



## Energy Server 5

*Clean, Reliable, Affordable Energy*



### **CLEAN, RELIABLE POWER ON DEMAND**

The Energy Server 5 delivers clean power that reduces emissions and energy costs. The modular architecture enables the installation to be tailored to the actual electricity demand, with a flexibility to add servers as the load increases. The Energy Server 5 actively communicates with Bloom Energy's network operations centers so system performance can be monitored 24 hours per day, 365 days per year.

### **INNOVATIVE TECHNOLOGY**

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the Energy Server 5 produces clean power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO<sub>2</sub> than competing technologies. Additionally, no water is needed under normal operating conditions.

### **ALL-ELECTRIC POWER**

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with a small footprint and sleek design, the Energy Server 5 is the most deployable fuel cell solution on the market.

### **CONTROLLED AND PREDICTABLE COST**

By providing efficient on-site power generation, the economic and environmental benefits are central to the Energy Server 5 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The Energy Server 5 has been designed in compliance with a variety of safety standards and is backed by a comprehensive warranty.

### **About Bloom Energy**

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. Bloom Energy Servers are currently producing power for many Fortune 500 companies including Apple, Google, NSA, Walmart, AT&T, eBay, Staples, as well as notable non-profit organizations such as Caltech and Kaiser Permanente.

### **Headquarters:**

Sunnyvale, California

### **For More Information:**

[www.bloomenergy.com](http://www.bloomenergy.com)

# Energy Server 5

## Technical Highlights (ES5-YA8AAA)

### Outputs

Nameplate power output (net AC)	300 kW
Base load output (net AC)	300 kW
Electrical connection	480 V, 3-phase, 60 Hz

### Inputs

Fuels	Natural gas, directed biogas
Input fuel pressure	10-18 psig (15 psig nominal)
Water	None during normal operation

### Efficiency

Cumulative electrical efficiency (LHV net AC)*	65-53%
Heat rate (HHV)	5,811-7,127 Btu/kWh

### Emissions

NO <sub>x</sub>	< 0.01 lbs/MWh
SO <sub>x</sub>	Negligible
CO	< 0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO <sub>2</sub> @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas

### Physical Attributes and Environment

Weight	15.8 tons or 15.4 tons
Dimensions (variable layouts)	18' 4" x 8' 8" x 7' 0" or 32' 11" x 4' 5" x 7' 5"
Temperature range	-20° to 45° C
Humidity	0% - 100%
Seismic vibration	IBC site class D
Location	Outdoor
Noise	< 70 dBA @ 6 feet

### Codes and Standards

Complies with Rule 21 interconnection and IEEE1547 standards

Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards

An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.

### Additional Notes

Access to a secure website to monitor system performance & environmental benefits

Remotely managed and monitored by Bloom Energy

Capable of emergency stop based on input from the site

\* 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test



Bloom Energy Corporation  
1299 Orleans Drive  
Sunnyvale CA 94089  
T 408 543 1500  
www.bloomenergy.com