

Solarnative Uses GaN Devices in New Microinverter that Integrates into Module Frame Solving Solar Power Install Issues

GaN FETs help Solarnative achieve industry-leading power density in solar microinverters, enabling module frame integration solving solar power install issues.

EL SEGUNDO, CA, USA, November 9, 2022 /EINPresswire.com/ -- Solarnative uses GaN devices in its new microinverter to achieve industry-best power density. The Power Stick is the smallest inverter in the world, with dimensions of 23.9 by 23,2 by 404 millimeters. With an AC output power of 350 W, the volume of 0.19 liters corresponds to a power density of 1.6 kW per liter. By comparison, the IQ 7A microinverter from a market leading supplier delivers 349 watts with a volume of 1.12 liters, corresponding to 0.31 kW per liter – not even one-fifth of the Solarnative device. Despite the extreme size reduction, the European efficiencies are quite comparable, at 96.0 percent for the Power Stick and 96.5 percent for the IQ 7A.

This extreme reduction in construction volume was necessary because Solarnative wants to offer its inverter not only as an external device (Power Stick 350-a) but also as a version for module manufacturers (Power Stick 350-i) for integration into the module frame. The Power Stick is recommended for modules between 330 and 440 W.

Solarnative achieves the high-power density by using power semiconductors based on [gallium nitride](#), which allows a switching frequency of up to two megahertz and thus a simultaneous reduction in inductive components and volume.

“Each microinverter must be installed adjacent to a panel, usually on a roof. This makes them harder to install, remove and replace. Manufacturers can now address these issues using panels with these built-in microinverters,” said Henk Oldenkamp, Solarnative co-founder. “The Power



The advertisement features a black, rectangular microinverter (Power Stick) positioned in the foreground. In the background, there is a close-up of solar panels. The text 'solar native' is displayed in a stylized font, with 'solar' in blue and 'native' in white. Below it, a blue banner reads 'Solarnative solves the challenge of microinverter installation with GaN'. To the right, the EPC logo is shown with a green arrow and the text 'EFFICIENT POWER CONVERSION'. The product name 'Power Stick Microinverter' is written in white, followed by its specifications: '350 W, 1.56 kW/liter' and '5x power density'. The dimensions '403.5 x 23.9 x 23.2 mm' are listed at the bottom right. The entire graphic is set against a blue background with a subtle grid pattern.

solar native

Solarnative solves the challenge of microinverter installation with GaN

Power Stick Microinverter
350 W, 1.56 kW/liter
5x power density

403.5 x 23.9 x 23.2 mm

Solarnative Design with EPC GaN FETs



Solar applications are putting higher demands on power devices for thermal, reliability, and power density, and silicon-based power conversion is not keeping pace.”

Alex Lidow, CEO, Efficient Power Conversion

Stick is the market-ready result of years of development. With the EPC devices inside our modules, we can increase power density significantly, up to 5 times the power density of state-of-art microinverters.”

“Solar applications are putting higher demands on power devices for thermal, reliability, and power density, and silicon-based power conversion is not keeping pace,” said Alex Lidow, CEO of EPC. “We are delighted to work with Solarnative to implement GaN as 3rd generation of semiconductors into their microinverters, allowing customers to simplify installation for easier microinverters

and green energy adoptions.”

About Solarnative

Solarnative was founded by Henk Oldenkamp and Julian Mattheis, who share the management. With its Smart Energy Home, the company aims to revolutionize the photovoltaic market: The modular plug & play system ensures maximum yield and safety at the same costs, compared to standard -PV systems. Founded in 2019, the company currently employs 12 people at two locations. In Hofheim am Taunus, Germany, the company is currently setting up their own production facility aimed to become a Smart Gigafactory with an annual capacity of 3M inverters within the next years.

Solarnative press contact: Florina Thaler tel +491722482111 email f.thaler@solarnative.com

About EPC

EPC is the leader in enhancement mode gallium nitride (eGaN®) based power management. eGaN FETs and integrated circuits provide performance many times greater than the best silicon power MOSFETs in applications such as DC-DC converters, remote sensing technology (lidar), motor drives for eMobility, robotics, and drones, and low-cost satellites.

Visit our web site: www.epc-co.com

Renee Yawger

Efficient Power Conversion

+1 310-615-0280

info@epc-co.com

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