Analog & Digital Output Signal Conditioners/Transmitters

iDRN/iDRX Series

5 YEAR WARRANTY

- ✔ Analog or Digital Output
- ✔ Models Available for: Thermocouple, RTD, Process Voltage & Current, Strain, Frequency/Pulse, AC Voltage and Current
- ✔ Up to 1800 Vdc Isolation
- ✔ iDRN Series Provide 0 to 10 Vdc, 4 to 20 mA or 0 to 20 mA Output
- ✔ iDRX 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 iDRN Analog Output Models)
- ✔ RoHS 2 Compliant

The 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 to 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 Vdc 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 to 10 Vdc, or 0 to 20 mA (including 4 to 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 RS232 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 RS232 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 EIT module as a Serial/Ethernet bridge.

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 OMEGA 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.

iDRX 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') 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. OMEGA also provides a number of useful programs and demos for the iDRX at no charge.

OPC Server And Active X Controls

OMEGA offers an optional OPC Server (OLE for Process Control) and ActiveX Controls for the iDRX Series. These programs make it easy to integrate the iDRX devices with information systems using "ActiveX Containers" such as Microsoft Visual Basic and Microsoft Excel as well as with popular OLE and OPC compliant data acquisition, process control, and industrial automation software from OMEGA, Iconics, Wonderware, Intellution, Rockwell Automation, and GE Fanuc Cimplicity among others.
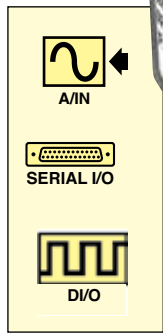
iDRX and iDRN Series Common Specifications

Input Power Supply: 10 to 32 Vdc
iDRX Output: 2-wire (half duplex) RS-485 (OMEGA Serial Protocol and Modbus Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
Isolation: 1800 Vdc 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 H x 25 W x 107 mm D (3.54 x 0.99 x 4.21")

Mounts to 35 mm DIN rails.

RAIL-35-2, 2 m (6') long.

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
Input Type	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
Input Range	J, K, T, E, R, S, B, N, J DIN thermocouple full range	α = 385, 392 Full range of RTD 2, 3 or 4-wire	Full Scale Range: 400 mV to 400V	Full Scale Range: 10 mA to 5 A	Full Scale Range: ±400 mV to ±10V 0 to 20 mA	0 to 30 mV 0 to 100 mV ±100 mV	Full Scale Range 20k to 0 to 200 M pulses 50 kHz
Accuracy	±1°C	±0.5°C	0.2%	0.2%	0.1% FS	0.2% FS	0.1% FS
Resolution	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
Output	iDRX Series: 2-wire (half duplex) RS-485/iDRN Series: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA						
Excitation	N/A	N/A	N/A	N/A	14 Vdc @ 25 mA	10V @ 30 mA	5, 8.2 and 12.5 Vdc @ 25 mA

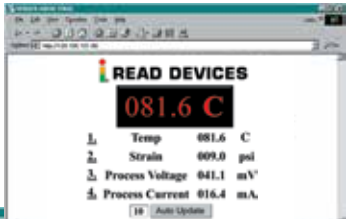## Ethernet and Internet

The iDRX signal conditioner can also be connected to an Ethernet network using the EIT module as a Serial/Ethernet bridge. One EIT module can be a hub for up to 32 iDRX modules. The EIT 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.

Get Internet E-mail Notification of Alarm Status on your web enabled smartphone or blackberry.

A/IN

SERIAL I/O

DI/O

Access Vital information Anytime, Anywhere, on the World Wide Web.
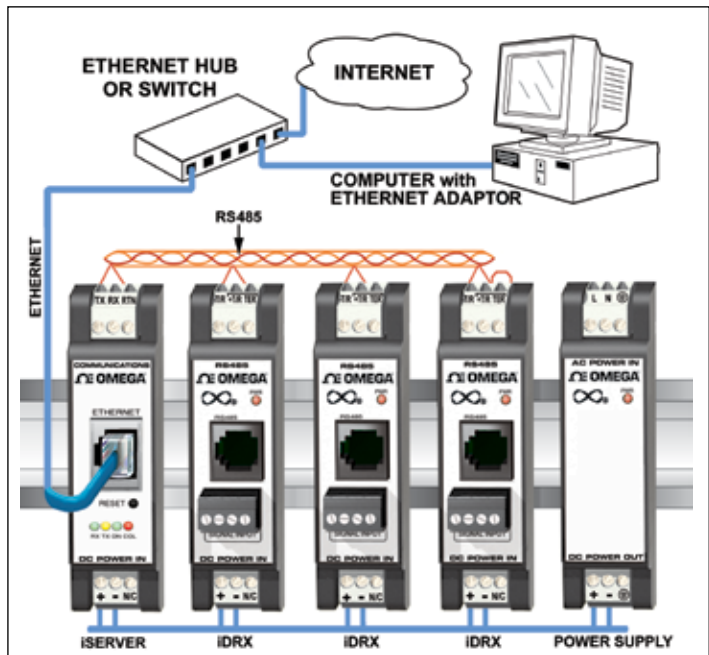
Digital Output iDRX modules connected to Ethernet
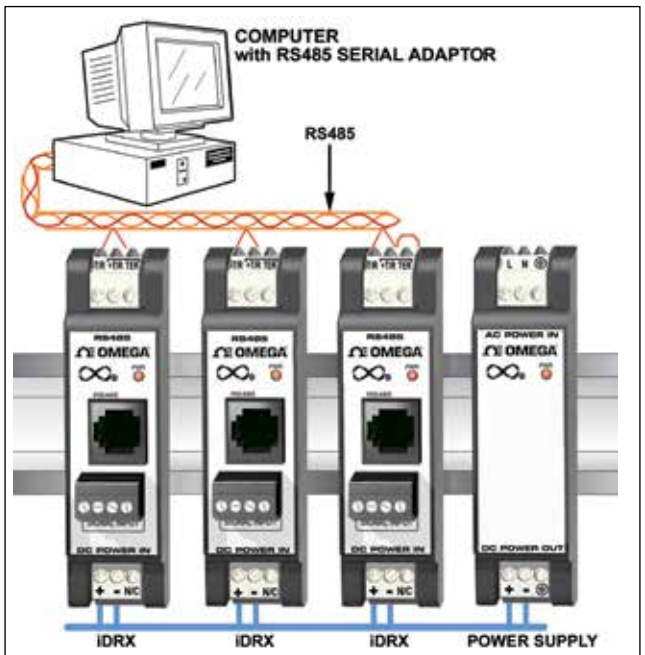
iDRX modules on RS485 Serial Bus

iServer

iServer EIT

↳ **Web Server and an Ethernet/ Serial Bridge**
↳ **Serves up to 32 devices**

The OMEGA™ EIT "iServer" is a DIN rail device which can connect up to 32 iDRX RS-485 instruments to an Ethernet network and the Internet using standard TCP/IP protocol. It can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet. (RS-232 Serial Communications are limited to a single connection between two devices, such as one computer and one signal conditioner. RS-485 is limited to 32 devices on a communications bus per hub or repeater).

The "iServer" is a Web Server as well as an Ethernet-Serial bridge and Hub for up to 32 RS-485 devices. The OMEGA™ iServer is also compatible with the OMEGA™ iSeries Controller and Meters, the DP41 family of ultra high performance digital panel meters, and the MICROMEGA™ series of Temperature and Process controllers.

Each "iServer" is assigned an IP address on the Ethernet network and can also be assigned an easily remembered name. In fact, the device could be assigned an authorized Internet IP address from an Internet Service Provider and function as a World Wide Web Server delivering whatever specific information is called for.

iDRN-PS-1000

Switching Power Supply

↳ **24 Vdc Supply for iDRN/iDRX Modules**
↳ **iDRN-PS-1000 Switching Supply Powers up to 7 Units**

To Order	
Model No.	**Description**
EIT-D	Internet Server RS-232 serial interface without I/Os, serves one iDRN unit
EIT-D-485	Serial to Ethernet iServer Industrial MicroServer™ with screw terminal serial port, serves 32 iDRX devices
iDRN-PS-1000	Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 850 mA (power 7 units)
Software	
OMEGA-ENTERPRISE-GATEWAY	Logging/Alarming/Monitoring with Integration Capabilities
Accessories	
CAT-285	Bi-directional RS232-R3485 converter for iDRX series
DB9-RJ12	DB9 to RJ12 connector adaptor, includes 2 m (7') RJ12 cord
DB25-RJ12	DB25 to RJ12 connector adaptor, includes 2 m (7') RJ12 cord
RJ12T	RJ12 "T" split connector for RS-485 instruments, includes 2 m (7') RJ12 cord
RAIL-35-1	35 mm (1.4") DIN rail, 1 m (3.3') length
RAIL-35-2	35 mm (1.4") DIN rail, 2 m (6.6') length

*Ordering Example: **EIT-D-485,** serial to Ethernet industrial Microserver™, **iDRN-PS-1000,** power supply, **iDRX-TC,** thermocouple conditioner, **iDRX-RTD,** RTD conditioner, **RAIL-35-2,** DIN rail, **DB9-RJ12,** connector adaptor.*

Thermocouple Signal Conditioners

iDRX-TC [5 YEAR WARRANTY]

✔ **T/C Types J, K, T, E, R, S, B, N, J DIN**
✔ **0.1°C Resolution**
✔ **±1°C Accuracy**
✔ **1800 Vdc Isolation**
✔ **250 V/1 Min. Input Overvoltage Protection**
✔ **Free Setup and Configuration Software**
✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**
✔ **RoHS 2 Compliant**

The iDRN-TC and iDRX-TC signal conditioners provide highly accurate, stable, isolated measurement of thermocouple sensors. Thermocouple types are selected and the outputs are scaled with the free configuration software, or can be done at the factory for no additional charge. The T/C Signal Conditioners can accept 9 different thermocouple types: J, K, T, E, R, S, B, N, and J DIN.

2 Models (Analog or Digital Outputs)
iDRN-TC provides an analog output that is proportional to the input signal. The iDRX-TC uses a digital RS-485 communication link.

Analog Output Model
The output of iDRN-TC can be user set for 0 to 10V, 4 to 20 mA or 0 to 20 mA. Input scaling and configuration of other operating parameters is accomplished by connecting to a standard RS-232 port of a personal computer and using the free Windows-based setup software. Once configured the settings may be stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output Model)
Please Specify:
    Thermocouple Type
    Temperature High & Low
    Output Value High & Low
    Example: Type J, 0°C = 4 mA, 100°C = 20 mA

Digital Output Model
The iDRX-TC is a digital signal conditioner which communicates over an RS-485 communication link using either a simple, straightforward ASCII® Serial Protocol or MODBUS Serial Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The Optional EIT iServer module can connect up to thirty-two (32) iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

OMEGA manufactures thousands of thermocouple probes. Visit OMEGA

Specifications
Accuracy at 25°C: ±1°C
Resolution: 0.1°C
Power Consumption: 2 W (84 mA @ 24 Vdc)
Input Types: J, K, T, E, R, S, B, N, J DIN
Input Ranges: See range chart
iDRX Output: 2-wire (half duplex) RS-485 (OMEGA serial protocol and MODBUS serial protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
Thermocouple Default settings iDRN: Input Type K, Range 0 to 1000°F; Output 4 to 20 mA (custom settings available at no charge)

Input Type	Range, °C	Range, °F
J	-210 to 760	-346 to 1400
K	-270 to 1372	-454 to 2500
T	-270 to 400	-454 to 752
E	-270 to 1000	-454 to 1832
R/S	-50 to 1768	-58 to 3214
B	100 to 1820	212 to 3300
N	-270 to 1300	-454 to 2372
J DIN	-200 to 900	-328 to 1652

To Order	
Model No.	**Description**
iDRX-TC	Digital signal conditioner with RS-485 output for Thermocouple sensors
iDRN-TC	Signal conditioner with analog output for thermocouple sensors
-FS	Factory setup and scaling

Comes with complete operator's manual.
***Ordering Example: iDRN-TC,** signal conditioner, and **DB9-RJ12,** connector adaptor.*
*For iDRN/iDRX accessories and power supplies, please visit **OMEGA.***

RTD Signal Conditioners

iDRX-RTD

5 YEAR WARRANTY

- ✔ 100Ω Pt, 500Ω Pt, 1000Ω Pt
- ✔ 0.1°C Resolution
- ✔ ±0.5°C Accuracy
- ✔ 1800 Vdc Isolation
- ✔ Free Setup and Configuration Software
- ✔ Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)
- ✔ RoHS 2 Compliant

SERIAL I/O

A/IN

DI/O

OMEGA manufactures many types of RTD probes. Visit OMEGA for details.

The iDRN-RTD and iDRX-RTD signal conditioners provide highly accurate, stable, isolated measurement of RTD temperature sensors. Both models can accept 2, 3, or 4 wire 100Ω PT, 500Ω PT and 1000Ω PT RTDs.

2 Models (Analog or Digital Outputs)
The iDRN-RTD provides a fully scalable analog output that is proportional to the input signal. The iDRX-RTD uses digital RS-485 communications.
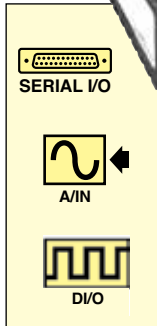
Analog Digital Output
The output of the iDRN-RTD can be user set for 0 to10V, 4 to 20 mA or 0 to 20 mA. Input scaling and configuration of other operating parameters is accomplished by connecting to a standard RS-232 port of a personal computer and using the Windows-based setup software. Once configured the settings may be stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output Model) Please Specify:
Type and resistance
Temperature high and low
Output Value high and low
Example: Type Pt100; 0.00385; 4-wire; 0°C = 4 mA, 100°C = 20 mA

Digital Output Model
The iDRX-RTD is a digital signal conditioner which communicates over an RS-485 communication link using either a simple, straightforward ASCII Serial Protocol or MODBUS Serial Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The Optional EIT iServer module can connect up to thirty-two (32) iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

Specifications
Accuracy at 25°C: ±0.5°C
Input Types: Platinum RTD, 100Ω, 500Ω or 1000Ω element (2, 3 or 4 wire, 385 or 392 curve)
Resolution: 0.1°C
Power Consumption: 2.4 W (100 mA @ 24Vdc)
Input Range: -200 to 850°C (-328 to 1562°F)
iDRX Output: 2-wire (half duplex) RS-485 (OMEGA Serial Protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA, 10V compliance
RTD Default settings iDRN: Input PT100, 0.00385, 3-wire, range 0 to 1000°F; Output 4 to 20 mA (custom settings available at no charge)

To Order	
Model No.	**Description**
iDRX-RTD	Digital signal conditioner with RS-485 output for RTD temperature sensors
iDRN-RTD	Signal conditioner with analog output for RTD temperature sensors
-FS	Factory setup and scaling

Comes with complete operator's manual.
Ordering Example: iDRN-RTD, *digital signal conditioner, and* ***DB9-RJ12,*** *connector adaptor.*
For iDRN/iDRX accessories and power supplies, please visit ***OMEGA.***

Strain Gage/Bridge Transducer-Signal Conditioners

iDRX-ST

5 YEAR WARRANTY

✔ **Unipolar/Bipolar 30 mV to 100 mV**
✔ **13-Bit Resolution**
✔ **10 Vdc Excitation**
✔ **0.2% FS Accuracy**
✔ **1800 Vdc Isolation**
✔ **250 Vac/1 Min Input Overvoltage Protection**
✔ **Free Setup and Configuration Software**
✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**
✔ **RoHS 2 Compliant**

The iDRN-ST and iDRX-ST signal conditioners provide highly accurate, stable, isolated measurement for strain gage transducers such as load cells, torque transducers, non-amplified pressure transducers, and other bridge based transducers. Both models can accept signals from 30 to 100 mV full scale and provide 10 Vdc reference voltage which may be used for transducer excitation.

2 Models (Analog or Digital Outputs)
The iDRN-ST provides an analog output that is proportional to the input signal and the iDRX-ST uses RS-485 Serial Communications.

Analog Output Model
The output of iDRN-ST can be user set for 0 to10V, 4 to 20 mA or 0 to 20 mA. Input scaling and configuration of other operating parameters is accomplished by connecting to a standard RS-232 port of a personal computer and using the free Windows-based setup software. Once configured the settings may be stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output and RS-232 signal conditioners)

Please Specify:
Input value high and low
Output value high and low
Excitation: 10 or 14 Vdc
Ratiometric or non-ratiometric
Example: 0V = 4 mA, 100 mV = 20 mA, excitation 10V, ratiometric

Digital Output Model
The iDRX-ST is a digital signal conditioner which communicates over RS-485 communication link using either a simple ASCII Protocol or MODBUS Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The Optional EIT iServer module can connect up to 32 iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

A/IN   SERIAL I/O
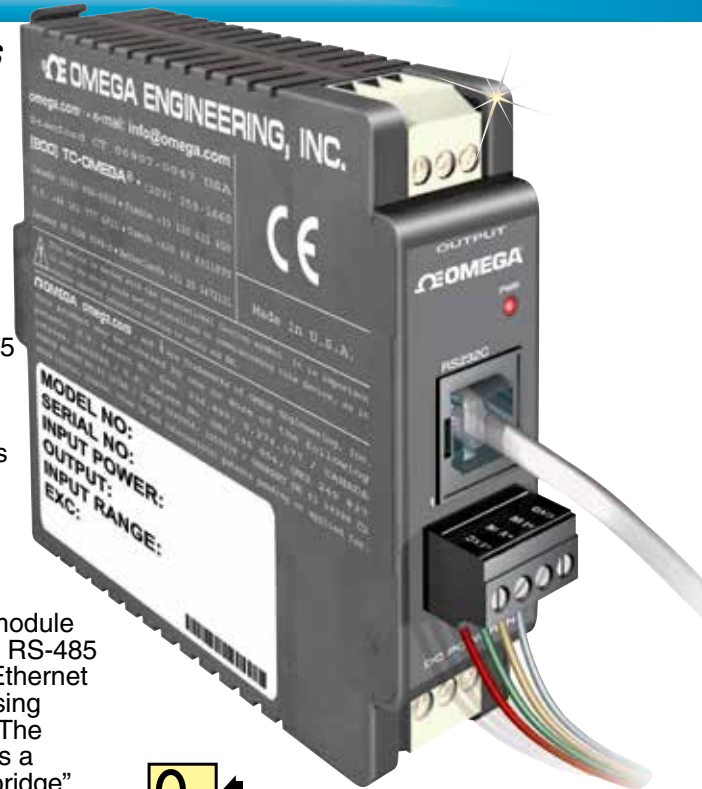
Specifications
Accuracy at 25°C: ±0.2% FS

Resolution: 13 to 15 bit

Excitation: 10V @ 30 mA

Power Consumption: 2 W without excitation (84 mA @ 24 Vdc), 3 W with excitation (125 mA @ 24 Vdc)

Input Ranges: 0 to 30 to 0 to 100 mV full scale

iDRX Output: 2-wire (half duplex) RS-485 (OMEGA serial protocol and MODBUS Serial Protocol)

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

Strain Default Settings iDRN: Input range 0 to 30 mV; output 4 to 20 mA excitation 10V ratiometric (custom settings available at no charge)

OMEGA manufactures many types of Load Cells. Visit OMEGA for details.

LC101

LC1003

LCGD

To Order

Model No.	Description
iDRX-ST	Digital signal conditioner for strain gages and bridge transducers with RS-485 output
iDRN-ST	Signal conditioner for strain gages and bridge transducers with analog output
-FS	Factory setup and scaling

Comes with complete operator's manual.

Ordering Example: iDRX-ST, *digital signal conditioner for strain gages and bridge transducers with RS-485 output,* ***CAT-285,*** *bi-directional RS-232-RS-485 converter for iDRX series.*

For iDRN/iDRX accessories and power supplies, please visit ***OMEGA.***

Process Inputs Signal Conditioners

iDRX-PR

5 YEAR WARRANTY

☑ **Unipolar/Bipolar 400 mV to 10 Vdc, 0 to 20 mA dc**
☑ **11 to 14-Bit Resolution**
☑ **±0.1% FS Accuracy**
☑ **14 Vdc Excitation**
☑ **1800 Vdc Isolation**
☑ **250 Vac/1 Min Input Overvoltage Protection (Voltage Input Only)**
☑ **Free Setup and Configuration Software**
☑ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**
☑ **RoHS 2 Compliant**

The iDRN-PR and iDRX-PR signal conditioners provide highly accurate, stable, isolated measurement of process signals. Both models can accept unipolar and bipolar signals from 400 mV to 10 Vdc full scale, as well as 0 to 20 mA current range. The Signal Conditioners also provide a 10 Vdc or 14 Vdc reference voltage which can be used for transducer excitation.

2 Models (Analog or Digital Outputs)
The iDRN-PR provides a programmable analog output that is proportional to the input signal. The iDRX-PR uses a digital RS-485 Serial Communications.

Analog Output Model
The output of iDRN-PR can be user set for 0 to 10V, 4 to 20 mA, or 0 to 20 mA. Scaling and configuration is done with the free software on a PC using either the standard RS-232 port, or an Ethernet connection with the optional EIT module. Once configured the settings are stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output model)
Please Specify:
Input value high and low
Output value high and low
Excitation: 10 or 14 Vdc
Ratiometric or non-ratiometric
Example: 0V = 4 mA, 10V = 20 mA, Excitation 10V, non-ratiometric

A/IN **DI/O** **SERIAL I/O**

PX41 Series shown. OMEGA manufactures many types of pressure transducers. Visit OMEGA for details.

Digital Output Model
The iDRX-PR is a digital signal conditioner which communicates over an RS-485 communication link using either a simple straightforward ASCII Serial Protocol or MODBUS Serial Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection
The optional EIT iServer module can connect up to 32 iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

Specifications
Accuracy at 25°C: ±0.1% FS

Excitation: 14 Vdc @ 25 mA

Resolution: 11 to 14-bit

Power Consumption: 2 W (84 mA @ 24 Vdc) without excitation, 3 W (125 mA @ 24 Vdc) with excitation

Input Ranges: Uni/bipolar, 400 mV to 10 Vdc; 0 to 20 mA

iDRX Output: 2-wire (half duplex) RS-485 (OMEGA Serial Protocol and MODBUS Serial Protocol)

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

Process Default settings DRN: Input Range 0 to 20 mA; Output 4 to 20 mA. Excitation 14V (custom settings available at no charge)

To Order

Model No.	Description
iDRX-PR	Digital signal conditioner with RS-485 output for process signals
iDRN-PR	Signal conditioner with analog output for process signals
-FS	Factory setup and scaling

Comes with complete operator's manual.

Ordering Example: iDRX-PR, *digital signal conditioner with RS-485 output for process signals,* **iDRN-PS-1000,** *power supply, 95 to 240 Vac input, 24 Vdc output @ 850 mA.*

For iDRN/iDRX accessories and power supplies, please visit **OMEGA.**

Frequency/Pulse Digital Signal Conditioners

iDRX-FP

5 YEAR WARRANTY

- ✔ **Software Selectable Input Type**
- ✔ **0 to 50 KHz Frequency Input 2 Million Pulse Capacity**
- ✔ **Proximity, Switch, Magnetic, Pickup, NAMUR, Contact Closure and Open Collector Input Types**
- ✔ **RS-485 Output**
- ✔ **1800 Vdc Isolation**
- ✔ **Free Setup and Configuration Software**
- ✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**
- ✔ **RoHS 2 Compliant**

The iDRN-FP and iDRX-FP signal conditioners provide accurate, stable, isolated measurement of frequency and pulse signals. Both models measure frequency signals up to 50 KHz and can count up to two million pulses. The iDRX-FP and iDRN-FP are compatible with a wide variety of transducers including proximity, switch, magnetic pickup, NAMUR, contact closure and open collector transducers.

2 Models (Analog or Digital Outputs)

The iDRN-FP provides an analog output that is proportional to the input signal. The iDRX-FP uses digital RS-485 Serial Communication.

OMEGA manufactures many types of Flow Transducers. Visit OMEGA for details.

Analog Output Model

The output of iDRN-PR can be user set for 0 to 10V, 4 to 20 mA or 0 to 20 mA. Scaling and configuration is done with the free software on a PC using either the standard RS-232 port, or an Ethernet connection with the optional EIT module. Once configured the settings are stored in non-volatile memory and the unit disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output signal conditioners)
Please Specify:
Input signal or sensor type
Input frequency high and low
Output value high and low
Excitation: 10 or 14 Vdc
Magnetic pickup (2-wire)
Example: 0 Hz = 4 mA, 1000 Hz = 20 mA, excitation N/A

Digital Output Model

The iDRX-FP is a digital signal conditioner which communicates over an RS-485 communication link using either a simple straightforward ASCII Serial Protocol or MODBUS Serial Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000') without repeaters.

Ethernet Connection

The Optional EIT iServer module can connect up to 32 iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

Compatible with the flow sensor shown. Please visit OMEGA.

A/IN | **DI/O** | **SERIAL I/O**
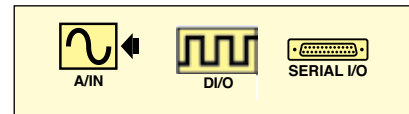
Specifications
Accuracy at 25°C: ±0.01% FS
Resolution: 15 to 19-bit
Power Consumption: 2.4 W (100 mA @ 24 Vdc) without excitation, 3 W (125 mA @ 24 Vdc) with excitation
Input Ranges: Frequency from 200 Hz to 50 KHz pulse from 20,000 to 200,000,000 pulses full scale
iDRX Output: 2-wire (half duplex) RS-485 (OMEGA Serial Protocol and MODBUS Serial Protocol)
iDRN Output: 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA
FP Default Settings iDRN:
Input 0 to 20 KHz; Output 4 to 20 mA (custom settings available at no charge)

To Order

Model No.	Description
iDRX-FP	Digital signal conditioner with RS-485 output for Frequency/Pulse inputs
iDRN-FP	Signal conditioner with analog output for Frequency/Pulse inputs
-FS	Factory setup and scaling

Comes with complete operator's manual.
Ordering Example: iDRN-FP, *signal conditioner, and* ***DB9-RJ12,*** *connector adaptor.*
For iDRN/iDRX accessories and power supplies, please visit ***OMEGA.***

AC Voltage/Current Signal Conditioners

iDRX-ACV

5 YEAR WARRANTY

- ✔ **Software Selectable Input Ranges iDRX-ACV: 0 to 400 mV to 0 to 400 Vac iDRX-ACC: 0 to 10 mA to 0 to 5 A ac**
- ✔ **14-Bit Resolution (Max)**
- ✔ **0.2% FS Accuracy**
- ✔ **1800 Vdc Isolation**
- ✔ **Free Setup and Configuration Software**
- ✔ **Factory Setup and Configuration Available at No Charge (for iDRN Analog Output Models)**
- ✔ **RoHS 2 Compliant**

The iDRN and iDRX Series signal conditioners provide highly accurate, stable and isolated measurement of AC voltage and current signals across extremely wide ranges: AC Current ranges from 0 to 10 mA through 0 to 5 A ac; AC Voltage ranges from 0 to 400 mV to 0 to 400 Vac.

Analog or Digital Outputs
The iDRN-ACV and iDRN-ACC accept ac voltage and ac current respectively and provide an analog output which is proportional to the input. The iDRX-ACV and iDRX-ACC accept ac voltage and ac current respectively and transmit via RS-485 Serial Communications.

Analog Output Model
The Analog Output models can be configured for outputs of 0 to 10 Vdc,

4 to 20 mA or 0 to 20 mA with the free configuration software. The modules connect to a PC with RS-232 Serial Communications, or by Ethernet with the optional EIT module. Once configured the settings are stored in non-volatile memory and the unit can be disconnected from the PC.

Factory Setup and Configuration at No Extra Charge (iDRN Analog Output Modules)
Please Specify:
  iDRN-ACV: Input value high and low; output value high and low
  Example: 0 volts = 4 mA, 400Vac = 20 mA
  iDRN-ACC: Input value high and low; output value high and low
 **Example:** 0 A = 4 mA, 5 A = 20 mA

Digital Output Model
The iDRX-ACC (Current) and iDRX-ACV (Voltage) communicate via RS-485 Serial Communications using either simple ASCII Commands or the popular MODBUS Protocol. Up to 32 modules may be connected to a single RS-485 port stretching up to 1200 m (4000'), more with RS-485 repeaters.

Ethernet Connection
The optional EIT iServer module can connect up to 32 iDRX RS-485 Signal Conditioners to an Ethernet network and the Internet using standard TCP/IP protocol. The iServer can also be used as a simple Serial to Ethernet "bridge" or converter to connect a single iDRN RS-232 device to an Ethernet network and the Internet.

A/IN

SERIAL I/O
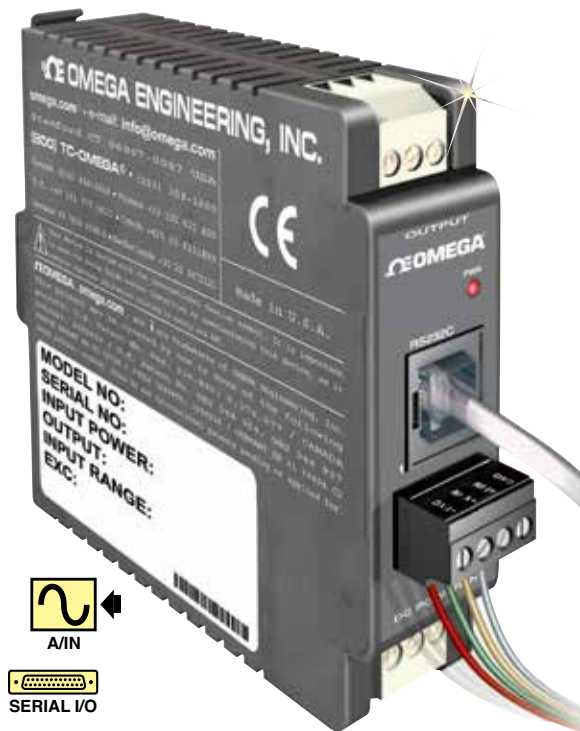
Specifications
Accuracy at 25°C: ±0.2% FS
Resolution: 10 to 14-bit
Power Consumption: 2.4 W; (100 mA @ 24 Vdc)
MODEL iDRX-ACV/iDRN-ACV
Input Ranges: 0 to 400 mV to 0 to 400 Vac full scale
Interface: RS-485; RJ-12 or screw terminal connector
MODEL iDRX-ACC/ACC
Input Ranges: 0 to 10 mA to 0 to 5 A ac full scale
i**DRX Output:** 2-wire (half duplex) RS-485 (OMEGA Serial Protocol and MODBUS Serial Protocol)
i**DRN Output:** 0 to 10V @ 10 mA max; 0 to 20 mA or 4 to 20 mA
ACC Default Settings iDRN: Input 0 to 5 Amp; Output 4 to 20 mA (custom settings available at no charge)

OMEGA offers many types of Current Transformers. Please visit OMEGA.

To Order	
Model No.	**Description**
iDRX-ACC	Digital signal conditioner with RS-485 output for ac current input
iDRX-ACV	Digital signal conditioner with RS-485 output for ac voltage input
iDRN-ACC	Signal conditioner with analog output for ac current inputs
iDRN-ACV	Signal conditioner with analog output for ac voltage inputs
-FS	Factory setup and scaling

Comes with complete operator's manual.
***Ordering Example: iDRN-ACV,** signal conditioner, and **DB9-RJ12,** connector adaptor.*