String per MPPT		1/1	1/1	1/1	1/1
Input terminal type		MC4 / H4	MC4 / H4	MC4 / H4	MC4 / H4
Output (AC)					
Rated Power		1100 W	2200 W	3000 W	3300 W
Max. AC Power		1100 VA	2200 VA	3000 VA	3300 VA
Rated Output current		4.8 A	9.6 A	13 A	14.3 A
Max. Output Current		5.3 A	10.6 A	14.5 A	16 A
Nominal Grid Voltage		L/N/PE, 220Vac, 230Vac, 240Vac			
Grid Voltage Range		180Vac-276Vac (According to local standard)			
Nominal Frequency		50Hz/60Hz			
Grid Frequency Range		45~55Hz			
THDi		<3%			
Power factor		1 default (adjustable+/-0.8)			
Efficiency					
Max. efficiency		97.5 %	97.5 %	97.7 %	97.7 %
European weighted efficiency		96.9 %	96.9 %	97.2 %	97.2 %
Self Consumption at night		< 1W			
MPPT Efficiency		> 99.9 %			
Protection					
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			
Earth fault protection		Yes			
SPD		MOV: Type III standard			
Communication					
Standard Communication Mode		RS485, WiFi/GPRS/Ethernet(optional), USB			
General Data					
Topology		Transformerless			
Ambient temperature range		-30 ~+60 deg C			
Allowable relative humidity range		0~100%			
Noise		<25 dB			
DC switch		optional			
Cooling		Natural			
Max. Operating altitude		2000 m			
Dimension[mm]		303 x 260.5 x 118 mm	303 x 260.5 x 118 mm	321 x 260.5 x 131.5mm	321 x 260.5 x 131.5mm
Support bracket		Wall Mounted			
Weight		5.5 kg	5.5 kg	6.3 kg	6.3 kg
Display		LCD+LED			
Degree of protection		IP65			
Warranty		10 years			
Standard					
EMC		EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4,			
Safety standards		IEC 62116, IEC 61727, IEC 61683, IEC 60068(1,2,14,30), IEC 62109-1/2			
BIS Certified		IS 16221 (PART 2):2015/IEC 62109-2 :2011 & IS 16169 :2014/IEC 62116 :2008			

TECHNICAL SPECIFICATION OF SINGLE PHASE SOLAR GRID TIE INVERTER

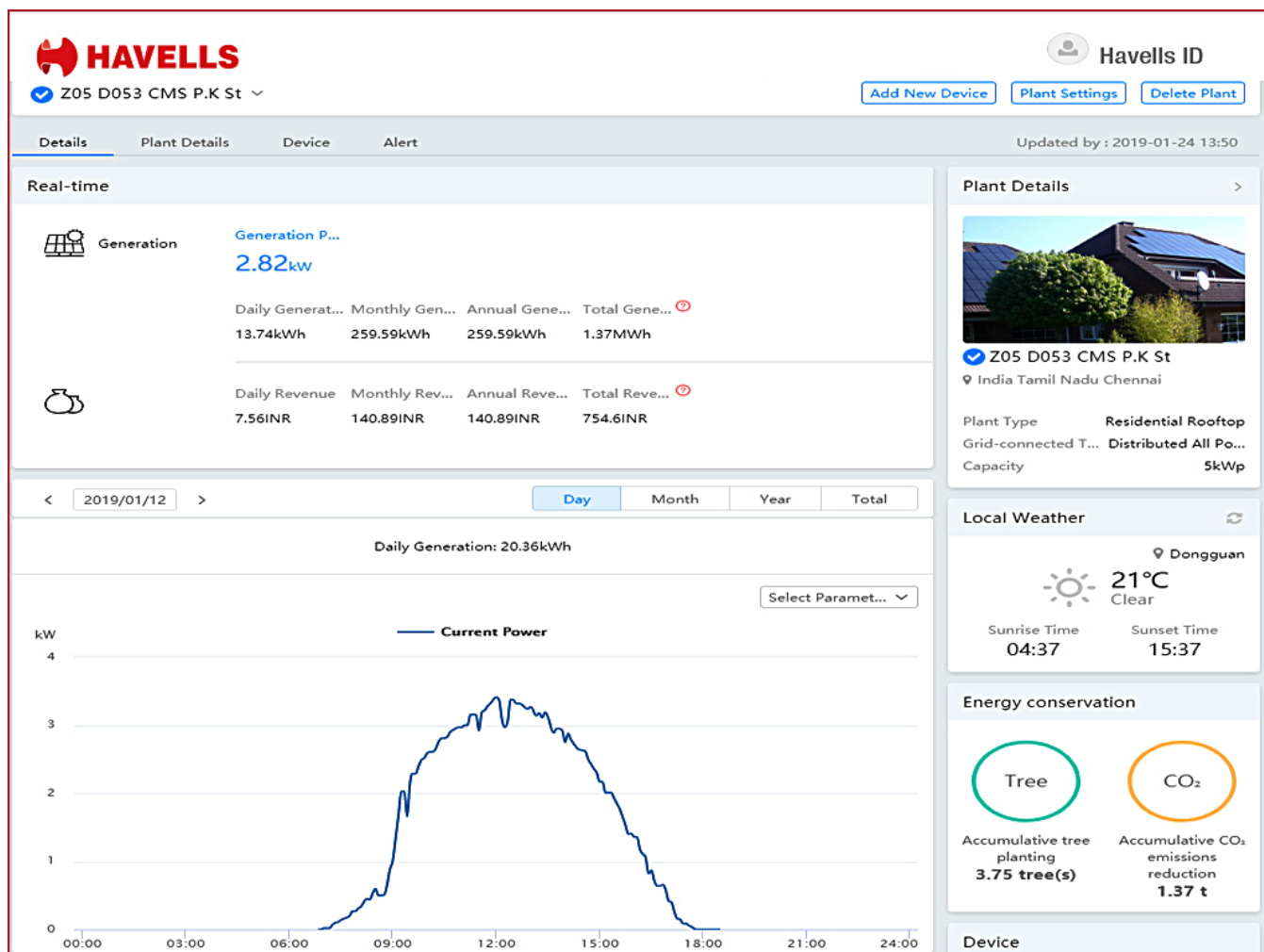
DATASHEET	Enviro GTi 4000 D	Enviro GTi 5000 D
Input (DC)		
Max. Input power	5320 Wp	6650 Wp
Max. DC power for single MPPT	3500 W	3500 W
Number of independent MPPT	2	
Number of DC inputs	1/1	
Max. input voltage	600 V	
Start-up input voltage	120 V	
Rated input voltage	360 V	
MPPT Operating voltage range	90 V - 580 V	
Full power MPPT voltage range	200 V - 520 V	250 V - 520 V
Max. input current per MPPT	11 A / 11 A	
Maximum DC input Isc per MPPT	13.2 A	
Output (AC)		
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 ac, 230 V ac, 240 V ac	
Grid Voltage Range	180 V ac~276 V ac (According to local standard)	
Nominal Frequency	50 Hz / 60 Hz	
Grid Frequency Range	45 Hz~55 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	
Performance		
Max. efficiency	98.0%	
Weighted eff. (EU/CEC)	97.5%	
Self-consumption at night	<1 W	
MPPT efficiency	>99.9%	
Protection		
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. IP65	
SPD	MOV : Type III standard	
Communication		
Power management unit	According to certification and request	
Standard Communication Mode	RS485 WiFi/GPRS (optional), SD card	
Operation Data Storage	25 years	
General Data		
Ambient temperature range	-25 °C~+60 °C	
Topology	Transformerless	
Degree of protection	IP65	
Allowable relative humidity range	0...100 %	
Max. operating altitude	2000 m	
Noise	<25 dB	
Weight	11.5 kg	
Cooling	Natural	
Dimension	405 mm x 315 mm x 135 mm	
Display	LCD display	
Warranty	10 years	
BIS Certified	IS 16221 (PART 2):2015/IEC 62109-2 :2011 & IS 16169 :2014/IEC 62116 :2008	

TECHNICAL SPECIFICATION OF THREE PHASE SOLAR GRID TIE INVERTER

DATASHEET	Enviro GTi 5500TX	Enviro GTi 6600TX	Enviro GTi 8800TX	Enviro GTi 11000TX
Input (DC)				
Typical PV Power	7320 Wp	8780 Wp	11710 Wp	14630 Wp
Max. DC power per MPPT	5700 W	6250 W	6200 W	6200 W
Number of independent MPPT	2			
Number of DC inputs	1 for each MPPT			
Max. input voltage	1000 V			
Start-up input voltage	200 V			
Rated input voltage	600 V			
MPPT Operating voltage range	160 V - 960 V			
Full Power MPPT Voltage Range	240 V - 850 V	290 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			
Output (AC)				
Rated Power	5000 W	6000 W	8000 W	10000 W
Max. AC Power	5500 VA	6600 VA	8800 VA	11000 VA
Max. Output Current	8.0 A	9.6 A	12.8 A	15.9 A
Nominal Grid Voltage	3/N/PE, 220 V / 380 V or 3/N/PE, 240 V / 415 V or 3/N/PE, 230 Vac /400 Vac			
Grid Voltage Range	310 Vac - 480 Vac (According to local standard)			
Nominal Frequency	50 Hz / 60 Hz			
Grid Frequency Range	45 Hz- 55 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			
Performance				
Max. efficiency	98.0%	98.0%		98.3%
Weighted eff. (EU/CEC)	97.5%	97.5 %		98%
Self-consumption at night	<1 W			
MPPT efficiency	>99.9%			
Protection				
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 IP65			
ARPC	Anti Reverse Power Controller(optional)			
Communication				
Power management unit	According to certification and request			
Standard Communication Mode	RS485 WiFi/GPRS (optional), SD card			
Operation Data Storage	25 years			
General Data				
Ambient temperature range	-25 °C~+60 °C			
Topology	Transformerless			
Degree of protection	IP65			
Allowable relative humidity range	0....100%			
Max. operating altitude	2000 m			
Noise	<29 dB			
Weight	21 kg	21 kg		22 kg
Cooling	Natural			
Dimension	457 mm x 452 mm x 202 mm		457 mm x 452 mm x 202 mm	
Display	LCD display			
Warranty	10 years			
BIS Certified	IS 16221 (PART 2):2015/IEC 62109-2 :2011 & IS 16169 :2014/IEC 62116 :2008			

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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