



**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<br>GTi 1100   | Enviro<br>GTi 2200 | Enviro<br>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<br>4000 D   | Enviro GTi<br>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),<br>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

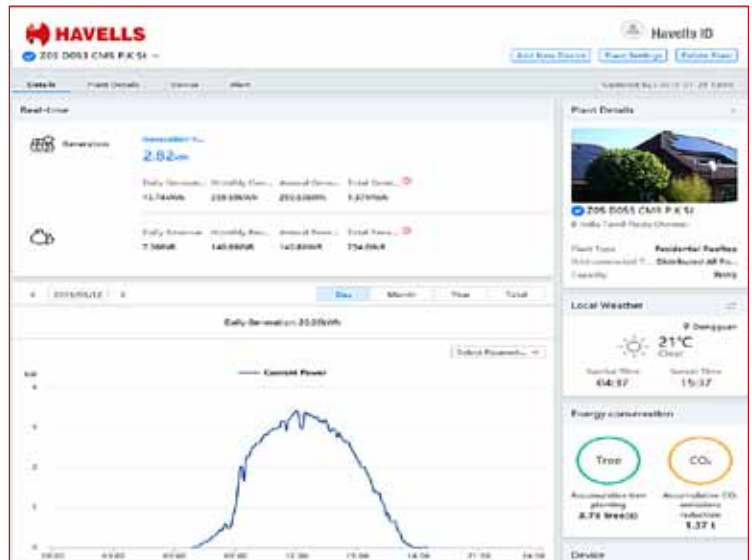
| DATASHEET                                 | Enviro GTi<br>5500TX   | Enviro GTi<br>8800TX | Enviro GTi<br>11000TX |
|---|--|----------------------|-----------------------|
| <b>Input (DC)</b>                         |  |                      |                       |
| Typical PV Power                          | 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),<br>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<br>15000T   | Enviro GTi<br>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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Current details should therefore be checked with Havells Group.

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