INVERTERS

SMA

SMA has simplified commercial-scale PV deployment with the debut of several offerings that can be bundled for complete power conversion, installation, and O&M solutions. This system is built upon the power and reliability of the Sunny Tripower TL-US commercial PV inverter, which offers class-leading efficiency and OptiTrac

Global Peak MPP tracking for maximum energy production. Also included are the Cluster Controller, which provides robust system monitoring and control, and the ReadyRack, a fully integrated roof-mount racking system. This is all backed by plant-wide O&M services that protect against lost profit, allowing the project to realize its full potential, says the company.
www.sma-america.com

ADVANCED ENERGY

Advanced Energy's plug-and-play solution is said to be ideal for a wide range of commercial-scale solar PV projects. Weighing in at only 108 pounds, the AE 3TL is easy to install and compatible with many applications and the most challenging system designs. With industry leading efficiency and reliability, as well as 600 V and 1000 V options, it maximizes energy yield. Available in 12, 16, 20, and 23.2 kW, AE's options of output power allow for integration on a variety of site designs. Backed by world-class support and industry leadership, the AE 3TL inverter is dependable innovation, says the company.
www.advanced-energy.com

BONFIGLIOLI

Bonfiglioli designs and manufactures power conversion systems and turnkey inverter solutions up to 3 MW for commercial and utility-scale PV power plant installations.

The RPS TL-UL offers one of the widest inverter ratings on the market—367 kWac to 1.4 MWac—ensuring an optimal matching with any size array. This unique system is designed to optimize ROI, while the modular architecture guarantees maximum energy harvest (average uptime more than 99 percent). Enclosed and protected

in the RPS Station, Bonfiglioli inverters are a climate-controlled plug-and-play solution for any environment and are covered by rapid, localized support and a warranty up to 20 years.
www.bonfiglioliusa.com/PV

EATON

With a true megawatt platform, unique transformer coupling approach, and fault-tolerant design, the Eaton Power Xpert Solar inverter is specifically designed to lower the levelized cost of electricity.

The solution features a direct-coupled throat connection to transformers that enables a skid-less inverter station to boost electrical efficiency and reduce cable requirements, pad size, and commissioning time.

Eaton's utility scale power block inverter (1.5 MW and 1.67 MW) helps further reduce equipment requirements while also minimizing field wiring, transportation, and handling costs, the company says. A proprietary control strategy coupled with an optimized filter design yields a CEC weighted efficiency of 98.5 percent.
www.eaton.com/solar

FRONIUS

The SnapINverter line of solar inverters features power classes from 1.5 to 24.0 kW and is suitable for all types and sizes of systems. The innovative hinged mounting system and lightweight, sleek design makes installation and service intuitive and quick, says the company.

Maximum flexibility is possible with dual MPPT, wide voltage window, and uniform installation and mounting options. Quality and communication are taken to a new level with fully integrated code and communication features.

The Fronius FE Inverter Line, the only inverter of its kind according to the company, features the power of the string inverter with module-level monitoring technology built inside. The Fronius FE Line works seamlessly with Tier 1 Smart Module providers or optimizers on any module brand to provide string inverter convenience and reliability with the flexibility offered at the module-level.
www.fronius-usa.com

ABB

The ABB TRIO 20.0 and 27.6 kW are the "go-to" inverters for installs ranging from 20 kW rooftops to 30 MW power stations, says ABB.

More than 2.5 gigawatts of inverters installed globally gives rise to the install flexibility and design scalability. With four wiring box configurations, this NEMA 4x, 1000V inverter simplifies the trickiest jobs while eliminating the need for costly extra components like DC and AC surge protection and AC disconnect, says the company. This commercial inverter also includes many future solar necessities like smart inverter capabilities/Rule 21, NEC 2014 compliance and ramp rate and advanced dynamic reactive power controls.
http://new.abb.com/us

CYBOENERGY

CyboInverter is a patented solar power mini-inverter possessing key merits of both central inverters and micro inverters. CyboEnergy offers both on-grid and off-grid CyboInverters for the global market. CyboEnergy received Frost & Sullivan's 2013 Global Product

Differentiation Excellence Award in Solar Inverters.

Each CyboInverter has four input channels that connect to four 250W-320W solar panels, producing 1150Wac peak power. Each input channel has MPPT to eliminate partial shading problems. Multiple on-grid CyboInverters can daisy-chain so the system is "plug and play". Because there is no high-voltage DC, the system is intrinsically safe and easy to install, making CyboInverters ideal for rooftop installations, says the company. CyboEnergy also offers various off-grid CyboInverters to build flexible, battery-less, or battery-enabled solar power systems for microgrids and solar heating.
www.cyboenergy.com

PRINCETON POWER SYSTEMS

Princeton Power Systems designs and manufactures state-of-the-art technology solutions for energy management, microgrid operations, and electric vehicle charging. Its UL and CE-certified power electronics are used in advanced battery operations and alternative energy, with built-in smart functions for ancillary services. The company also builds customized, integrated systems and designs and commissions and operates microgrids.

Introduced in 2008, the Princeton Power Systems' GTIB-100 was the first bi-directional inverter designed for advanced batteries, solar, on-grid, and off-grid applications, says the company. The GTIB-100 has been chosen best in class for many microgrid applications around the world for the past five years, says the company.
www.princetonpower.com

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INGETEAM

INGETEAM designs and manufactures photovoltaic inverters for grid-tied and standalone installations.

The electronics and software have been specially developed for the INGECON SUN inverters, resulting in a high quality end product, able to adapt to the specific characteristics of each plant, says the company.

With manufacturing facilities in Spain, the U.S., and Brazil and subsidiaries in Italy, Germany, France, the U.S., the Czech Republic, Poland, Brazil, Mexico, South Africa, China, Chile, Panama, Australia, and India, INGETEAM can satisfy the needs of its clients worldwide, says the company.
www.ingeteam.com

DARFON

From its micro inverters to its monitoring systems, Darfon believes in creating a solar power solution that is efficient, dependable, and user-friendly. Darfon's MIG300 micro inverter is designed to allow up to 24 units on a single 2-Pole 30 AMP breaker, reducing the balance of systems costs and installation time. The MIG300 provides high reliability communications by separating the PLC from the data logger to isolate the communication from the noise of the grid-tie service panel resulting in a quicker and more simplified installation, says the company. It also comes with an industry-leading 25-year warranty and module level monitoring with free cloud-based access.

www.darfon.com

NEXTRONEX

Nextronex's patented Distributed Architecture solar inverter system provides multiple benefits over conventional central inverters, says the company. The system produces superior low light harvesting. It reaches 98

percent+ efficiency, even at lower light levels than other systems, and operates at peak efficiency more of the time, says the company. The system processes power from the entire array even when an inverter is down for any reason, resulting in higher system availability. All of these benefits result in four to eight percent more energy production over the life of the solar power plant, says the company.

The Nextronex system is said to offer a lower cost and higher yield solution for solar installations, including the incorporation of battery storage.
www.nextronex.com

ALENCON SYSTEMS

Alencon's award winning system architecture is said to provide the best of three worlds: the highest central inverter efficiency, highly effective string-level MPPTs, and the highest DC bus voltage available. This produces three principal benefits:

- Higher energy production
- Lower BOS costs
- Compact, stable operation.

SPOT modules (Solar Power Optimizer and Transmitter) control MPPT in 6 kW strings and boost the voltage to 2,500 V (+/- 1,250 V) for transmission to the central inverter. The GrIP (Grid Inverter Package) utilizes a highly efficient line frequency commutating inverter system to deliver AC to the grid. Alencon's patented Harmonic Neutralization (HN) enables the inverter to combine high efficiency and lower system costs with very low THD.
www.alenconsystems.com

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SCHNEIDER ELECTRIC

The solar business of Schneider Electric is focused on designing and developing products and solutions for the solar power conversion chain and providing best-in-class global customer services and technical support. Schneider Electric manufactures inverters for commercial, residential, off-grid, and utility scale power plants and provides monitoring solutions, along with comprehensive operations and maintenance service offerings.

As the solar market goes through a rapid wave of consolidations, Schneider Electric is one of the companies that can offer assurance that spare parts, service, and technical support will be continually available over the 20+ year life of a solar installation, the company says.

Schneider Electric is a bankable partner that can be trusted to provide superior reliable designs, neatly integrated solution packages, and long-term technical support, says the company.
www.schneider-electric.com

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CHINT POWER SYSTEMS

Chint Power Systems America delivers innovative, flexible, feature rich, and high performance inverters supported by its R&D and Service Center in Texas and customer teams across the U.S., the company says. Cost leadership is achieved by leveraging Chint Group's vertical integration and multi-billion dollar supply chain economies of scale. The Chint Group is a diversified set of industrial and energy systems companies operating worldwide; business units focus on components, switchgear, transmission and distribution, PV panels, and project development.
www.chintpower.com/na

SOLECTRIA RENEWABLES

Solectria Renewables' next generation SMARTGRID inverters are optimized for high efficiency, reliability, and economy. Available in two power classes, these inverters are designed for direct connection to an external transformer for utility-scale applications. These outdoor rated inverters can also be configured as 1.0 or 1.5 megawatt solar stations. Available utility-scale options include a plant master controller and advanced grid management features, such as real and reactive power control and voltage and frequency ride-through. Listed to 1000 VDC, with a CEC weighted efficiency of 98 percent, the SGI 500/750XTM inverters set a new standard for large scale power conversion, says the company.
www.solectria.com

OUTBACK POWER

OutBack Power's family of Radian inverters helps users make the most of their solar power investments through GridZero technology, which lets users use their renewably-generated electricity for their own consumption and draw on the grid only when needed, effectively "zeroing out the grid" when conditions permit.

Advanced Battery Charge profiles ensure compatibility with current and emerging battery technologies, including lithium-ion. Coupled with OutBack Power's new energy storage solutions including 2V high-capacity batteries and modular racking, the Radian family delivers cost-effective energy independence in a grid/hybrid future-perfect system, says the company. www.outbackpower.com

KACO NEW ENERGY

KACO new energy is one of the world's largest manufacturers of solar inverters. With 850 employees and offices in 16 countries, the company offers inverters for every array size, from the smallest homes to the largest solar farms with hundreds of megawatts.

KACO new energy's U.S. headquarters is located in San Antonio, Texas. The production facilities in Texas, Germany, and Asia have supplied nearly seven gigawatts of inverters since 1999. The company says KACO new energy was the first inverter manufacturer to achieve fully carbon-neutral production and is rapidly heading toward power self-sufficiency. www.kaco-newenergy.com

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