

**Analog and Digital Output Signal Conditioners/Transmitters**

**\$250**  
iDRN/iDRX

Patented



- ✓ **ANALOG OR DIGITAL OUTPUTS**
- ✓ **Models Available for:**  
**Thermocouple**  
**RTD**  
**Process Voltage & Current**  
**Strain**  
**Frequency/Pulse**  
**AC Voltage and Current**
- ✓ **Up to 1800 Vdc Isolation**
- ✓ **DRN Series Provide**  
**0-10 Vdc, 4-20 mA or**  
**0-20 mA Output**
- ✓ **DRX Series Provide RS-485**  
**Output (ASCII Serial**  
**Protocol and**  
**MODBUS Serial Protocol)**
- ✓ **Free Setup and**  
**Configuration Software**
- ✓ **Factory Setup and**  
**Configuration Available at**  
**No Charge (for DRN Analog**  
**Output Models)**

The new iD Series signal conditioners combine the accuracy of laboratory instrumentation with the performance required by demanding industrial applications. The iD Series signal conditioners are ideal for those applications in Data Acquisition, Test & Measurement, Process Control, and Industrial Automation where accuracy, performance, and reliability are critically important.

The iD Series signal conditioners mount on a 35mm DIN rail, and operate on any voltage between 10-32 DC power. (A matching 24 Vdc 850 mA switching power supply is also available.) The devices feature three-way isolation of up to 1800 V between the signal inputs, outputs, and power supply.

The iD series feature seven (7) models designed for each of the most widely measured signal inputs: Process (DC) Voltage and Current; Strain Gage; Thermocouples; RTD's; AC Voltage; AC Current; Frequency/Pulse.

The iD series devices are designed to work directly with a variety of sensors and transducers; no other components are necessary. For sensors such as RTD's, strain gages, and some process transducers, precise stable excitation is provided directly from the iD module.

The iD series are available with two different types of signal outputs: Analog or Digital. The **iDRN** series provides a totally scalable analog output in DC voltage or current. The **iDRX** series provide a digital RS-485 output. Both iD Series signal conditioners are intelligent microprocessor based instruments that can be scaled and programmed by computer via serial communications, or over an Ethernet network.

**iDRN SERIES ANALOG OUTPUT**

The **iDRN** series feature a 0-10 Vdc, or 0-20 mA (including 4-20 mA) analog output signal that is typically scaled to be directly proportional to the input signal. It is an ideal component in a system with PLC's or PC's with analog data acquisition boards.

The **iDRN** series are an excellent choice for applications that demand an extra measure of accuracy and performance that is not possible with conventional "analog" signal conditioners or transmitters. Unlike conventional analog devices that are scaled by adjusting zero and span "pots", the programmable, micro-processor based **iDRN** instruments are scaled precisely on a PC with free and simple Windows software. The **iDRN** modules connect directly to a PC's RS-232 Serial Communications port for programming and scaling.

Once the module is configured, the parameters are saved in non-volatile memory. The device can be disconnected from the PC, or the RS-232 output from the module can be used for continuous data acquisition in addition to the analog output.

Alternatively, the **iDRN** signal conditioner can be connected to a PC's Ethernet port or an Ethernet network using the **EIS-2B** module as a Serial/Ethernet bridge.

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# iD Series

## FREE SETUP and CONFIGURATION

If an iDRN signal conditioner is not going to be connected to a computer, it can be ordered preconfigured by the factory at no extra charge. The user can select the input types, ranges and output scale, and NEWPORT will program the instruments to those specific requirements in our calibration lab prior to shipment. For custom factory setup and scaling of the iDRN model, please specify the "-FS" option.

## DRX SERIES DIGITAL OUTPUT

The iDRX Series Signal Conditioners provide highly accurate digital outputs. Each module provides an RS-485 Serial output that can be transmitted directly to computers and other devices with serial communications capability, or converted to Ethernet.

On an RS-485 bus, up to 32 modules can be connected over a distance of 1200 m (4000 ft) on a single pair of wires. With optional RS-485 repeaters, up to 254 modules may be connected to a single RS-485 port. The iDRX Series digital conditioners may be connected to an RS-485 bus using either screw terminator or RJ-12 connector.

## ASCII AND MODBUS

The user can select between an easy-to-use, straightforward ASCII protocol, or the popular MODBUS protocol found in many existing industrial installations. With the simple ASCII commands, writing programs using the iDRX does not require special drivers or libraries. In addition, many off-the-shelf software packages can be used with the iDRX devices without any programming. NEWPORT also provides a number of useful programs and demos for the iDRX at no charge.

## OPC Server and Active X CONTROLS

NEWPORT offers an optional OPC Server (OLE for Process Control) to integrate the iDRX with OPC-Client data acquisition, process control and industrial automation software available from NEWPORT, Iconics, Intellution and Wonderware, among others. Or utilize the ActiveX controls to interact with iDRX in ActiveX Container software such as Microsoft Excel, Microsoft Visual Basic, Intellution, Rockwell Automation, and GE Fanuc CIMPLICITY among others.

## iDRX and iDRN Series

### Common Specifications:

**Input Power Supply:** 10 to 32 Vdc

**iDRX Output:** 2-wire (half duplex) RS-485 (NEWPORT® Serial Protocol and Modbus Serial Protocol)

**iDRN Output:** 0 to 10 V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10 V compliance

**Isolation:** 1800 V peak

**Typical Step Response to 99%:** 1 second

**Operating Ambient:** -5 to 55°C (23 to 131°F)

**Storage Temperature Range:** -40 to 85°C (-40 to 185°F)

**Mounting:** 35 mm DIN rail

**Dimensions:** 90 x 25 x 124 mm (3.54 x 0.99 x 4.88")



**Mounts to 35 mm DIN rails.**

Input	Thermocouple	RTD	ac Voltage	ac Current	Process	Strain/Bridge	Frequency Pulse
Model No.	iDRN/iDRX-TC	iDRN/iDRX-RTD	iDRN/iDRX-ACV	iDRN/iDRX-ACC	iDRN/iDRX-PR	iDRN/iDRX-ST	iDRN/iDRX-FP
<b>Input Type</b>	Thermocouple temperature sensor	RTD Temperature sensor Pt100, 500, 1000Ω	ac Voltage	ac Current	dc Millivolt, Volt and Current	Millivolt	NAMUR Contact closure low level open collector
<b>Input Range</b>	J, K, T, E, R, S, B, N, J DIN thermocouple full range	$\alpha = 385, 392$ Full range of RTD 2, 3 or 4-wire	Full Scale Range: 400 mV to 400 V	Full Scale Range: 10 mA to 5 A	Full Scale Range: $\pm 400$ mV to $\pm 10$ V 0 to 20 mA	0 to 30 mV 0 to 100 mV $\pm 100$ mV	Full Scale Range 20k to 0 to 200 M pulses 50 kHz
<b>Accuracy</b>	$\pm 1^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	0.2%	0.2%	0.1% FS	0.2% FS	0.1% FS
<b>Resolution</b>	0.1°C	0.1°C	10 to 14 Bit	10 to 14 Bit	12 to 15 Bit	13 to 15 Bit	15 to 19 Bit
<b>Output</b>	iDRX Series: 2-wire (half duplex) RS-485/iDRN Series: 0 to 10 V @ 10 mA max; 0 to 20 mA or 4 to 20 mA						
<b>Excitation</b>	N/A	N/A	N/A	N/A	14 Vdc @ 25 mA	10 V @ 30 mA	5, 8.2 and 12.5 Vdc @ 25 mA
<b>iDRN RS-232 &amp; ANALOG</b>	\$325	\$355	\$345	\$345	\$325	\$345	\$295
<b>iDRX RS-485</b>	\$250	\$250	\$270	\$270	\$275	\$300	\$250

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# iD Series



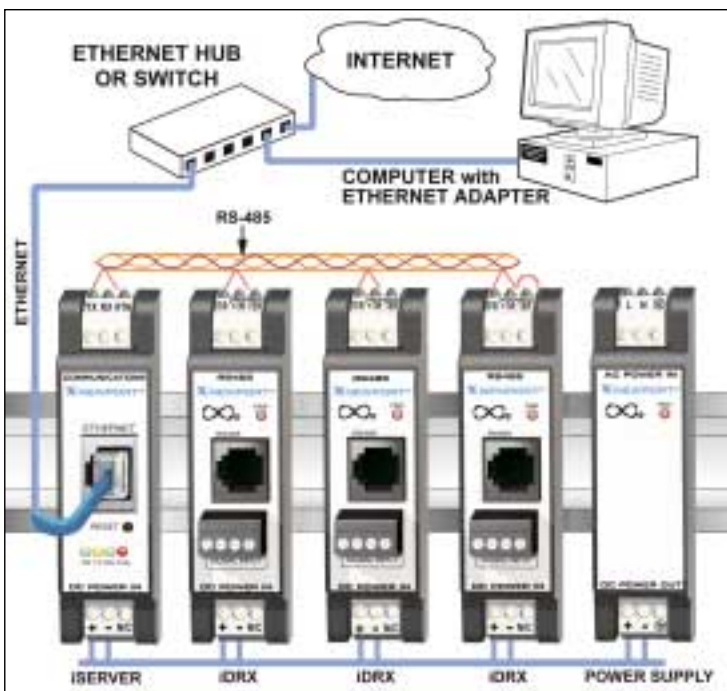
## ETHERNET and INTERNET

The **iDRX** signal conditioner can also be connected to an Ethernet network using the **EIS-2** module as a Serial/Ethernet bridge. One **EIS-2B** module can be a hub for up to 32 **iDRX** modules. The **EIS-2B** module packages the ASCII serial communications in standard TCP/IP Protocol for transmission over standard Ethernet networks and the Internet. Unlike some manufacturer's products this system uses totally open, non-proprietary standards and protocols for Ethernet and Internet. The user can integrate these devices with any commercial or industrial grade networking components that also comply with the popular international standards.

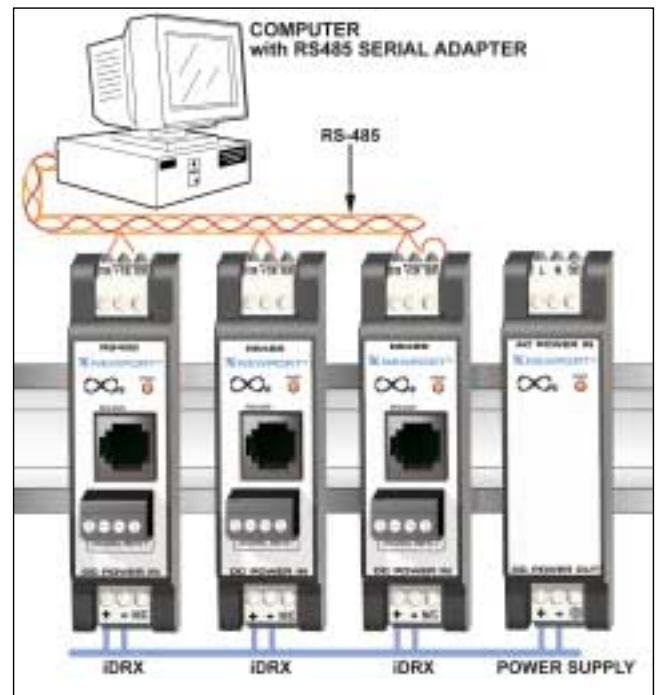
Access Vital information Anytime, Anywhere, on the World Wide Web



Get Internet E-mail Notification of Alarm Status on your web enabled phone or PDA.



Digital Output iDRX modules connected to Ethernet



iDRX modules on RS485 Serial Bus