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**REMOTELY CONFIGURABLE POINT-OF-LOAD CONVERTER
SIMPLIFIES PCB DESIGN QUALIFICATION AND PRODUCTION TESTING**

*Built-in I²C bus interface provides open-architecture control approach
All programmable output control functions – including precision output voltage & margining – feature
high-accuracy auto-compensation*

Framingham, MA, October 6, 2004 --- a new remotely configurable point-of-load DC/DC converter from Artesyn Technologies (Nasdaq:ATSN) provides powerful control flexibility for PCB design qualification and production test. The SIL15E-12M non-isolated point-of-load (POL) converter combines industry-leading conversion technology with next-generation voltage control features. Based on Artesyn's 15A SIL15E high efficiency POL converter, the new remotely configurable version incorporates an industry-standard I²C bus interface that simplifies set-up and control.

I²C programmable features include precision setting of both the output voltage and voltage margining facilities. In addition, an active DC output control function significantly increases output voltage accuracy during normal operation and when voltage margining during system test.

Intended primarily for high-end applications in the telecommunication and data communication markets, SIL15E-12M is the latest addition to Artesyn's E class family of high efficiency, general-purpose POL converters. The company will continue to introduce converters with increasingly flexible power management facilities, as the market for intelligent power products evolves.

SIL15E-12M POL converters have an input voltage range of 10 to 14V and an exceptionally wide 0.8 to 3.36V output range, enabling a large number of different device supply requirements to be satisfied with just the one model. The converters use a synchronous buck regulator topology with precision synchronous rectifier timing, and can generate up to 15A with a very high full load efficiency of 92%.

Artesyn has significantly extended the converter's functionality by integrating a programmable active DC output control function. During product development, the converter's voltage set-point can be programmed – via the built-in I²C interface – to a very high degree of accuracy, and the active control function will maintain this setting very precisely during normal operation, by automatically compensating for different load conditions. The same function is used when performing voltage margining during production test, to ensure accurate results and prevent devices being overstressed. Each converter is supplied pre-programmed to standard default values stored in non-volatile memory and only requires additional programming by customers if they wish to change an operational function. During product development, designers can program various functions of the converter to check board operation before locking in final parameters for production, thus reducing both development time and risk.

For example, designers could alter the converter's output voltage to overcome small distribution losses, change voltage margining limits, or examine the effect of switching the active DC output control function off. By default, the converters are supplied with $\pm 5\%$ margin limits and with the output control function on. The latter facility uses advanced techniques to maintain the output set-point very accurately – typically within $\pm 0.75\%$ – over time and under different temperature and load conditions.

Programming the POL converters on a board under development is simply a case of connecting its I²C bus connector via a USB cable to a standard PC running a Windows™ based configuration GUI (graphical user interface). SIL15E-12M converters can be controlled independently or up to eight can be addressed simultaneously. The configuration software employs an intuitive, simple to use interface to minimize system prototype development time.

Voltage margining (varying the supply voltages to ICs on a board) is a technique commonly used by design engineers during product development and qualification, to check the susceptibility of a device to move outside specification – or fail – under worst-case supply conditions. Board manufacturers are now beginning to demand that the same technique is used during production test, to prevent faulty devices causing early field failures. At present, designers accommodate this requirement by adding external components to each POL converter. This approach suffers from numerous disadvantages: it increases component count and cost, occupies valuable board space, involves a considerable number of extra tracks on the board, and does not provide sufficient resolution for accurately testing today's very low voltage silicon devices.

The I²C-controlled margining facilities of SIL15E-12M POL converters provide an elegant solution for all these issues by obviating the need for external trim resistors or FETs. Instead, automatic test equipment (ATE) can be used to command operation of voltage margining via the board's I²C bus. The upper and lower margin limits will previously have been programmed into the converter's non-volatile memory, which means that the ATE merely needs to invoke the appropriate operation during test.

Artesyn chose to use the I²C bus because it is an open-architecture solution widely supported by semiconductor manufacturers, and is already used extensively for control, monitoring and diagnostics – especially in telecom applications. And its simple two-line structure can be easily routed to all the POL converters on a board without raising design layout issues. Furthermore, because each POL converter is individually addressable, it provides a very flexible foundation for future power management developments.

SIL15E-12M POL converters employ an open-frame, single-board construction to minimize cost and weight and simplify thermal management. Designed for through-hole vertical mounting, the converters feature single-in-line connections, have an industry-standard footprint of just 2.0 x 0.33 inches, and an above-board height of 0.5 inches. Their low installed height makes them particularly suitable for telecom applications that use tight inter-board rack spacing to minimize system size.

Artesyn's SIL15E-12M POL converters accommodate a wide operational temperature range of -40°C to +85°C ambient, with derating, and are expressly designed as high reliability products with an MTBF in excess of 3.5 million hours (in accordance with Telcordia SR-332). The converters feature remote sense and remote on/off facilities, have no minimum load requirement, and are comprehensively protected against overtemperature and short-circuit conditions. They carry a full set of international safety approvals, including EN60950 (TÜV Product Service) and UL60950.

To help engineers familiarize themselves with these advanced POL converters, Artesyn is making an evaluation kit available. The boxed kit comprises two SIL15E-12M POL converters mounted on a PCB with an I²C bus connector, a USB cable to connect the board to a PC, a CD-ROM containing the configuration software and installation instructions, and a printed copy of the user guide. To request an evaluation kit or to obtain further information about Artesyn's new SIL15E-12M POL converters, please visit: http://www.artesyn.com/powergroup/new_12vin_eclass_launch.htm

Sample quantities of Artesyn's SIL15E-12M POL converter are available for immediate delivery, and production quantities will be supplied in 84-piece carton. Pricing for 1,000-piece quantities is US\$18.45, and the standard lead time is stock to 8 weeks.

ends

Photography available:



Caption: Artesyn Technologies' new SIL15E-12M POL converter combines leading-edge conversion technology with next-generation voltage control facilities.

A 300dpi JPEG version of this image can be downloaded from:
http://www.artesyn.com/media/pr_photos/hi_res/sil15e_12m_pr.jpg

Other high-resolution images of this product, set against single-color and white backgrounds, can be downloaded from:
http://www.artesyn.com/powergroup/photo_library.htm

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About Artesyn Technologies, Inc.

Artesyn Technologies, Inc., headquartered in Boca Raton, FL., is a world leader in designing and manufacturing power conversion solutions for industry-leading OEMs in communications and IT infrastructure markets and is one of the foremost providers of controllers and WAN/protocol software for worldwide telecom and datacom systems and real-time communication applications. The Company has a global sales reach with design and manufacturing facilities in Asia Pacific, Europe and North America. Artesyn is a public company whose common stock is traded on the NASDAQ stock market under the symbol ATSN. For more information about Artesyn Technologies and its products, please visit the company's web site at www.artesyn.com.