NVE CORPORATION

Sensor and Isolator NEWS

April 1, 2018

Electrifying News From NVE

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New Datasheet

A preliminary IL01x Datasheet is now available.

New on YouTube

- Low-Power Isolator in 4 - 20 mA Current Loops
- GMR Sensor to ATtiny Interface
- Isolated 4-20 mA to RS-485 Interfaces
- AAL024 New Noncontact Current Sensor
- Noncontact AC Current Sensing
- A Digital Power Monitor IC and GMR Current Sensor
- Arduino Noncontact GMR Current Sensing

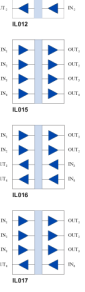
Earth Day April 22

NVE is committed to the safety, health, and protection of people and the environment.

For more information, visit our Environmental and Social Governance page.

Low-Power Isolators

With typical total quiescent current of just 0.3 mA per channel, the new IL01x-Series low-power isolators draw just one-fourth the power of our flagship products.



Even with the low power, the new parts provide remarkable performance:

- 10 Mbps guaranteed maximum data rate
- No carriers or clocks for low EMI
- 44000 year barrier life
- 2.5 kV isolation
- -40°C to +100°C

The new devices use NVE's patented low-power spintronic Tunneling Magnetoresistance (TMR) technology. A unique ceramic/polymer composite barrier provides excellent isolation, best-in-class barrier resistance, and virtually unlimited barrier life.

VDE V 0884-11 and UL 1577 approvals are pending. The four-channel versions use NVE's unique True 8™ wide-body SOIC-16 package with full 8-millimeter creepage in accordance with IEC60601.

Applications include:

- 4-20 mA loop-powered controls
- Battery-powered instruments
- SPI

Samples of two popular channel configurations are available now, with two more coming soon:

Part #	Transmit/ Receive Channels	Total Supply Current*	Package	Availability
IL012-3E	1/1	0.6 mA	SOIC-8	Samples now; Production Q2
IL015E	4/0	1.2 mA	0.3" SOIC-16	Q3
IL016E	2/2			Q3
IL017E	3/1			Samples now; Production Q2

*Typical $I_{q1} + I_{q2}$; $V_{dd1} = V_{dd2} = 3.3V$

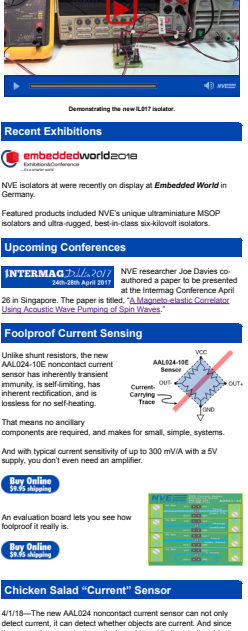
Download the IL01x Datasheet >

Request Samples >

Lab Results

Low-Power Isolator Demonstration

We went into the lab to demonstrate the best-in-class efficiency of the new IL017 low-power isolator, making it ideal for SPI interfaces powered by 4-20 mA current loops:



Demonstrating the new IL017 isolator.

Recent Exhibitions

embeddedworld2018 Exhibition&Conference

NVE isolators at were recently on display at ***Embedded World*** in Germany.

Featured products included NVE's unique ultraminiature MSOP isolators and ultra-rugged, best-in-class six-kilovolt isolators.

Upcoming Conferences

INTERMAG Dublin 2017 24th-28th April 2017

NVE researcher Joe Davies co-authored a paper to be presented at the Intermag Conference April 26 in Singapore. The paper is titled, "A Magneto-elastic Correlator Using Acoustic Wave Pumping of Spin Waves."

Foolproof Current Sensing

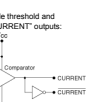
Unlike shunt resistors, the new AAL024-10E noncontact current sensor has inherently transient immunity, is self-limiting, has inherent rectification, and is lossless for no self-heating.

That means no ancillary components are required, and makes for small, simple, systems.

And with typical current sensitivity of up to 300 mV/A with a 5V supply, you don't even need an amplifier.

Buy Online $9.95 shipping

An evaluation board lets you see how foolproof it really is.

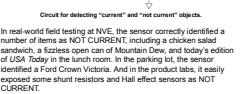


Buy Online $9.95 shipping

Chicken Salad "Current" Sensor

4/1/18—The new AAL024 noncontact current sensor can not only detect current, it can detect whether objects are current. And since the sensor is noncontact, you just need to get it close to the object under test.

Here's a reference circuit with an adjustable threshold and complementary "CURRENT" and "NOT CURRENT" outputs:



Circuit for detecting "current" and "not current" objects.

In real-world field testing at NVE, the sensor correctly identified a number of items as NOT CURRENT, including a chicken salad sandwich, a fizzless open can of Mountain Dew, and today's edition of *USA Today* in the lunch room. In the parking lot, the sensor identified a Ford Crown Victoria. And in the product labs, it easily exposed some shunt resistors and Hall effect sensors as NOT CURRENT.