**RELIABILITY** 

**FLEXIBILITY** 

**FAST DELIVERY** 

ENGINEERING SUPPORT

ONE STOP I/O SHOP



## **DISTRIBUTED I/O AND SIGNAL CONDITIONERS**







Transmitters, Isolators, Splitters



**Limit Alarms / Computation** 



I/O Modules



### Experience counts:

especially when you are selecting an I/O partner. And with 60+ years of I/O experience, Acromag can help you to improve reliability, increase productivity and reduce your costs.

















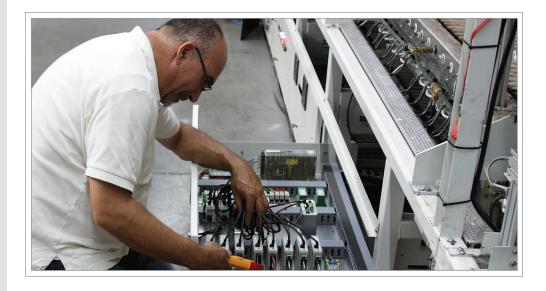








## **Depend on Acromag**



## **Acromag: The I/O Leader**

Acromag is a customer-driven manufacturer focused on developing process automation I/O products that provide the best long term value in the industry. Compare and you'll find that Acromag products offer an unmatched balance of price, performance, and features.

### 60+ Years of I/O Experience

Acromag has more than 60 years of measurement and control experience. Since 1957, we have delivered nearly a million units to thousands of customers around the globe for manufacturing, power, environmental, transportation, and military applications.

### **Top Quality and a 2-Year Warranty**

We take every measure to guarantee you dependable operation and products that perform at or beyond their specifications. Our state-of-the-art manufacturing and military-grade components add an extra degree of ruggedness. Most products qualify for an extended 2-year warranty. And with ISO 9001/AS9100 certified quality control, you get full confidence.

All trademarks are the property of their respective owners.

#### **Online Ordering**

For your convenience, Acromag provides full product documentation and pricing information on our website. You can obtain quotes or even place your order directly on our website.

### **Fast Delivery from Stock**

Most products can be shipped within 24 hours of receiving your order.

#### **Special Services**

We are happy to accommodate your special requirements and offer the following services:

- custom product development
- custom calibration
- source inspections, quality audits
- special shipping, documentation
- protective humiseal coating
- plastic and stainless steel tagging

#### **Certification and Approvals**

Many Acromag products carry globally recognized agency approvals and safety certifications.

- Ethernet conformance
- UL, cUL
- Modbus conformance
- ATEX

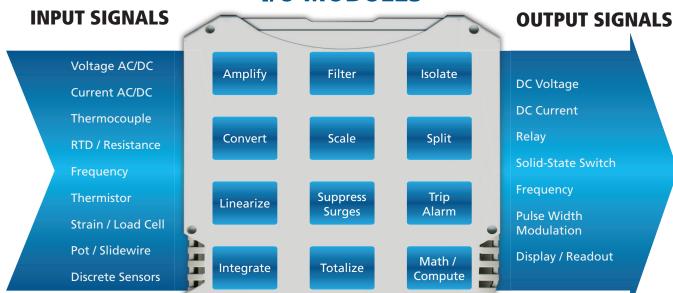
CE

- Profibus certification
- CSA
- IECex

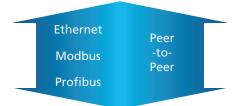
## **Industrial Input/Output Solutions**







## **COMMUNICATION**



## **NETWORK I/O & DATA ACQUISITION**

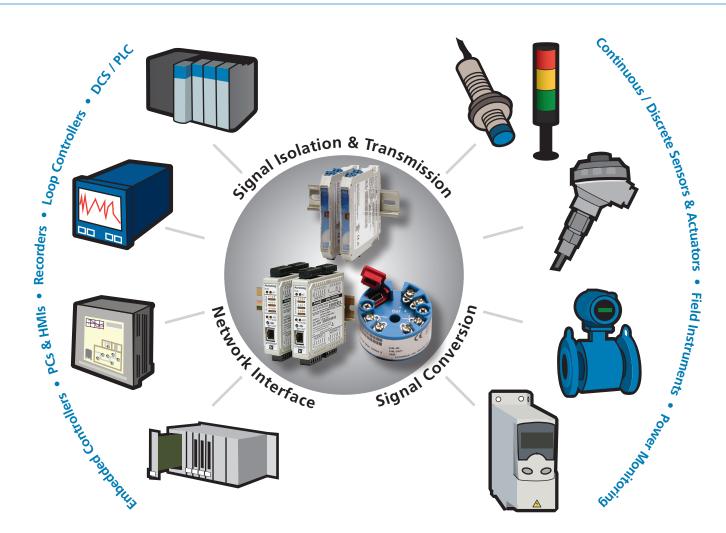


## **SIGNAL CONDITIONERS**





## **Signal Interfacing Solutions**



## **How Acromag I/O Is Used**

Acromag I/O is ideal for a broad range of monitoring and control operations where controllers communicate with instrumentation on the plant floor or in the field.

### **Acromag Advantages**

- Wide operating temperature ranges (up to -40 to 85°).
- High resistance to RFI, EMI, surges, electrical transients.
- High-voltage isolation and built-in surge suppression.
- Easy to use and maintain.
- High channel density to save space.
- Large inventory of stock items for same day shipping.
- Special designs and custom services available.
- 2-year warranty available at no extra cost
- AS9100 and ISO 9001 certified quality management

### **Operation in All Locations**

- Safe zones and hazardous locations (Zone 2).
- Explosion-proof locations (Zone 1).
- Approvals from CE, UL/cUL, FM, CSA, ATEX, IECex.

#### **Controller Interface**

- PLCs, PACs, controllers
- DCS distributed control systems
- PCs, embedded computers, SCADA systems
- Operator interface terminals and remote terminal units

#### **Continuous Sensors**

- Temperature
- Flow
- Speed
- Position
- Pressure
- Level
- Weight / load
- Drives

### **Discrete Sensors and Switches**

- Dry contacts
- PNP, NPN
- Solid-state
- Proximity
- Valves
- Lights, horns

#### **Actuators and Analytical Instruments**

- Drives, motors
- Power supplies
- Heaters, coolers
- Valves, positioners
- Displays, indicators
- Recorders, analyzers

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- Fax: 248-624-9234
- sales@acromag.com

## **Industries Served**





## Raw Materials **Processing**

These industries rely on Acromag process instruments for accurate and repeatable measurements from sensor signals.

- Chemical, petrochemical
- Metal, glass, ceramic
- Pulp, paper, textile



## Factory Automation

Fast response times, high reliability, and proven compatibility with control networks make Acromag I/O popular for use on assembly lines.

- Food, beverage, pharmaceutical
- Automotive, electronic assembly
- Building automation, HVAC



## Oil, Gas, and Mining

Built for operation in extreme environments, Acromag I/O reliably interfaces sensors to actuators and controllers.

- Exploration, extraction
- Production
- Distribution



## **OEM Machine Control**

High channel density plus shock and vibration immunity help machine builders add more I/O to monitor and control their equipment.

- Semiconductor, lithography
- Boilers, furnaces, generators
- Test stands, industrial machinery



## **Power Generation**

Able to resist noise and surges from high-voltage electrical sources, Acromag I/O delivers dependable data to plant control systems.

- Fossil fuels, hydroelectric, nuclear
- Solar, wind, geothermal
- Fuel cells, batteries



## Defense, Security, and Aerospace

Acromag I/O finds a home in many military and security systems due to their ability to operate over wide temperature ranges.

- Simulators and trainers
- Ground / airborne / naval controls
- Surveillance systems



## Water / Wastewater

Offering outstanding value and easy installation, Acromag I/O is the first choice of many municipalities to help manage their water systems.

- Municipal
- Industrial
- Desalinization
- Irrigation



## Research and Development

When high-resolution and high-accuracy measurements are required, Acromag I/O ensures precise data collection.

- Test and measurement systems
- Data acquisition systems
- Scientific research
- Quality control/assurance

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## ▶ Network I/O & Data Acquisition





www.acromag.com/ **BusWorksXT** 

#### **BusWorks XT Series**

High-performance, space-saving remote analog and discrete I/O modules - with Xtra <u>Technology</u> - for Ethernet networks.

- Ethernet/IP, Profinet, Modbus TCP/IP, and i2o peer-to-peer communication
- Easy PC/Windows configuration via USB
- Redundant and bussed DC power



www.acromag.com/i2o

### **Peer-to-Peer Communication**

Many Acromag I/O modules have i2o technology for "input-to-output" peer-to-peer over Ethernet.

- Automatically transmits analog or discrete I/O information between modules
- Wire-saver, mux/de-mux, splitter tasks



www.acromag.com/ BusWorks900

#### **BusWorks 900 Series**

A series of dependable, yet economical, remote analog and discrete I/O modules for Ethernet or RS485 networks.

- Ethernet/IP, Modbus TCP/IP, i2o peerto-peer, Modbus-RTU and Profibus-DP communication
- Easy configuration using Internet browser or Windows software



www.acromag.com/microBlox

### **Channel-to-Channel Isolated I/O Modules**

Ethernet-enable panel mounted signal conditioners with BusWorks or EtherStax I/O.

- Connect uB backpanels to Acromag Ethernet I/O with DB25 cable (cables also available for 3B/5B/7B)
- Over 102 low-cost, high-isolation models
- Up to 1500V AC isolation per channel



www.acromag.com/ EtherStax

### EtherStax ES2000 Series

High-density I/O blocks designed for highreliability operation in Ethernet networks.

- Modbus TCP/IP, UDP/IP, and i2o peer-topeer communication
- Up to 96 channels of discrete or analog I/O in a vertically-stackable unit with a small footprint
- Fast scan rates (below 1 millisecond)
- Redundant power and communication



www.acromag.com/ software-tools

## **Software Tools**

- OPC, .NET, ActiveX, Visual Basic/C++
- Function libraries with C source code
- Compatible with Windows, Linux, VxWorks, QNX, OS-9, and other OSs



#### **Ethernet Switches**

- Managed and unmanaged
- Gigabit fiber
- 10/100/1000 Rj45
- up to 8 ports

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## **Signal Conditioning Solutions**







www.acromag.com/SP

#### **SP230/330 Series**

A high-performance line of signal splitters / duplicators offering precise scaling of I/O ranges.

- Easy configuration via USB with Windows software or Agility App for Android
- Inputs: current, voltage, temperature
- Outputs: dual DC voltage, current



www.acromag.com/ST130

#### ST130 Series

Low-cost, miniature head-mount (DIN Form B) transmitters that deliver outstanding accuracy, linearity and stability.

- Easy PC/Windows configuration via USB
- Inputs: temperature, voltage, ohmic
- Output: 4-20mA DC (sink)



www.acromag.com/TT

#### **TT230/330 Series**

A high-performance line of thin transmitters and isolators offering great flexibility.

- Easy configuration via USB with Windows software or Agility App for Android
- Wide variety of input, output, and power configurations



www.acromag.com/ microBlox

#### microBlox® Series

High-performance solution for interfacing sensors and field devices with data acquisition systems.

- Bluetooth® wireless technology enabled
- User-configurable I/O ranges
- Alarm and input polling/trending capabilities



www.acromag.com/600T

#### **600T Series**

Select from a broad line of isolators, splitters, and transmitters.

- Auto-configuration and self-ranging models for easy setup
- Wide variety of input, output, and power configurations



www.acromag.com/fp

#### **Flat Pack Series**

A full line of analog signal conditioners. (transmitters, isolators, and limit alarms)

■ Wide variety of input, output, and power configurations



www.acromag.com/ IntelliPacks

#### **IntelliPack 800 Series**

Intelligent, programmable series of transmitters, math modules, and alarms.

- PC configuration, push-button adjust
- Wide variety of input, output, and power configurations



**Accessories and Services** 

- Panel meters, power supplies
- Mounting and wiring accessories
- Coatings, tags, certificates, drawings

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## Ordering With Acromag is Easy



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### Visit Acromag.com first for all of your process instrumentation or network I/O solutions.

Find products & support documentation on the website under the 'Products' navigation tab, or do a quick 'product search' if you know your model number.

### We know your time is valuable, so we offer easy online pricing and ordering 24/7.

- Get a price quote at your convenience from www.acromag.com.
- Flexible shipping: UPS prepaid or UPS or FedEx Collect.
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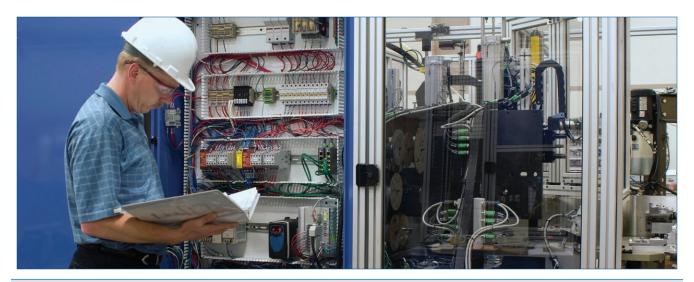
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## **Signal Splitters: SP230/330 Series**





## **New SP230/330 Series Signal Splitters**

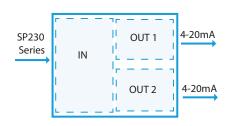
#### **New Product Announcement**

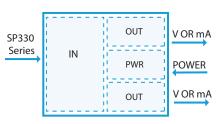
Acromag's new SP230/330 series of isolated signal splitters/duplicators are designed for easier installation and setup. Eight models, covering a broad range of sensor signals, provide dual 4-20mA outputs proportional to a single current, voltage or temperature input. A USB connection to a Windows PC or Android device enables simple, precise configuration of I/O ranges and a variety of operational settings with free software.

### SP220/230 Splitter Advantages

- Easy configuration via USB with Windows® software or Agility app for Android.
- Input scales independently at each output.
- User-selectable filtering (none, low, med, high).
- User-configurable output range clamp levels support NAMUR-compliant operation.
- High accuracy, linearity, stability, and reliability.
- Shock (25g) and vibration (4g) resistant.
- CE compliant. UL/cUL Class 1 Division 2 and ATEX Zone 2 approvals (pending).

2-Wire and 4-Wire Software-configurable Models Available					
SP230 Serie	es Loop-Powered				
<u>SP233</u>	Universal thermocouple or ±100mV input, 4-20mA outputs (sink/source)				
<u>SP236</u>	DC current and low voltage input, 4-20mA outputs (sink/source)				
<u>SP237</u>	Multi-range ±1V, ±5V, or ±10V input, 4-20mA outputs (sink/source)				
<u>SP238</u>	Multi-range ±15V, ±75V, or ±150V input, 4-20mA outputs (sink/source)				
SP330 Serie	es 6-32V DC External Power				
<u>SP333</u>	Universal thermocouple or ±100mV input, 0-20mA, ±10V or 0-10V outputs				
<u>SP336</u>	DC current and low voltage input, 0-20mA, ±10V or 0-10V outputs				
<u>SP337</u>	Multi-range ±1V, ±5V, or ±10V input, 0-20mA, ±10V or 0-10V outputs				
<u>SP338</u>	Multi-range ±15, ±75, or ±150V input, 0-20mA, ±10V or 0-10V outputs				







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## Innovative Signal Conditioning



## MicroBlox® Series featuring Bluetooth® Wireless Technology

#### **New Product Announcement**

Acromag's microBlox® uB Series I/O modules offer a compact, high-performance solution for interfacing sensors and field devices with data acquisition systems. uB signal conditioning modules are ideal to isolate, filter, convert and amplify a wide variety of signal types for test, measurement and control systems. Just plug uB modules into 4, 8, or 16-channel backpanels in any mix for a highdensity analog I/O interface. Channel-to-channel isolation provides optimal noise and surge protection from ground loops, spikes, and high common mode voltages.

#### microBlox I/O Modules Advantages

- Selection of 175 I/O modules with Bluetooth wireless technology capability, fixed-range, and cost-saving commercial grade versions.
- User-configurable I/O ranges with smartphone or tablet.
- Input polling with trend charts in Android® or iOS® app.
- Alarm output function with setpoint and deadband.
- 1500V AC isolation field-to-host and channel-to-channel.
- Up to 0.05% accuracy and 130db CMR.
- Shock and vibration-resistant without screws.



User-configurable & Fixed I/O Range Models Available					
Input Module	s				
<u>uB30/uB40</u>	±10mV to ±100mV input, 0-5V or ±5V output				
<u>uB31/uB41</u>	±1V to ±60V input, 0-5V or ±5V output				
<u>uB32</u>	0-20mA or 4-20mA DC input, 0-5V or ±5V output				
uB34/uB35	RTD input, 0-5V or ±5V output				
<u>uB37/47</u>	Thermocouple input, 0-5V or ±5V output				
<u>uB42</u>	2-wire transmitter (0-20mA) input, 0-5V or ±5V output				
<u>uB45</u>	0-50KHz input, 0-5V or ±5V output				
<b>Output Modu</b>	les				
<u>uB39</u>	0-20mA or 4-20mA DC field output, ±5V host input				
<u>uB49</u>	0-10V or ±10V field output, ±10V host input				
Backpanels					
<u>uB04/uB04D</u>	4 channel uB backpanel, surface or DIN-rail mount				
uB08/uB08D	8 channel uB backpanel, panel or DIN-rail mount				
uB16/uB16D	16 channel uB backpanel, panel or DIN-rail mount				
Power Option	ns				
uBDC1	5V DC power module, 10-32V DC supply input				



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## **Innovative Signal Conditioning**





## MicroBlox® Series Splitter and Combination Transmitter/Alarms

### **New microBlox® Transmitting Alarms**

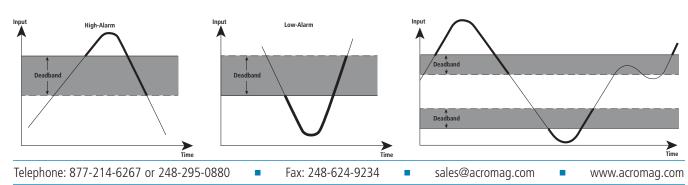
The uBTA carriers are used with Acromag's microBlox® signal conditioning modules to create powerful alarms that also provide a voltage/current transmitter output. The plug-in modules offer the convenience of wireless field programming on a smartphone or tablet.

The microBlox uB modules offer a space saving solution for isolating, monitoring, and converting sensor signals to interface with your data acquisition or control system. By inserting a uB input module into a single or dual channel carrier, you get a device with both alarm and transmitter capabilities. With a broad selection of uB input modules, you can monitor many different signal types by simply interchanging modules on the carrier.

#### microBlox Transmitting Alarms Advantages

- Single/dual alarms with two independent mechanical or solid-state relays, up to 5A switching.
- Transmitter output with 4-20mA and 0-5V signal ranges.
- Interchangeable input modules for measuring a wide variety of signal types.
- Easy configuration using Bluetooth wireless technology.
- Rugged design for use in harsh environments.

microniox	iransmitting Alarms Selection Guide		
Carriers			
uBTA-H-1MR uBTA-H-1SR	Single transmitter/alarm in housing; mechanical or solid-state relays.		
uBTX-H-1	Single_transmitter in housing.		
uBTA-P-1MR uBTA-P-1SR	Single transmitter/alarm, panel mount; mechanical or solid-state relays.		
uBTA-P-2MR uBTA-P-2SR	Dual transmitter/alarm, panel mount; mechanical or solid-state relays.		
<u>uBSP</u>	Dual tandem analog current and voltage outputs signal splitter		
Modules: Plu	ug-In Analog Field Input Modules		
<u>uB30-B</u> <u>uB40-B</u>	DC millivolt input, 5Hz bandwidth (uB30-B) or 1kHz bandwidth (uB40-B); Configurable ±100mV.		
<u>uB31-B</u> <u>uB41-B</u>	DC voltage input, 4Hz bandwidth (uB31-B) or 1kHz bandwidth (uB41-B); Configurable ±1 to ±60V.		
<u>uB32-B</u> <u>uB42-B</u>	DC current input (uB32-B); optional 2-wire loop excitation (uB42-B); Configurable 0-20mA.		
<u>uB34-B</u> <u>uB35-B</u>	Pt RTD input; 2 or 3-wire (uB34-B) or 4-wire (uB35-B); Configurable 0-600°C.		
<u>uB37-B</u> <u>uB47-B</u>	Thermocouple input, non-linearized (uB37-B) or linearized (uB47B); Configurable Type J,K,T,R,S.		





## Signal Conditioning: microBlox® Series

## **Key Features & Benefits**













### **Alarm Function**

Wireless (-B) models support alarm setpoint/deadband control to drive 0 or 5V output.

## **Wireless Configuration**

Easily set I/O scaling and alarms or poll inputs using Bluetooth wireless technology with a smartphone or tablet using Android or iOS app.



#### **Flexible Power**

5V power modules enables use of 10-32V supplies.

#### Mix-and-Match Modules

175 modules support a wide variety of input and output signal types.

## **Easy, Secure Mounting**

Clip holds module tightly without screws for fast insertion/removal.

## **Analog Bus Port**

DB25 cable simplifies connection to DAQ systems.



Up to 16 channels in a compact footprint.

### Rugged, Over-molded Circuit

Superior shock, vibration, moisture, and dust protection.

## **High-performance**

High-accuracy / high noise immunity











# 

## **User-Programmable I/O Ranges**

Models with Bluetooth wireless technology allow custom input and output ranges.



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## **Signal Conditioners: Agility™ APP**



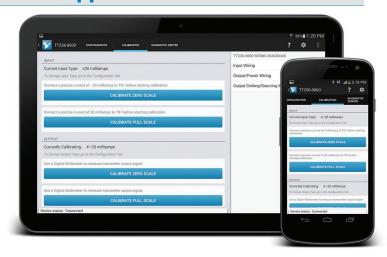
## **Acromag Agility™ Config Tool Mobile Application**

The Agility Config tool is a mobile application that allows easy setup and configuration of Acromag SP Series splitters, TT Series transmitters and microBlox Series I/O modules using a mobile phone or tablet.

To run the application in demo mode, without a connection to a device, simply tap the icon with the triangles in the upper left eight times.







## **Bluetooth**

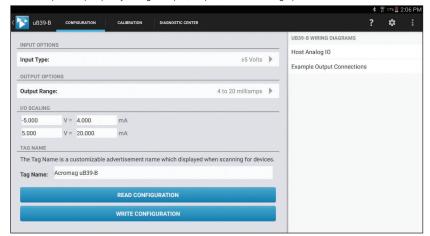
### **SP & TT Series**



## microBlox® Series



With a couple of taps, quickly configure input, output, unit and scaling options.



Quick and easy access to the wiring diagram, even offline without internet access.

### **Key Features & Benefits**

- Connects to microBlox uB Series I/O modules via Bluetooth wireless technology to an Android or iOS device.
- Connects SP Series splitters to Android devices via USB on-the-go cable.
- Connects TT Series transmitters to Android devices via USB on-the-go cable.
- View wiring diagrams, even without an internet connection.
- Perform quick and easy field diagnostics and troubleshooting.
- Ideal for field technicians.
- Trend and share field data.





## Product Series Selection Guide

Network and Data Acquisition	Inputs	Outputs	Network Protocol
Ethernet I/O Modules			
BusWorks® XT Series	Up to 16 channels/module; analog (current, voltage), discrete	Analog (current, voltage), discrete	Modbus TCP/IP, Ethernet/IP, Profinet, i2o peer-to-peer
BusWorks® 900EN Series	Up to 16 channels/module; analog (TC, RTD, current, voltage), microBlox® uB cable interface, discrete	Analog (current, voltage), discrete	Modbus TCP/IP, Ethernet/IP, i2o peer-to-peer
Etherstax® ES2000 Series	Up to 96 channels/module; analog (current, voltage), discrete	Analog (current, voltage), discrete	Modbus TCP/IP, UDP/IP, i2o peer-to-peer
RS-485 I/O Modules			
BusWorks® 900MB Series	Up to 12 channels/module; analog (TC, RTD, current, voltage), discrete	Analog (current, voltage), discrete	Modbus-RTU
BusWorks® 900PB	Up to 12 channels/module; analog (TC, RTD, current, voltage), discrete	Analog (current, voltage), discrete	Profibus-DP
Data Acquisition Modu	lles		
microBlox® uB Series	Millivolt, voltage, current, RTD, thermocouple, frequency & high-speed/wideband	Voltage, 0-20mA or 4-20mA DC	Bluetooth wireless technology enabled - Agility™ Mobile App
Signal Conditioner	rs Inputs	Outputs	Power
Signal Conditioner Signal Isolators	rs Inputs	Outputs	Power
	Single-channel; 4-20mA	Outputs  4-20mA universal sink/source	Power  2/3-wire; 12-32V DC (output loop power)
Signal Isolators			2/3-wire; 12-32V DC
Signal Isolators  TT230 Series (TT236)	Single-channel; 4-20mA	4-20mA universal sink/source	2/3-wire; 12-32V DC (output loop power)
Signal Isolators  TT230 Series (TT236)  TT330 Series (TT336)	Single-channel; 4-20mA Single-channel; 4-20mA	4-20mA universal sink/source 4-20mA source	2/3-wire; 12-32V DC (output loop power) 4-wire; 12-32V DC 4-wire; 15-36V, 125V DC;
Signal Isolators  TT230 Series (TT236)  TT330 Series (TT336)  630T Series (631T, 632T)	Single-channel; 4-20mA  Single-channel; 4-20mA  Single/dual-channel; 4-20mA	4-20mA universal sink/source 4-20mA source 4-20mA source	2/3-wire; 12-32V DC (output loop power) 4-wire; 12-32V DC 4-wire; 15-36V, 125V DC; 90-250V AC 2-wire; 12-36V DC
Signal Isolators  TT230 Series (TT236)  TT330 Series (TT336)  630T Series (631T, 632T)  650T Series (651T, 652T)	Single-channel; 4-20mA  Single-channel; 4-20mA  Single/dual-channel; 4-20mA  Single/dual-channel; 4-20mA	4-20mA universal sink/source 4-20mA source 4-20mA source 4-20mA sink	2/3-wire; 12-32V DC (output loop power)  4-wire; 12-32V DC  4-wire; 15-36V, 125V DC; 90-250V AC  2-wire; 12-36V DC (output loop power)
Signal Isolators           TT230 Series (TT236)           TT330 Series (TT336)           630T Series (631T, 632T)           650T Series (651T, 652T)           670T Series	Single-channel; 4-20mA  Single-channel; 4-20mA  Single/dual-channel; 4-20mA  Single/dual-channel; 4-20mA	4-20mA universal sink/source 4-20mA source 4-20mA source 4-20mA sink	2/3-wire; 12-32V DC (output loop power)  4-wire; 12-32V DC  4-wire; 15-36V, 125V DC; 90-250V AC  2-wire; 12-36V DC (output loop power)
Signal Isolators TT230 Series (TT236)  TT330 Series (TT336)  630T Series (631T, 632T)  650T Series (651T, 652T)  670T Series Signal Splitters	Single-channel; 4-20mA  Single-channel; 4-20mA  Single/dual-channel; 4-20mA  Single/dual-channel; 4-20mA  Thermocouple; millivolt; current;	4-20mA universal sink/source 4-20mA source 4-20mA source 4-20mA sink 4-20mA source  Dual output;	2/3-wire; 12-32V DC (output loop power)  4-wire; 12-32V DC  4-wire; 15-36V, 125V DC; 90-250V AC  2-wire; 12-36V DC (output loop power)  2-wire; input loop power
Signal Isolators  TT230 Series (TT236)  TT330 Series (TT336)  630T Series (631T, 632T)  650T Series (651T, 652T)  670T Series  Signal Splitters  SP230 Series	Single-channel; 4-20mA  Single-channel; 4-20mA  Single/dual-channel; 4-20mA  Single/dual-channel; 4-20mA  Single/dual/quad-channel; 4-20mA  Thermocouple; millivolt; current; voltage  Thermocouple; millivolt; current;	4-20mA universal sink/source 4-20mA source 4-20mA source 4-20mA sink 4-20mA source  Dual output; 4-20mA sink/source  Dual output; 0-20mA,	2/3-wire; 12-32V DC (output loop power)  4-wire; 12-32V DC  4-wire; 15-36V, 125V DC; 90-250V AC  2-wire; 12-36V DC (output loop power)  2-wire; input loop power  2-wire; 7-32V DC (output loop/local power)  4-wire; 6-32V DC









650T Series (653T)

Single input; 4-20mA

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Dual output; 4-20mA sink

2-wire; 12-36V DC

(output loop power)

## **Product Series Selection Guide**



Signal Conditione	rs Inputs	Outputs	Power			
Signal Transmitters and Converters						
ST130 Series	Single-channel; thermocouple, RTD, resistance, millivolt	4-20mA sink	2-wire; 9-32V DC (output loop power)			
TT230 Series	Single-channel; current, voltage, thermocouple, RTD, thermistor, resistance, potentiometer, frequency	4-20mA universal sink/source	2/3-wire; 12-32V DC (output loop power)			
TT330 Series	Single-channel; current, voltage, thermocouple, RTD, thermistor, resistance, potentiometer, frequency	Scalable ±10V, 0-10V, ±20mA, 0-20mA source	4-wire; 12-32V DC			
uBTX microBlox® Series	Single-channel; current, voltage, thermocouple, RTD, frequency	0/4-20mA, 0/1-5V	6-32V DC SELV			
610T Series	Single/dual-channel; current, voltage	Scalable 0-10V, 0-20mA source	4-wire; 10-36V DC			
650T Series (654T)	Dual-channel; current, voltage	4-20mA sink	2-wire; 12-50V DC (output loop power)			
650T Series (655T, 656T)	Single/dual-channel; thermocouple, millivolt	4-20mA sink	2-wire; 12-50V DC (output loop power)			
650T Series (657T, 658T)	Single/dual-channel; RTD, resistance	4-20mA sink	2-wire; 12-50V DC (output loop power)			
800T IntelliPack Series	Single/dual-channel; current, RTD, thermocouple, resistance, voltage, frequency/pulse, strain gage (bridge), load cell	Scalable 0-10V, 0-20mA source, alarm relay	4-wire; 10-36V DC			
Limit Alarms						
uBTA microBlox® Series	Millivolt, voltage, current, RTD, thermocouple	Single/dual SPST/SPDT 1A/5A relays, 0/4-20mA, 0/1-5V	6-32V DC SELV			
800A IntelliPack Series	Single/dual-channel; current, voltage, thermocouple, RTD, resistance	Single DPDT or dual SPDT 5A relays	4-wire; 10-36V DC			
260A / 361A / 461A Flat Pack Series	Single-channel; current, voltage	Single/dual SPDT 2A or 5A alarm relays	2/3/4-wire; input loop-powered (4-20mA); 10-36V DC; 115/230V AC			
Computation		·				
IntelliPack (892M, 894M)	Dual/quad input; current, voltage	Single output; 0-20mA source, 0-10V	4-wire; 10-36V DC			
IntelliPack (895M, 896M)	Single/dual-channel; current, voltage	Frequency, pulse, pwm, alarm relay	4-wire; 10-36V DC			





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