



## BENEFITS TO HELP YOU HARVEST MORE GREEN

Photovoltaic inverters from Magnetek can increase the electrical power that is available from your solar panels. Field-proven designs reduce the time and cost of installation, assure a long service life and enable best-in-class price/performance value.

Magnetek's PVI-CENTRAL-50 grid-tied system is designed for commercial solar applications such as office, apartment, or industrial buildings. Harvest more green with Aurora's Maximum Power Point Tracking (MPPT) algorithm that maximizes energy produced under varying light conditions. The inverter's Insulated Gate Bi-polar Transistors (IGBTs) reduce thermal energy losses for optimum performance.

The PVI-CENTRAL-50 is a complete turnkey solution for connection to low-voltage public utilities. Using integrated light sensors, it offers nighttime disconnection of the transformer to eliminate undesired losses. A string combiner box is optionally available to parallel, protect and monitor all of the photovoltaic strings and to enhance the monitoring and diagnostic capabilities of the system.

### Maximize power harvest

- High conversion efficiency (CEC efficiency 95%) for maximum power harvest
- Wide operating voltage range of 330-600 Vdc increases energy collected
- Self-tuning MPPT power curve optimizes energy harvest

### Low installation and maintenance costs

- Module design offers unobstructed front access to modules and power boards for quick inverter installs and simplified maintenance
- Residential area installation without the need for noise reduction: <54dB acoustic noise, non-audible 18 kHz switching frequency

### Flexible configuration

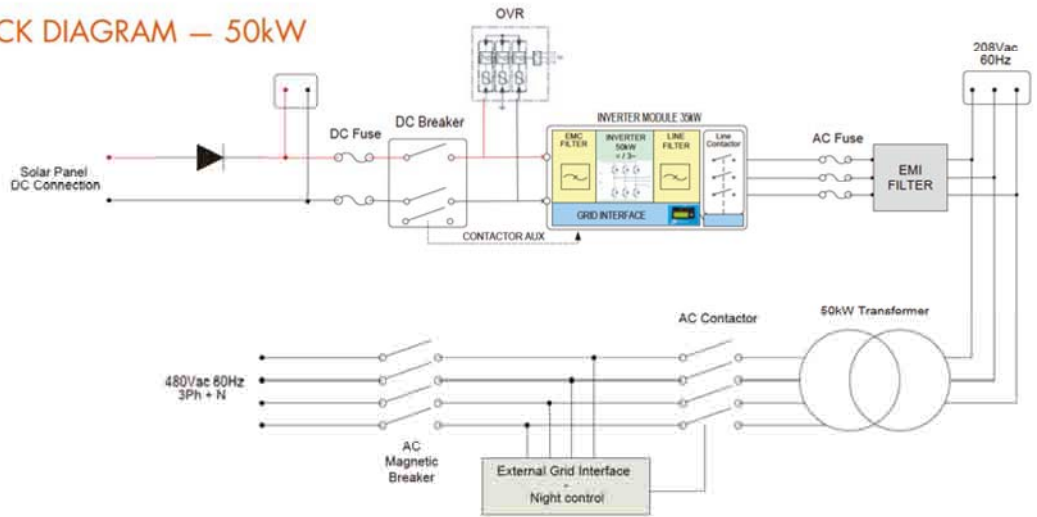
- String combiner box option assures array protection and monitoring
- Optional module grounding of (+) leg for application flexibility

### Extended performance

- A broad range of communications options: dial up, ISDN, Ethernet, DSL, GSM, and the optional FlyBy Easy Communication System hardware/software, for instant access to system status
- Digital Signal Processor (DSP) based controls for self diagnostics and LCD real-time display of operating status
- Five-year warranty extendable to 20 years

HARVEST MORE GREEN™

## BLOCK DIAGRAM — 50kW



| CHARACTERISTICS  | PVI-CENTRAL-50 w/transformer                            |
|--|---|
| <b>Input Parameters</b>  |   |
| Maximum recommended PV power (kWp), Total (master slave mode)<br>Per Channel (multi-master mode) | 55  |
| Absolute maximum input voltage (Vdc)   | 600   |
| MPPT input voltage range Vdc   | 330-600 (400 nominal)                                   |
| Maximum input current (Adc), Master-slave mode<br>Multi-master mode (per module)                 | 160.00  |
| Input Reflected Ripple voltage   | < 3%  |
| Number of DC inputs available (multi-master configuration)                                       | 1   |
| Input overvoltage protections  | 1   |
| <b>Output Parameters</b>   |   |
| Nominal AC Output Power (kW)   | 50  |
| Nominal AC Output Current (Arms)<br>208Vac Version<br>480Vac Version                             | 139<br>60.50  |
| AC Output Voltage range (Vrms)   | 3 x 208 +/-10% or 3x480 +/-10%                          |
| Nominal AC Frequency (Hz)  | 50 / 60   |
| Power Factor   | 1 (@ Pac nominal)                                       |
| AC Current Harmonics (THD%)  | < 3% (@ Pac nominal)                                    |
| Inverter Switching Frequency (kHz)   | 18  |
| AC side overvoltage protection   | Yes   |
| <b>Conversion Efficiency</b>   |   |
| Peak Efficiency % (@ Vin nom)  | 95.8%   |
| CEC Efficiency % (@ Vin nom) 208   | 95%   |
| CEC Efficiency % (@ Vin nom) 480   | 95%   |
| <b>Environmental Parameters</b>  |   |
| Environmental Protection Degree  | NEMA 2/NEMA 3R  |
| Operating Temperature Range  | -10°C...+50°C   |
| Relative Humidity (non-condensing)   | < 95%   |
| <b>General Data</b>  |   |
| Auxiliary Voltages Consumption (W)   | <0.2% of PACnom   |
| Night time losses (W)  | <15W  |
| Local Communication  | 1x RS485 + 1x RS485 (dedicated to String combiner-Box)  |
| Remote Communication (optional)  | Aurora Easy Control (Dial-Up, ISDN, Ethernet, DSL, GSM) |
| User Interface   | 2-lines Display (on each inverter module)               |
| <b>Mechanical Characteristics</b>  |   |
| Dimensions (WxHxD) (mm) (*) Output Air conduit not included                                      | 1250 x 1570(*) x 810/49.2"x61.8"x31.8"                  |
| Overall Weight (kg)  | 800/1760  |
| 55kW module Weight (kg)  | 65/143  |
| Required Ambient Air Cooling Flow  | 1500m³/h/2700CFM  |
| <b>Approvals</b>   |   |
| EMC  | FCC part 15   |
| CE Compliance  | Yes   |
| Grid connection (pending)  | DKS940 Ed. 2.2, VDEW, UL1741, RD1663/2000               |