

Power Integrations Simplifies Design of Industrial PSUs for 440-VAC Line Input

5/19/2015

Reference design for energy meter PSU boosts efficiency, eliminates unreliable opto-couplers

SAN JOSE, Calif.--(BUSINESS WIRE)-- Power Integrations (Nasdaq: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today announced a new reference design (**DER-479**) demonstrating an industrial power supply using the company's **LinkSwitch-4™** family of CV/CC primary-side regulated (PSR) switcher ICs with a 1200 V bipolar junction transistor (BJT). The design supports 440 VAC line inputs and features three outputs which combine to provide up to 11 W of highly accurate constant-voltage DC power.

This Smart News Release features multimedia. View the full release here:

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DER-479 (Photo: Business Wire)

LinkSwitch-4 controllers feature an adaptive base and emitter

switched drive scheme to boost switching performance and increase efficiency. The advanced switching technique is especially beneficial in high-voltage applications as it reduces slow turn-off switching losses and eliminates BJT failures due to secondary breakdown, improving the reverse-bias safe operating area (RBSOA) and system reliability. Additionally, the LinkSwitch-4 controller's primary-side regulated sensing methodology eliminates expensive and unreliable optocouplers, replacing them in the feedback loop with a simple transformer winding. The design uses just 50 mW under no-load conditions while maintaining a fast transient response. The 65 kHz operating frequency minimizes transformer size, reducing system cost and PCB footprint. LinkSwitch-4 devices also compensate for a number of factors including: transformer inductance tolerances; input line voltage variations; cable voltage drop; and external component temperature variations.

Comments Silvestro Fimiani, senior product marketing manager at Power Integrations: “Power supplies for high-voltage systems such as three-phase meters and motor drives can be challenging to develop – efficiency, reliability and component count often suffer in such designs. By pairing the LinkSwitch-4 controller with a 1200 V BJT, the designs become very straightforward and extremely reliable.”

DER-479 is freely-downloadable at <http://www.power.com/der-479>.

About Power Integrations

Power Integrations, Inc. is a leading innovator in semiconductor technologies for high-voltage power conversion. The company’s products are key building blocks in the clean-power ecosystem, enabling the generation of renewable energy as well as the efficient transmission and consumption of power in applications ranging from milliwatts to megawatts. For more information please visit www.power.com.

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Media Contact

Power Integrations, Inc.

Peter Rogerson, 408-414-8573

peter.rogerson@power.com

or

Press Agency Contact

BWW Communications

Nick Foot, 44 (0) 1491-636 393

nick.foot@bwwcomms.com