

National Instruments' new FlexRIO provides NI LabVIEW FPGA technology combined with high-speed and instrument-class I/O. See page > 19



DryLin W linear guides from igus feature a turn-to-fit hand clamp for manually adjustable clearance. See page > 34

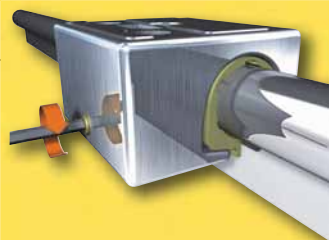


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Black & Decker's Hardware & Home Improvement designs complex, organic shapes when repairing legacy tooling and expanding an existing product line.



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Does third-party testing/validation carry any weight with the buyer – at either the consumer or component purchasing levels?



30 Engineering Answers

Rollin' With The Changes

New strategies have fed design innovation and helped Radio Flyer expand its offerings.



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45 The Last Of The True Believers

Truly innovative NPD is not a fad or a Six Sigma-like trend; it's risky, messy and a bit unpredictable, and it doesn't necessarily follow a straight line.



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Still Flying:

How new materials, development strategies and production approaches have kept "the Little Red Wagon" company relevant.

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New Products
& Components



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SPEC CHECK > FASTENERS

Southco's DZUS® Panex® fasteners provide better ergonomics for repeat access applications. See page > 40



FIRST LOOK

Energy-Autonomous Sensors ▶

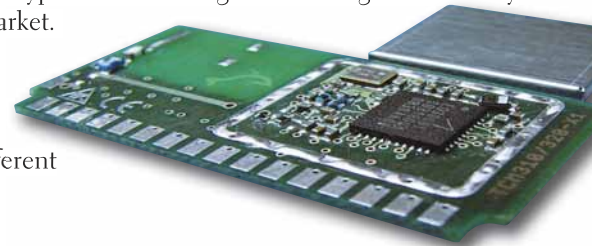
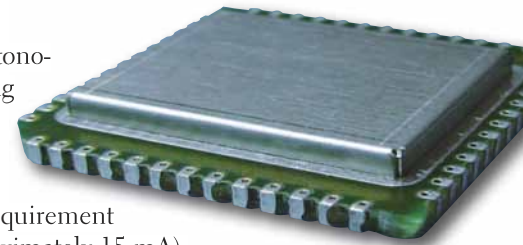
EnOcean (Boston, MA) has launched its Dolphin system architecture. Dolphin enables energy-autonomous actuators, bidirectional communication of sensors and innovative routing concepts — creating the foundation for a wide variety of new products and applications. Additional features include:

- On-demand matching and continuous optimization of central system features such as energy budget, peripheral functionalities and wireless communication.
- The bidirectional plug-and-play TCM 300 transceiver module that has half the standby power requirement compared to its predecessor (2.5 to 3.3 V, receiving approximately 30 mA and transmitting approximately 15 mA).
- Greater measuring accuracy and 4x the resolution for sensors.
- An optional repeater function, activated by a pin, that reduces the number of system components needed and simplifies start-up.
- A mini operating system and new API.
- Complex software functions such as SMART ACK (bidirectional wireless transmission), encryption and routing can be integrated as ready macros, maintaining the interoperability of end-user equipment and shortening time to market.

Why Would I Specify?

- Ready-programmed operating modes for switching and dimming.
- A bidirectional serial interface for integration in external logic or an automation system.
- The ability to enable non-proprietary systems to match the increasing demands of very different applications and grow functionality together with the demands of such applications.

www.enocean.com



Reduced Size ▼

Murata Electronics (Smyrna, GA) has introduced the CEG23 series isolator that measures 2 x 2 x 1 mm. Additional features include:

- LGA terminals, which reduce the mounting space and add freedom in the RF circuit layout.
- A new integrated circuit board.
- 2-port circuit technology to maintain matching with the power amplifier.

Why Would I Specify?

- A high-performance isolator for multi-band, mobile phones.
 - Reduced dispersion, insertion loss and variation within the bandwidth by using a new electrode construction.
 - A 56 percent reduction in size from current Murata isolators.

www.murata-northamerica.com



Simple Appliance ▼

MAMAC Systems (Minneapolis, MN) has introduced a compact and simple sensor appliance. This device puts remote building sensing, alarming and control within reach of every building owner. The Maverick IP Sensor Appliance features:

- Easy-to-navigate web pages that are displayed.
- Monitoring and control from any device utilizing a web browser.
- The ability to send email alerts to any computer, PDA or cell phone.
- A web server.
- Analog/digital inputs.
- Relay outputs.
- Power from any 24 VAC transformer.
- Availability in 2 configurations: 4 sensor inputs and 4 relay outputs or 8 sensor inputs.

Why Would I Specify?

- The device puts remote building sensing, alarming and control within reach of every building owner.
- The ability to send instant alarms to owners upon deviations from preset building conditions.
- The unit is simply plugged into a hub or router and it is ready to relay information or accept control signals.

sales@mamacsys.com

www.mamacsys.com



Fast To Fit ▶

Adaptaflex (Aurora, IL) has introduced the **Adaptalok ATS** range of conduit fitting, a 1-piece, molded fitting ideal for wet or dry conditions. Adaptalok ATS offers:

- A design that is fast to fit and easy to remove with the Adaptalok removal tool.
- Reduced stockholding — all required IP standards and specifications offered in a 1-piece fitting.
- Required IP ratings that can be achieved by a push-and-twist-pull installation process, which requires no tools.
- Fittings manufactured from Nylon.
- Elastomer materials manufactured using a twin shot molding technique to provide both the internal conduit seal and a face seal washer as an integral part of the component.
- Availability in sizes from 13 to 54 mm.
- Availability in straight, 90° elbow and 45° elbow formats.
- Fixed or swivel nylon or metal thread options.
- A UNEF circular connector range with swivel internal threads.
- Swivel panel mount flanges and swivel couplers.

Why Would I Specify?

- A single, easy-to-use range which offers exceptional protection to critical power and data cabling.
- Reduced installation times.
- No possibility of losing component parts.

usasales@adaptaflex.com

www.adaptaflex.com



Unprecedented Flexibility ▼

Objet Geometries (Rehovot, Israel) has unveiled its **Eden260V™** printer, which offers flexibility in using available printing materials. According to the company, additional features include:

- A 260- x 260- x 200-mm build size.
- A 870- x 735- x 1,200-mm footprint.
- Accurate model creation with fine details and smooth surfaces.
- Support for all of Objet's available proprietary model materials.
- PolyJet™ Technology, which jets photopolymer materials in 16µ layers.
- A jetting head that slides back and forth along the X-axis depositing a single layer of photopolymer onto the build tray, which is immediately cured and hardened by UV light.



Why Would I Specify?

- The ability to create models with the widest range of physical properties – including transparency, color and elasticity – for even more numerous and diverse applications.
- A thin layer thickness of 16 µ, ensuring accurate and smooth parts.
- Fully-cured models that are immediately ready for product testing, as well as painting, drilling, chrome-plating or use as molds for tooling.

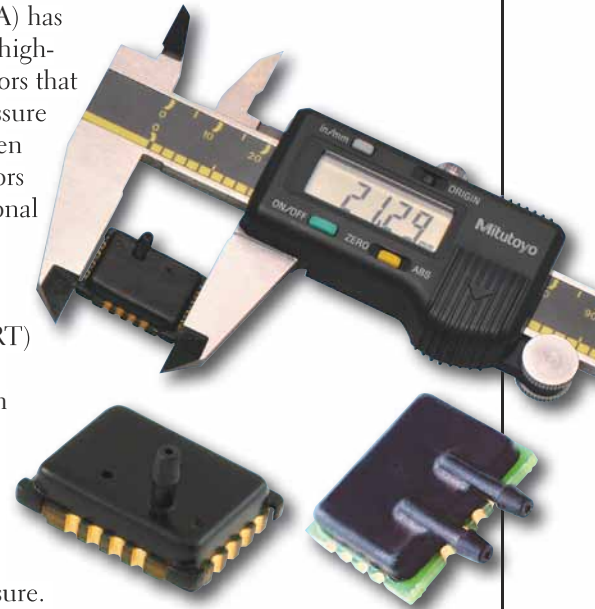
info@objet.com

www.objet.com

Medical Air Applications ▼

Kavlico (Moorpark, CA) has introduced the **P6060** high-accuracy pressure sensors that are suitable for air pressure measurements in oxygen concentrators, respirators and ventilators. Additional features include:

- A total weight of 1.3 g (max).
- A piezo-resistive (PRT) sense element.
- A 21.29- x 16.71-mm footprint.
- A 5 V input.
- A 0.5 to 4.5 VDC linear analog amplified output proportional to pressure.
- The option to specify a digital output that conforms to SPI protocol.
- A ±1 percent span total error band (TEB) over 0° to 60°C.
- Pressure ranges that include 13" H2O and 0-1 through 0-75 PSIA, PSIG and PSID.
- RoHS compliance.



Why Would I Specify?

- EMI/RFI and ESD protection.
- The ability to be configured with custom pressure ranges and port connections dependent upon the end-users' application-specific requirements.
- Internal temperature compensation using a state-of-the-art ASIC.

sales@kavlico.com

www.kavlico.com