Quick Links
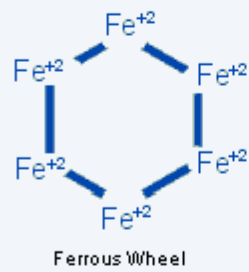
Sensor Selector Guide

Isolator Selector Guide

Online Store

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Upcoming Shows

NVE sensors will be on display at **Sensor+Test 2009** in cooperation with NVE distributor HY-LINE Sensor-Tech. The show runs May 26 to 28 in Nüremberg, Germany, and is one of the largest sensor shows in the world.

<Free Registration Courtesy HY-LINE>

Fun Formulas

Fe^{+2} Fe^{+2} Fe^{+2} Fe^{+2} Fe^{+2} Fe^{+2}

Ferrous Wheel

Fun Fact

A coffee cup could hold about 700,000 of NVE's smallest packaged parts, the new 1.1 millimeter square ULLGA Nanopower Sensors (we don't recommend storing them in a coffee cup, though).

<More Fun Facts>

Product News

## Nanopower Magnetic Sensors

NEW

Samples are now available for a number of models of the new ADL-Series Giant Magnetoresistive (GMR) Digital Switches. The new devices are NVE's smallest packaged parts at just 1.1 mm x 1.1 mm x 0.45 mm, and are ideal for ultraminiature industrial controls.

The output is configured as a magnetic "switch," where the output turns on when a magnetic field is applied and off when the field is removed. The field can be either polarity, and the magnetic operate point is extremely stable over supply voltage and temperature.

Internally duty cycled versions (the ADL0xx and ADL1xx Series) reduce power consumption. An integrated latch ensures the output is available continuously. Two duty-cycle frequencies are available, offering a tradeoff between update frequency and power consumption. A continuously-operating version (the ADL9xx Series) is also available.

ADL-Series Sensors fit on the head of a pin.
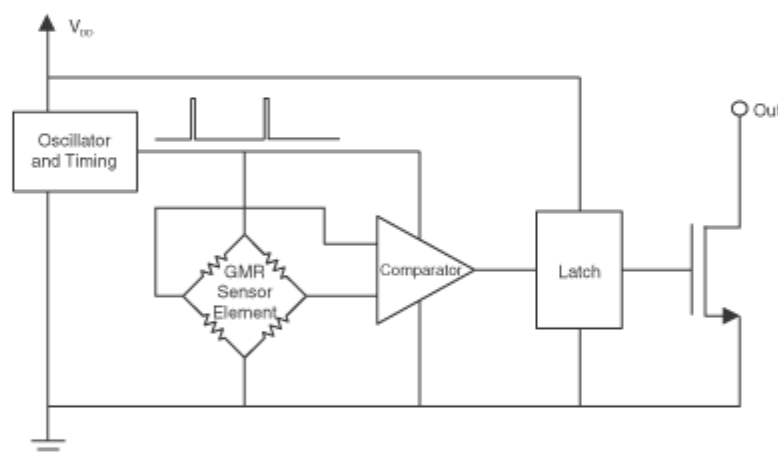
ADLxxx-14 Functional Block Diagram

Continuously-operating versions consume less than a milliwatt, while duty-cycled versions consume less than a microwatt.

ADL-Series parts are ideal for battery-powered devices such as gas and water meters, portable instruments, or anyplace where extremely low power is required.

Key specifications are:
- 1.1 mm x 1.1 mm x 0.45 mm ULLGA package
- 2.4 - 3.6 V supply voltage
- As low as 72 nW typ. power consumption at 2.4 V
- 20, 28, or 40 Oersted operate points
- Current-sinking output up to 100 µA
- -40°C to +125°C temperature range

Samples are available to qualified customers.

Call our Sensor department at or (800) GMR-7141 or e-mail sensor-info@nve.com.

<Learn More About NVE's Smallest Packaged Sensors>

Choosing the Right Isolator

IsoLoop®
The Opto Alternative

With over 100 isolator models, there's certain to be one ideal for your application. Use the following guide to select the right IsoLoop isolator:

Application Requirement	Isolator Design Feature	Products
High data rate	High bandwidth GMR	IL7xx, IL2xx, IL6xx
Smallest footprint	MSOP8 or narrow-body SOIC16	All
Analog or differential inputs	Passive (coil) input	IL6xx
Low PWD, 50 ps jitter	High slew rate electronics	IL7xx, IL2xx, IL6xx
Low EMI signature	Data-driven transfer function	IL7xx, IL2xx, IL6xx
Low power consumption	Edge-sensitive switching	IL7xx, IL2xx, IL5xx
Excellent transient immunity	Low capacitance Wheatstone bridge output	All
Known initial output state	Internal refresh or passive input	IL5xx (Internal refresh); IL6xx (passive input)
Channel-to-channel isolation	Integrated, isolated inputs	IL611, IL613
Wired-OR outputs	Open-drain outputs	IL6xxA ("A" types only)
Fail-safe operation	Known zero-input state	IL6xx
DC stability	Inherent DC stability or refresh	IL6xx (Inherent DC stability); IL5xx (refresh)
True optocoupler emulation	Passive input	IL6xx
Cost sensitive	Lower-cost electronics	IL5xx

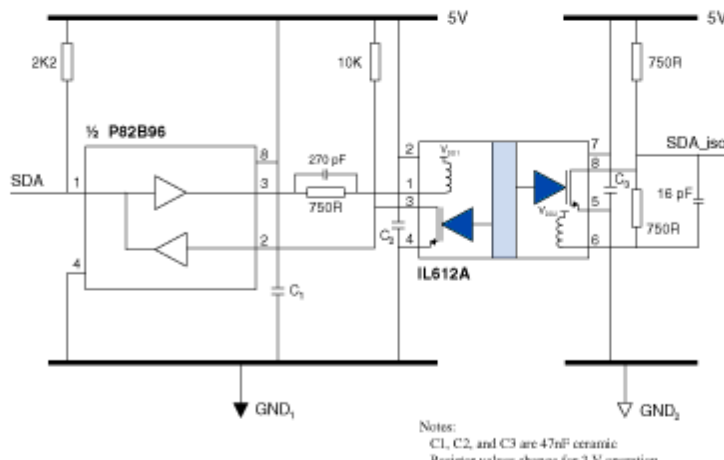<More Info (Application Bulletin No. 16>

<Isolator Selector Guide>

Application Corner

I²C Isolation Using IL612A
By Sandy Templeton
Director, Isolator Product Development and Applications

This circuit provides bidirectional isolation of I²C bus signals with no restrictions on data rate, and none of the I²C bus latch-up problems common with other isolation circuits:

Notes:
C1, C2, and C3 are 47nF ceramic
Resistor values change for 3 V operation

This circuit provides bidirectional isolation of I²C bus signals. The P82B96 buffer prevents loop latch-up in the low state by driving an I²C low voltage of 0.6 V on pin 3, preventing it from holding SDA low when SDA_Iso transitions from low to high.

<Download IL600A Series Datasheet>

<More Isolator Applications>