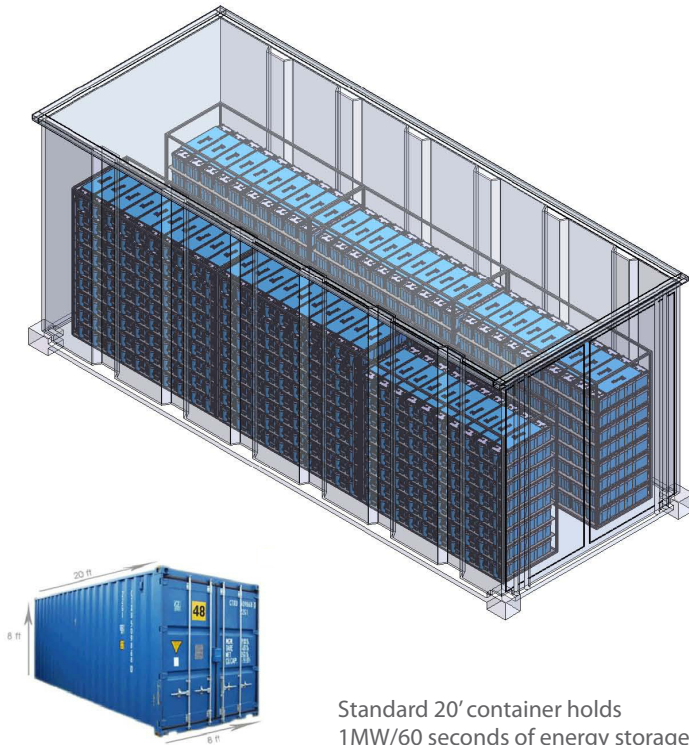




Standard 20' container holds
1MW/60 seconds of energy storage



1MW • 60 SECONDS • 1,000,000 CHARGE-DISCHARGE CYCLES ENERGY STORAGE

As renewable energy sources grow in use and the percentage of grid power met by renewables increases grid stability becomes an increasingly important issue. The variability in wind and solar output creates instability on the grid. This variability also results in poor utilization of these resources by 30-50%.

Maxwell ultracapacitors can help combat these challenges by providing a few seconds of reactive power in a cost effective and smaller package size. The long life, high power and superior charge/discharge cycling of ultracapacitors make them the ideal energy storage for firming the output of renewable installations. With Maxwell ultracapacitors energy storage, it is easy to design scalable systems with lifetimes up to 15 years and over a million charge/discharge cycles at 100% depth of discharge.

Renewables ride-through and firming, Hybrid Energy Storage Systems component

Applications

- VARs support
- Regulation up, regulation down
- Renewable energy firming – wind or solar smoothing
- Frequency regulation

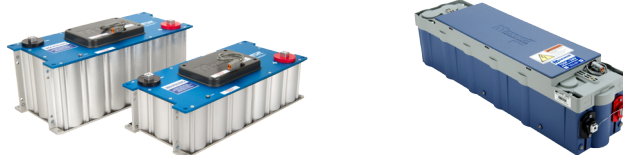
Maxwell Technologies Over 11 GW total power installed

Scaleable energy storage 560V/1MW/60 seconds

- 20 foot container
- Add your power electronics and controls

Green Technology

- Lead free
- No toxic materials



Specifications

	48 V Modules	56 V Modules
Capacitance	83 - 165 F	130 F
Voltage	48 V	56 V
ESR, DC	6.3 - 10 mohm	8.1 mohm
Leakage Current	3.0 - 5.2 mA	120 mA
$E_{\max}$	2.6 - 3.9 Wh/kg	3.1 Wh/kg
$P_{\max}$	5,600 - 6,800 W/kg	5,400 W/kg

1 MW / 60 Sec. / 1 Million Cycle Module Specifications

	48 V Modules	56 V Modules
Capacitance	372 F	650 F
Voltage	740 V	560 V
Floor Space*	106 ft ²	89 ft ²
Peak Power**	23 MW	23 MW
Average Power**	1 MW	1 MW

* 6' height

** 75% Depth of discharge

Images not to scale



Maxwell Technologies, Inc.
Global Headquarters
 5271 Viewridge Court, Suite 100
 San Diego, CA 92123
 USA
 Tel: +1 858 503 3300
 Fax: +1 858 503 3301



Maxwell Technologies SA
 CH-1728 Rossens
 Switzerland
 Tel: +41 (0)26 411 85 00
 Fax: +41 (0)26 411 85 05



Maxwell Technologies, GmbH
 Brucker Strasse 21
 D-82205 Gilching
 Germany
 Tel: +49 (0)8105 24 16 10
 Fax: +49 (0)8105 24 16 19



Maxwell Technologies, Inc.
Shanghai Representative Office
 13E, CR Times Square
 500 Zhangyang Road, Pudong
 Shanghai 200122, P.R. China
 Tel: +86 21 5836 8780
 Fax: +86 21 5836 8790