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New Products

- [IL721E](#)
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- High-speed two-channel bidirectional wide-body isolators

Document Updates

- [IL711/IL712/IL721 High-Speed Two-Channel Isolator Datasheet](#)
Includes new True 8 mm creepage wide-body package options
- [Application Bulletin 2: Isolator high-voltage test standards, including UL 1577, IEC 61010-1, and VDE 0884-10, and IEC 60601-1](#)
- [Application Bulletin 13: Low Emissions, Low EMI Susceptibility, and Excellent Magnetic Immunity](#)

New Downloads

- [IBIS models](#) for passive-input isolators and transceivers.
- Downloads**

Moving Up

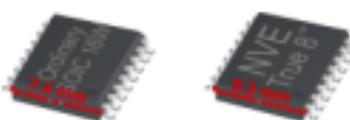
NVE moved up three notches in this year's recently-published *Minneapolis/St. Paul Business Journal* ranking of the Top 100 public companies in Minnesota. [More Rankings >](#)

Memorial Day

NVE will be closed May 27 for Memorial Day.

True 8 mm Bidirectional Isolators

The new IL721E and IL721TE are high-speed, two-channel bidirectional isolators in NVE's unique True 8™ guaranteed eight millimeter creepage package.



The IL721E has a maximum operating temperature of 100°C, and the IL721TE operates to 125°C. Both versions are [in stock](#) for immediate delivery.

Why 8 mm Creepage

Eight millimeter creepage is required for 250 Vrms working voltage under IEC 60601, which specifies isolator creepage for medical safety and other equipment, as well as other standards.

With most wide-body packages, JEDEC tolerances, variability between package molds, and surface metal in the creepage path mean full 8 mm creepage cannot be assured.

Ordinary Packages

Ordinary JEDEC wide-body packages are nominally 7.4 mm wide, with approximately 8.1 mm between pins around the end before subtracting metal tabs (sometimes called "tie bars") on the package edge. Tie bars are used in the molding process, and whether internally connected or not, the exposed metal reduces the creepage and are subtracted under creepage measuring rules.

The tie bar subtraction for an ordinary JEDEC package is typically 0.5 mm, bringing typical creepage to only 7.6 mm—not enough for 250 working volt applications, even before allowing for mechanical tolerances.

The True 8 Package

Instead of an ordinary general-purpose package, NVE has custom tooled the True 8 isolator package and leadframe to meet isolation creepage requirements. The package is within the JEDEC standard, so no special board layout or handling is needed. The package has much tighter tolerances on package width and pin-to-end spacing, which are critical creepage dimensions.

Additionally, rather than two metal tabs on the edge of the package, the NVE package has just one narrow tab that secures the leadframe during molding.

This [technical video](#) has more information on the True 8 package:



[Video: The True 8 Isolator Package](#)

High-Performance Bidirectional Isolators

IsoLoop Isolators' award-winning technology make them especially good for bidirectional applications.



NVE's broad line of high-performance bidirectional Isolators includes more than thirty part types. IsoLoop isolators are fast and well-matched for remarkable propagation delay, pulse-width distortion, jitter, and channel-to-channel skew. Key specifications are:

- 18 ns max. propagation delay
- Pulse-width distortion to 300 ps
- 100 ps jitter
- 3 ns max. channel-to-channel skew

Popular bidirectional applications include [serial interfaces](#), [isolated CAN Bus](#), [isolated SPI](#), and [isolated A/D converters](#). A bidirectional application example is shown in the [Application Corner](#) below.

Because the real world is bidirectional. And a lot of it needs true 8 mm.

Buy Online
\$9.95 shipping

IBIS Models



With additional models recently posted or updated, [IBIS models](#) are now available for all NVE Isolators. All have been verified with test data, and all pass the latest IBIS Check (Version 5.1).

Upcoming Exhibitions

Powerful, intelligent NVE products will be on display at Power Conversion and Intelligent Motion ("PCIM") Europe 2013 in Nürnberg, Germany. Products will be on display May 14 to 16 in the HY-LINE Power booth.



[Free Registration Courtesy HY-LINE Power >](#)



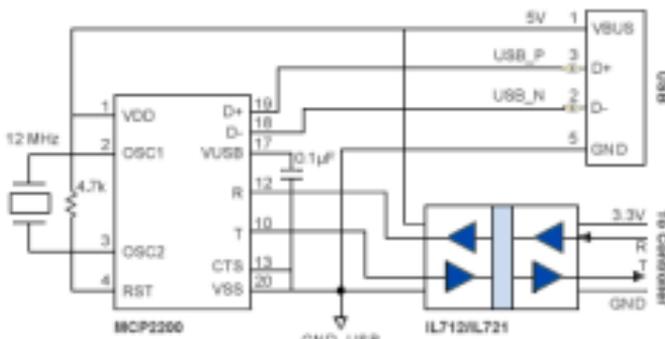
NVE sensors will be on display at **Sensor+Test 2013** May 14 to 16 in Nürnberg, Germany. NVE will exhibit in cooperation with distributor IS-LINE. An NVE engineer will be there to talk to customers questions.

Application Corner

Isolated USB



Isolating USB reduces noise and eliminates ground loops. Isolating the input to a USB controller (rather than the bus lines) requires fewer isolation channels and is therefore usually the simplest solution, as shown in the following illustrative circuit:



Isolated USB UART Using an IL712

The Microchip MCP2200 is a USB 2.0 to UART protocol converter. [IL712/IL721 Series Isolators](#) are best-in-class bidirectional isolators with a remarkable 100 ps jitter.

The isolators are available in PDIP8, SOIC8, MSOP8, or the unique [True 8™](#) wide-body SOIC.