

freewatt®

freewatt plus Homeowner Information



A GOOD BACK-UP PLAN CAN PUT MONEY BACK IN YOUR POCKET.



HERE'S TO THE BACKUP PLAN

Introducing *freewatt*[®] *plus*, the second generation of eco-friendly micro-CHP systems from ECR. *freewatt plus* has all the advantages of the original *freewatt* system, with the additional benefit of green backup power. So, when the power is down, *freewatt plus* is up and running, allowing homeowners to stay comfortable even in the most inclement weather. The lights are on, and *freewatt plus* is home.

POWER IS OUT. FREEWATT IS IN.

The power is out in the neighborhood? No problem. *freewatt plus* can bring up to 1,800 watts of backup power to the home in case of a power failure. The lights stay on, the homeowner stays warm and the food stays cold.

Additionally, the integrated *freewatt* transfer switch ensures a smooth transition from grid-connected to backup power during a power failure and, when in grid-connected mode, allows excess power to export to the grid. A load manager also maximizes the system's backup power generation, enabling it to power six loads, like your heating and security systems, refrigerator/freezer and sump pump, with power left over for a convenience outlet. You can also integrate an uninterruptible power supply for a critical load like your computer.

HOW DOES IT WORK?

The *freewatt* system is comprised of a Honda MCHP power module, a 95% efficient ECR furnace or boiler, a communicating thermostat, a HI module and system control module. When heat is needed, the *freewatt* thermostat signals the controller, which then engages the Honda engine-generator to produce 12,000 BTUs per hour of heat. As a result, 1.2 kilowatts of electric power is cogenerated by the *freewatt* system. When heating demand is greater than what the initial stage of heat can provide, the controller signals the ENERGY STAR furnace or boiler module to supplement the engine's heat output, matching the heat load requirement.

TAKE THE HEAT OFF YOUR ELECTRIC BILL

With a *freewatt* system, homeowners can warm up to the idea of lower utility costs. By producing electricity, *freewatt* helps to significantly cut electric bills during the winter. So as the temperature drops, electric bills do too. Sometimes even down to zero. In some cases, electricity not used in the home can be sent back to the grid for a credit. With *freewatt*, it pays to be green.

GO EASY ON THE ENVIRONMENT

A *freewatt* system understands the idea of recycling very well. That's because it uses energy twice, first to provide heat for the living space, then again to cogenerate electricity. This process drastically reduces greenhouse gases. *freewatt's* electricity generation process emits 60% less carbon dioxide than the typical electricity sent from the grid. Now homeowners have the ability to reduce their carbon footprint and reuse some energy of their own.

COMFORTABLY GREEN

With *freewatt*, homeowners can do their part for the environment from the comfort of their own home. *freewatt* delivers continuous, low-level heat without the temperature swings and cycling associated with a traditional heating system. This creates a constant comfortable setting, making this system quieter and more comfortable than a typical warm air furnace.

ECO- AND USER-FRIENDLY

Monitoring a *freewatt* is simple. The system controller is connected to the Internet for remote monitoring, control, troubleshooting, diagnostics, and streamlined maintenance. Homeowners can even log onto a personal *freewatt* Web page to check power savings and program their thermostat.





Warm Air freewatt plus System



Hydronic freewatt plus System

Warm Air freewatt plus System

The Warm Air freewatt plus System employs a 95 percent efficient two-stage variable speed condensing furnace combined with the Honda MCHP power module to provide space heating and electric power, as well as backup power in the event of a power failure. A high efficiency MERV 8 Air Filtration device is included to help improve indoor air quality. This system also comes with a Domestic Hot Water heat exchanger option.

freewatt comes backed by a five-year parts and labor warranty.

Hydronic freewatt plus System

The hydronic freewatt plus system uses the hydronic HI module and control module to integrate the Honda MCHP power module with our super-efficient residential boiler. This modulating condensing boiler captures 95 percent of the available energy. The hydronic freewatt plus offers an optional indirect hot water tank, which will satisfy the home's hot water needs and allow for year-round electricity generation. Hydronic freewatt plus can provide space heating, water heating, electric power and backup power for your hydronic heating system application.

CONTROL MODULE

The control module acts as the brain, and allows the system to function more efficiently, giving the homeowner the ability to monitor their power generation and energy savings, or set their programmable thermostat remotely.

RC-1000 FREEWATT® THERMOSTAT

Featuring a large, illuminated and enhanced graphics display, the new RC-1000 offers advanced ease of use and additional information to the homeowner. A proximity motion sensor allows for the display to light up when approached for better visibility. Just another way freewatt is helping the homeowner use less energy.

HONDA MCHP MODULE

The Honda MCHP is a remarkably quiet and efficient power module that uses an engine running on natural gas or propane and modern inverter-based power conversion technology.

SYSTEM SPECIFICATIONS

Component	Input (MBH)	Heating Capacity (MBH)	Net Power (kW)	Overall Efficiency (%)
Honda MCHP	18.4	12.3	1.2/0-1.8*	89
freewatt Furnace	60/36, 80/48, 100/60, 120/72	57/34.2, 76/45.6, 95/57, 114/68.4	-	95
freewatt Boiler	80-200†	76-190†	-	95

†Modulating Boiler

The furnace and boiler included as part of the freewatt System meet the ENERGY STAR guidelines for energy efficiency. U.S. Patents 7,040,544 and 7,284,709. Specifications are subject to change without notice.

*1.2 kW continuous in grid-connected mode, 0-1.8 kW load following in backup power mode



freewatt delivers continuous, low-level heat without the temperature swings and cycling associated with a traditional heating system.

IT JUST MAKES SENSE

A typical power plant must burn 290 watts of fuel to deliver 100 watts of electricity to the home. An amazing 65% of the energy is wasted. By using *freewatt*, homeowners can eliminate that waste by generating their own eco-friendly power. This not only cuts back on harmful greenhouse gases and reduces fuel consumption, but also lowers utility costs significantly. There's no better time than now to install a *freewatt* system.



A system that efficiently heats your home, virtually eliminates electric bills, supplies back-up power during outages, conserves energy and emits 60% less CO₂. Easy decision.

FUEL TO DELIVER 100 WATTS OF ELECTRICITY TO YOUR HOME



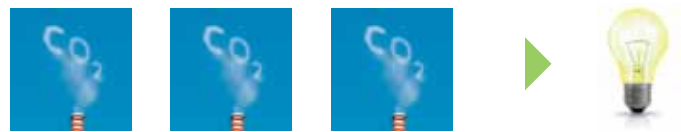
Fuel Used by Power Plant ▶ 290 W Fuel for 100 W



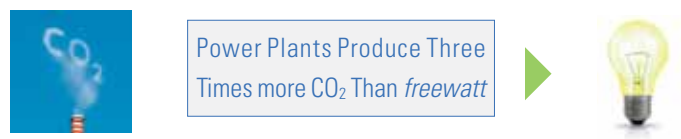
freewatt Uses 60% Less Fuel Than Power Plants

Fuel Used by *freewatt* ▶ 112 W Fuel for 100 W

EMISSIONS TO DELIVER 100 WATTS OF ELECTRICITY TO YOUR HOME



CO₂ Emissions from Power Plant



Power Plants Produce Three Times more CO₂ Than *freewatt*

CO₂ Emissions from *freewatt*



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