microBlox®
Transmitting Alarms

Mechanical or Solid State Relay Limit Alarms
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.

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 ISO9000/AS9100 certified quality control, you get full confidence.

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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.
• CE
• UL, cUL
• ATEX
• CSA
• Ethernet conformance
• Modbus conformance
• Profibus certification
• IECex
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.

**MicroBlox Transmitting Alarms Selection Guide**

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The Agility™ Config Tool is a mobile application that allows easy setup and configuration of Acromag microBlox Series signal conditioners. Connect via Bluetooth® wireless technology to smart devices with Android 4.3 or higher or iOS 8.1 or later.

This mobile app supports smart devices with Android 4.3 or later or iOS 5.0 or later. You can download the Agility application free of charge from the Google Play™ store at play.google.com (Android), or the Apple® App Store® at itunes.apple.com (Apple iOS).

Key Features & Benefits
- Connects to microBlox signal conditioners via Bluetooth wireless technology
- Requires the use of a smart device
- Configures and calibrates microBlox UB Series products via phone or tablet running Android 4.3 or later or iOS 8.1 or later.
- 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

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

**Alarm Function**

**HIGH-ALARM WITH DEADBAND (REVERSE ACTING ALARM OUTPUT OFF)**

- **INPUT**
- **SETPOINT (sp)**
- **DEADBAND (DB)**
- **INPUT SIGNAL**

- **NORMAL STATE (OUT ZERO)**
- **ALARM STATE (OUT FULL-SCALE)**
- **NORMAL STATE (OUT ZERO)**

- **t1** is time input signal increases to SP
- **t2** is time input decreases to SP minus DB

**LOW-ALARM WITH DEADBAND (REVERSE ACTING ALARM OUTPUT OFF)**

- **INPUT**
- **NORMAL STATE (OUT ZERO)**
- **ALARM STATE (OUT FULL-SCALE)**
- **NORMAL STATE (OUT ZERO)**

- **t1** is time input signal decreases to SP
- **t2** is time input increases to SP plus DB

**Calibration**

**Data Logging**

**Diagnostics**
Transmitting Alarms: microBlox® Series

uBTA-H-1 Series microBlox® Transmitter and Alarm Carrier

Description
Models
uBTA-H-1SR: Transmitter/alarm, solid-state relays
uBTA-H-1MR: Transmitter/alarm, mech. relays

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 flexible space-saving solution for isolating, monitoring, and converting industrial sensor signals to interface with your data acquisition or control system. By inserting a uB input module into the 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.

Plug-in modules measure current, voltage, thermocouple, or RTD input. Carriers produce a process current and voltage output signal and trip alarm relays if high or low limits are exceeded. Each alarm carrier has two independent relay contacts (either mechanical or solid-state).

Bluetooth wireless technology enables configuration using an Android™ or iOS® mobile device. Acromag’s Agility™ app helps you quickly set input/output ranges and scaling to your specific requirements. It is also fast and easy to configure your alarm setpoints. You can define two high limits, low limits, or window alarms for each relay.

Carriers mount on T-type DIN rails for high-density installation. They can plug together for modular expansion with a shared power connection that is bussed along the DIN rail. Redundant power connection is supported.

These rugged carriers are well-suited for use in harsh industrial environments. They have high immunity to noise, surges, shock, vibration, and extreme temperatures. Installation in hazardous locations is also supported with compliance to CE, ATEX, and UL standards.

Key Features & Benefits
- Dual alarms (hi/hi, lo/lo, hi/lo) with two independent mechanical or solid-state relays
- Mechanical relays switch 5A at 250V AC, 30V DC
- Transmitter output with scalable 0-20mA, 4-20mA, and 0-5V signal ranges
- Interchangeable input modules for measuring a wide variety of signal types
- Easy configuration using Bluetooth wireless technology with smartphone or tablet running Acromag Agility app for Android® and iOS®
- High-density mounting with 22.5mm package featuring pluggable, front-facing terminals
- Supports redundant power sources and clean wiring using integrated rail power bus
- High accuracy alarm and transmitter output
- High noise immunity and stability
- High voltage isolation between input, output, relay contacts, and power
- All I/O and power ports transient-protected
- Wide -40 to 75°C operating range
- CE compliant. UL/cUL Class I Div 2, ATEX / IECEx Zone 2 approvals

ISO9001
AS9100
Made in USA
Transmitting Alarms: microBlox® Series

uBTA-H-1 Series microBlox® Transmitter and Alarm Carrier

Performance Specifications

■ Analog Field Input
Field Range
See specific plug-in uB module used.

■ Alarm Relay Output
Relay
Two independent relays. Each relay may have its own set-point, dead-band and reverse acting status setting.
Model: uBTA-H-1MR
Type
Two 1 FORM C (SPDT, normally open and normally closed) mechanical relays. 5A, 250V AC, 30V DC.

Model: uBTA-H-1SR
Type
Two 1 FORM A (SPST, normally open contacts) solid-state relays. 1A, 200V peak AC/DC.

■ Transmitter Output
Output
Simultaneous 0 to 5V / 1 to 5V, 0 to 20mA / 4 to 20mA.

■ General
Power
Connect 6-32V DC SELV (Safety Extra Low Voltage), up to 3.5W including module. Current draw will be dependent on carrier model, relay type, whether you utilize the transmitter outputs, your plug-in module, and your voltage level. See manual for more details.

Accuracy
Better than ±0.1%, typical.

DIN Rail bus connector kit
DIN rail bus connection kit allows plugging enclosures together to share power.

■ Physical
Dimensions
Width: 0.9” (22.5 mm).
Height: 4.51” (114.5 mm).
Depth: 3.90” (99 mm) without uB module, 4.45” (113 mm) with uB module.
Weight: 0.35 lbs. (159 Kg).
Shipping weight: 1.0 lbs. (0.454 Kg).

I/O Connectors
Removable plug-in type terminal blocks rated for 5A/250V, AWG #26-14 stranded or solid copper wire.

Case
Self-extinguishing polyamide, UL94 V-0 rated, color light gray. General purpose NEMA Type 1 enclosure.

Circuit Board
Military grade fire-retardant epoxy glass per IPC-4101/F8.

DIN-Rail Mounting
T-type DIN rails.

■ Environmental
Operating Temperature
-40 to 75°C (-40° to 158°F).
Storage Temperature
-40 to 85°C (-40° to 185°F).
Relative Humidity
0 to 95% non-condensing.

Emissions
Class B product with emissions per BS EN 61000-6-3.

Approvals
CE compliant. Designed for UL/cUL Class I Division 2 Groups ABCD, ATEX / IECEx Zone 2.

Configuration using Agility™ Config.
Tool via Bluetooth Technology
The Acromag Agility™ configuration tool is a mobile application that allows easy setup, calibration, and reconfiguration of microBlox I/O modules.
This mobile app supports smart devices with Android 4.3 or later or iOS 5.0 or later. You can download the Agility application free of charge from the Google Play™ store at play.google.com (Android), or the Apple® App Store® at itunes.apple.com (Apple iOS).

Ordering Information
uBTA-H-1MR
Single transmitter/alarm in housing, mechanical relays.

uBTA-H-1SR
Single transmitter/alarm in housing, solid-state relays.

Accessories
XTBUS-KIT
DIN rail bus connector to power kit.

DIN Rail 3.0
DIN Rail Strip, Type T, 3 inches.

DIN Rail 16.7
DIN Rail Strip, Type T, 16.7 inches.

Plug-In Analog Field Input Modules
uB30-B
DC millivolt input, 5Hz bandwidth; Configurable ±100mV.

uB40-B
DC millivolt input, 1kHz bandwidth; Configurable ±100mV.

uB31-B
DC voltage input, 4Hz bandwidth; Configurable ±1 to ±60V.

uB41-B
DC voltage input, 1kHz bandwidth; Configurable ±1 to ±60V.

uB32-B
DC current input; Configurable 0-20mA.

uB42-B
DC current input with 2-wire transmitter loop excitation; Configurable 0-20mA.

uB34-B
Pt RTD input, 2 or 3-wire; Configurable 0-600°C.

uB35-B
Pt RTD input, 4-wire; Configurable 0-600°C.

uB37-B
Thermocouple input, non-linearized; Configurable Type J,K,T,R,E,S.

uB47-B
Thermocouple input, linearized; Configurable Type J,K,T,R,E,S.

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Transmitting Alarms: microBlox® Series

uBTA-P-1 Series microBlox® Transmitter and Alarm Carrier

**Description**

**Models**

uBTA-P-1MR: Single channel transmitter/alarm, mechanical relays.

uBTA-P-1SR: Single channel transmitter/alarm, solid-state relays.

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 flexible space-saving solution for isolating, monitoring, and converting industrial sensor signals to interface with your data acquisition or control system. By inserting a uB input module into the 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.

Plug-in modules measure current, voltage, thermocouple, or RTD input. Carriers produce a process current and voltage output signal and trip alarm relays if high or low limits are exceeded. Each alarm carrier has two independent relay contacts (either mechanical or solid-state).

Bluetooth wireless technology enables configuration using an Android™ or iOS® mobile device. Acromag’s Agility™ app helps you quickly set input/output ranges and scaling to your specific requirements. It is also fast and easy to configure your alarm setpoints. You can define two high limits, low limits, or window alarms for each relay.

These rugged carriers are well-suited for use in harsh industrial environments. Carriers mount on T-type DIN rails for high-density installation. They have high immunity to noise, surges, shock, vibration, and extreme temperatures. Installation in hazardous locations is also supported with compliance to CE, ATEX, and UL regulations.

**Key Features & Benefits**

- Dual alarms (hi/hi, lo/lo, hi/lo) with two independent mechanical or solid-state relays
- Mechanical relays switch 5A at 250V AC, 30V DC
- Transmitter output with scalable 0-20mA, 4-20mA, and 0-5V signal ranges
- Interchangeable input modules for measuring a wide variety of signal types
- Easy configuration using Bluetooth wireless technology with smartphone or tablet running Acromag Agility app for Android® and iOS®
- Rugged design for use in harsh environments
- High accuracy alarm and transmitter output
- High noise immunity and stability
- High voltage isolation between input, output, relay contacts, and power
- All I/O and power ports transient-protected
- Wide -40 to 75°C operating range
- CE compliant. UL/cUL Class I Div 2, ATEX / IECEx Zone 2 approvals.

**Two alarm relay outputs**

- 0/4-20mA and 0/1-5V transmitter output

**Bluetooth® wireless configuration**
Transmitting Alarms: microBlox® Series

uBTA-P-1 Series microBlox® Transmitter and Alarm Carrier

Performance Specifications

- Analog Field Input
  Field Range
  See specs for the specific plug-in uB module used.
  www.acromag.com/microBlox

- Alarm Relay Output
  Relay
  Two independent relays. Each relay may have its own set-point, dead-band and reverse acting status setting.
  Models: uBTA-P-1MR
  Type: Dual 1 FORM C, (SPDT, normally open and normally closed) mech. relays. 5A, 250V AC, 30V DC.
  Models: uBTA-P-1SR
  Type: Dual 1 FORM A, (SPST, normally open) solid-state relays. 1A, 200V peak AC/DC.

- Transmitter Output
  Simultaneous 0 to 5V / 1 to 5V, 0 to 20mA / 4 to 20mA.

- General
  Power
  Connect 6-32V DC SELV (Safety Extra Low Voltage), up to 1.8W including modules. Current draw will be dependent on carrier model, relay type, whether you utilize the transmitter output, your plug-in module, and your voltage level. See manual for more information.
  Accuracy
  Better than ±0.1%. typical.

- Physical
  Dimensions
  Width: 2.66” (67.6 mm).
  Height: 2.83” (72.0 mm).
  Depth: 1.42” (36.0 mm) without modules, 2.8” (71 mm) with uB module.
  Weight: 0.25 lbs. (0.114 Kg)
  I/O Connectors
  Fixed type terminal blocks rated for 5A/250V, AWG #28-16, stranded or solid copper wire.
  Case
  Self-extinguishing polyamide, UL94 V-0 rated, color light gray. General purpose NEMA Type 1 enclosure.
  Circuit Board
  Military grade fire-retardant epoxy glass per IPC-4101/98.
  DIN-Rail Mounting
  T-type DIN rails.

- Environmental
  Operating Temperature
  -40 to 75°C (-40° to 158°F).
  Storage Temperature
  -40 to 85°C (-40° to 185°F).
  Relative Humidity
  5 to 95% non-condensing.
  Emissions
  Class B product with emissions per BS EN 61000-6-4.
  Approvals
  CE compliant. Designed for UL/cUL Class I Division 2 Groups ABCD, ATEX / IECEx Zone 2.

Configuration using Agility™ Config. Tool via Bluetooth technology

The Acromag Agility™ configuration tool is a mobile application that allows easy setup, calibration, and reconfiguration of microBlox I/O modules.
This mobile app. supports smart devices with Android 4.3 or later or iOS 5.0 or later. You can download the Agility application free of charge from the Google Play™ store at play.google.com (Android), or the Apple® App Store® at itunes.apple.com (Apple iOS).

Ordering Information

- uBTA-P-1MR
  Single transmitter/alarm, mechanical relays.
- uBTA-P-1SR
  Single transmitter/alarm, solid-state relays.

Accessories

- XTBUS-KIT
  DIN rail bus connector to power kit
- DIN Rail 3.0
  DIN Rail Strip, Type T, 3 inches
- DIN Rail 16.7
  DIN Rail Strip, Type T, 16.7 inches

Plug-In Analog Field Input Modules

- uB30-B
  DC millivolt input, 5Hz bandwidth; Configurable ±100mV.
- uB40-B
  DC millivolt input, 1kHz bandwidth; Configurable ±100mV.
- uB31-B
  DC voltage input, 4Hz bandwidth; Configurable ±1 to ±60V.
- uB41-B
  DC voltage input, 1kHz bandwidth; Configurable ±1 to ±60V.
- uB32-B
  DC current input; Configurable 0-20mA.
- uB42-B
  DC current input with 2-wire transmitter loop excitation; Configurable 0-20mA.
- uB34-B
  Pt RTD input, 2 or 3-wire; Configurable 0-600°C.
- uB35-B
  Pt RTD input, 4-wire; Configurable 0-600°C.
- uB37-B
  Thermocouple input, non-linearized; Configurable Type J,K,T,R,E,S.
- uB47-B
  Thermocouple input, linearized; Configurable Type J,K,T,R,E,S.

See Acromag.com/microBlox for more information.

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Transmitting Alarms: microBlox® Series

**uBTA-P-2 Series** microBlox® Transmitter and Alarm Carrier

![Image of microBlox product diagram]

**Description**

**Models**

- uBTA-P-2MR
  - Dual transmitter/alarm, mechanical relays.
- uBTA-P-2SR
  - Dual transmitter/alarm, solid-state relays.

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

The microBlox uB modules offer a flexible space-saving solution for isolating, monitoring, and converting industrial sensor signals to interface with your data acquisition or control system. By inserting a uB input module into the 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.

Plug-in modules measure current, voltage, thermocouple, or RTD input. Carriers produce a process current and voltage output signal and trip alarm relays if high or low limits are exceeded.

Each alarm carrier has two independent relay contacts (mechanical or solid-state) per channel.

Bluetooth wireless technology enables configuration using an Android™ or iOS® mobile device. Acromag’s Agility™ app helps you quickly set input/output ranges scaling to your specific requirements. It is also fast and easy to configure your alarm setpoints. You can define two high limits, low limits, or window alarms for each relay of a channel.

These rugged carriers are well-suited for use in harsh industrial environments. Carriers mount on T-type DIN rails for high-density installation. They have high immunity to noise, surges, shock, vibration, and extreme temperatures. Installation in hazardous locations is also supported with compliance to CE, ATEX, and UL regulations.

**Key Features & Benefits**

- Two channels on one unit
- Dual alarms (hi/hi, lo/lo, hi/lo) with two independent mechanical or solid-state relays per channel
- Mechanical relays switch 5A at 250V AC, 30V DC
- Transmitter output with scalable 0-20mA, 4-20mA, and 0-5V signal ranges
- Interchangeable input modules for measuring a wide variety of signal types
- Easy configuration using Bluetooth wireless technology with smartphone or tablet running Acromag Agility app for Android® and iOS®
- Rugged design for use in harsh environments
- High accuracy alarm and transmitter outputs
- High noise immunity and stability
- High voltage isolation between inputs, output, relay contacts, and power
- All I/O and power ports transient-protected
- Wide -40 to 75°C operating range
- CE compliant, UL/cUL Class I Div 2, ATEX / IECEx Zone 2 approvals.
Transmitting Alarms: microBlox® Series

uBTA-P-2 Series microBlox® Transmitter and Alarm Carrier

**Performance Specifications**

- **Analog Field Input**
  - **Field Range**
    - See specific plug-in uB module used.
    - [www.acromag.com/microBlox](http://www.acromag.com/microBlox)
- **Alarm Relay Output (per channel)**
  - **Relay**
    - Two independent relays. Each relay may have its own set-point, dead-band and reverse acting status setting. Each relay offers high, low, or a window alarm configuration.
    - Models: uBTA-P-2MR
      - Type: FORM C, (SPDT, normally open and normally closed) mechanical relays. 5A, 250V AC, 30V DC.
    - Models: uBTA-P-2SR
      - Type: FORM A, (SPDT, normally opened) solid-state relays. 1A, 200V peak AC/DC.
- **Transmitter Output (per channel)**
  - **Output**
    - Simultaneous 0 to 5V / 1 to 5V, 0 to 20mA / 4 to 20mA.

**General**

- **Power**
  - Connect 6-32V DC SELV (Safety Extra Low Voltage), up to 3.5W including module. Current draw will be dependent on carrier model, relay type, whether you utilize the transmitter outputs, your plug-in module, and your voltage level. See manual for more details.
- **Accuracy**
  - Better than ±0.1% typical.

**Physical**

- **Dimensions**
  - Height: 3.64” (92.5 mm).
  - Width: 4” (106 mm).
  - Depth: 1.42” (36 mm) without uB module, 2.8” (71 mm) with uB module.
  - Weight: 0.35 lbs. (0.159 kg).
  - Shipping weight: 1 lbs. (0.455 kg).
- **I/O Connectors**
  - Fixed type terminal blocks rated for 5A/250V; AWG #28-16, stranded or solid copper wire.
- **Carrier Material**
  - Self-extinguishing polyamide, UL94 V-0 rated, color light gray. General purpose NEMA Type 1 enclosure.
- **Circuit Board**
  - Military grade fire-retardant epoxy glass per IPC-4101/98.
- **DIN-Rail Mounting**
  - T-type DIN rails.

**Environmental**

- **Operating Temperature**
  - -40 to 75°C (-40° to 158°F).
- **Storage Temperature**
  - -40 to 85°C (-40° to 185°F).
- **Relative Humidity**
  - 5 to 95% non-condensing.
- **Emissions**
  - Class B product with emissions per BS EN 61000-6-3
- **Approvals**
  - CE compliant. Designed for UL/cUL Class I Division 2 Groups A,B,C,D, ATEX / IECEx Zone 2.

**Configuration using Agility™ Config. Tool via Bluetooth technology**

The Acromag Agility™ configuration tool is a mobile application that allows easy setup, calibration, and reconfiguration of microBlox I/O modules.

This mobile app supports smart devices with Android 4.3 or later or iOS 5.0 or later. You can download the Agility application free of charge from the Google Play™ store at play.google.com (Android), or the Apple® App Store® at itunes.apple.com (Apple iOS).

**Ordering Information**

- **uBTA-P-2MR**
  - Single transmitter/alarm, mechanical relays.
- **uBTA-P-2SR**
  - Dual transmitter/alarm, solid-state relays.

**Accessories**

- **DIN Rail 3.0**
  - DIN Rail Strip, Type T, 3 inches
- **DIN Rail 16.7**
  - DIN Rail Strip, Type T, 16.7 inches

**Plug-In Analog Field Input Modules**

- **uB30-B**
  - DC millivolt input, 5Hz bandwidth; Configurable ±100mV.
- **uB40-B**
  - DC millivolt input, 1kHz bandwidth; Configurable ±100mV.
- **uB31-B**
  - DC voltage input, 4Hz bandwidth; Configurable ±1 to ±60V.
- **uB41-B**
  - DC voltage input, 1kHz bandwidth; Configurable ±1 to ±60V.
- **uB32-B**
  - DC current input; Configurable 0-20mA.
- **uB42-B**
  - DC current input with 2-wire transmitter loop excitation; Configurable 0-20mA.
- **uB34-B**
  - Pt RTD input, 2 or 3-wire; Configurable 0-600°C.
- **uB35-B**
  - Pt RTD input, 4-wire; Configurable 0-600°C.
- **uB37-B**
  - Thermocouple input, non-linearized; Configurable Type J,K,T,R,E,S.
- **uB47-B**
  - Thermocouple input, linearized; Configurable Type J,K,T,R,E,S.

See [Acromag.com/microBlox](http://www.acromag.com/microBlox) for more information.

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Transmitter: microBlox® Series

uBTX-H-1 Series microBlox® Transmitter Carrier

Variety of inputs ◆ 0/4-20mA and 0/1-5V transmitter output ◆ Bluetooth® wireless configuration

**Description**

**Models**

uBTX-H-1: Transmitter.

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

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

Plug-in modules measure current, voltage, frequency, thermocouple, or RTD input. Carriers produce a process current and voltage output signal.

Bluetooth wireless technology enables configuration using an Android™ or iOS® mobile device. Acromag’s Agility™ app helps you quickly set input/output ranges and scaling to your specific requirements.

Carriers mount on T-type DIN rails for high-density installation. They can plug together for modular expansion with a shared power connection that is bussed along the DIN rail. Redundant power sources are supported.

These rugged carriers are well-suited for use in harsh industrial environments. They have high immunity to noise, surges, shock, vibration, and extreme temperatures. Installation in hazardous locations is also supported with compliance to CE, ATEX, and UL regulations.

**Key Features & Benefits**

- Transmitter output with scalable 0-20mA, 4-20mA, and 0-5V signal ranges
- Interchangeable input modules for measuring a wide variety of signal types
- Easy configuration using Bluetooth wireless technology with smartphone or tablet running Acromag Agility app for Android® and iOS®
- High-density mounting with 22.5mm package featuring pluggable, front-facing terminals
- Supports redundant power sources and clean wiring using integrated rail power bus
- Rugged design for use in harsh environments
- High accuracy transmitter output
- High noise immunity and stability
- High voltage isolation between input, output, and power
- All I/O and power ports transient-protected
- Wide -40 to 75°C operating range
- CE compliant. UL/cUL Class I Div 2, ATEX / IECEx Zone 2 approvals
### uBTX-H-1 Series microBlox® Transmitter Carrier

#### Performance Specifications

- **Analog Field Input**
  - **Field Range**
    - See specific plug-in uB module used. [www.acromag.com/microBlox](http://www.acromag.com/microBlox)

- **Transmitter Output**
  - **Output**
    - Simultaneous 0 to 5V / 1 to 5V, 0 to 20mA / 4 to 20mA.

- **General**
  - **Power**
    - Connect 6-32V DC SELV (Safety Extra Low Voltage), up to 1.2W including module. Current draw will be dependent on carrier model, whether you utilize the transmitter outputs, your plug-in module, and your voltage level. See manual for more details.
  - **Accuracy**
    - Better than ±0.1%, typical.
  - **DIN Rail bus connector kit**
    - DIN rail bus connection kit allows plugging enclosures together to share power.

- **Physical**
  - **Dimensions**
    - Width: 0.9” (22.5 mm).
    - Height: 4.51” (114.5 mm).
    - Depth: 3.90” (99 mm) without uB module, 4.45” (113 mm) with uB module.
  - **Weight**
    - 0.35 lbs. (159 Kg).
    - Shipping weight: 1.0 lbs. (0.454 Kg).
  - **I/O Connectors**
    - Removable plug-in type terminal blocks rated for 5A/250V, AWG #26-14 stranded or solid copper wire.
  - **Case**
    - Self-extinguishing polyamide, UL94 V-0 rated, color light gray. General purpose NEMA Type 1 enclosure.

#### Circuit Board
- Military grade fire-retardant epoxy glass per IPC-4101/98.
- DIN-Rail Mounting
- T-type DIN rails.

#### Environmental
- **Operating Temperature**
  - -40 to 75°C (-40° to 158°F).
- **Storage Temperature**
  - -40 to 85°C (-40° to 185°F).
- **Relative Humidity**
  - 0 to 95% non-condensing.
- **Emissions**
  - Class A product with emissions per BS EN 61000-6-4.
- **Approvals**
  - CE compliant. Designed for UL/cUL Class I Division 2 Groups ABCD, ATEX / IECEx Zone 2.

#### Configuration using Agility™ Config. Tool via Bluetooth technology
- The Acromag Agility™ configuration tool is a mobile application that allows easy setup, calibration, and reconfiguration of microBlox I/O modules.
- This mobile app supports smart devices with Android 4.3 or later or iOS 5.0 or later. You can download the Agility application free of charge from the Google Play store at [play.google.com](http://play.google.com) (Android), or the Apple App Store at [itunes.apple.com](http://itunes.apple.com).

#### Ordering Information
- **uBTX-H-1**
  - Single transmitter in housing.
- **Accessories**
  - XTBUS-KIT
    - DIN rail bus connector to power kit.
  - DIN Rail 3.0
    - DIN Rail Strip, Type T, 3 inches.
  - DIN Rail 16.7
    - DIN Rail Strip, Type T, 16.7 inches.

#### Plug-In Analog Field Input Modules
- **uB30-B**
  - DC millivolt input, 5Hz bandwidth;
  - Configurable ±100mV.
- **uB40-B**
  - DC millivolt input, 1kHz bandwidth;
  - Configurable ±100mV.
- **uB31-B**
  - DC voltage input, 4Hz bandwidth;
  - Configurable ±1 to ±60V.
- **uB41-B**
  - DC voltage input, 1kHz bandwidth;
  - Configurable ±1 to ±60V.
- **uB32-B**
  - DC current input;
  - Configurable 0-20mA.
- **uB42-B**
  - DC current input with 2-wire transmitter loop excitation; Configurable 0-20mA.
- **uB34-B**
  - Pt RTD input, 2 or 3-wire; Configurable 0-600°C.
- **uB35-B**
  - Pt RTD input, 4-wire; Configurable 0-600°C.
- **uB37-B**
  - Thermocouple input, non-linearized;
  - Configurable Type J,K,T,R,E,S.
- **uB47-B**
  - Thermocouple input, linearized;
  - Configurable Type J,K,T,R,E,S.

See [Acromag.com/microBlox](http://Acromag.com/microBlox) for more information.

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**Tel 877-214-6267  ■  sales@acromag.com  ■  www.acromag.com  ■  30765 Wixom Rd, Wixom, MI 48393 USA**
Description

This compact, industrial-grade isolator provides a high-voltage isolation barrier between a computer and a connected USB device. The isolation protects equipment from electrical surges and transient voltage spikes. It also eliminates ground loop currents flowing between the PC and peripherals which can cause damage and inaccurate measurements. Additionally, isolation minimizes conducted noise from static discharge, magnetic fields, and radio frequency interference.

Acromag's USB isolator is very easy to use. The isolator inserts in-line with the USB connection and operates transparently. No special software drivers are required. The unit receives power from the PC's USB port and isolates that power to the connected device. High noise immunity and low radiated emissions ensure reliable data transfer in sensitive applications.

A number of high-performance features help provide convenient and dependable operation. The green LED indicates that power is being received and blinks if the connected device draws too much current. An internal jumper lets you switch from Full Speed (12 Mbps) to Low Speed (1.5 Mbps) communication. The reset button offers a simple way to reinitialize a connected device without breaking the cable connection. High-retenion USB sockets keep cables securely attached under shock and vibration.

Key Features & Benefits

- Isolates and protects a USB peripheral from a USB host
- Electrical isolation up to 1500V AC / 2100V DC
- Common mode filtering on all data lines
- Built-in surge/transient suppression up to 8kV on all ports
- Self-powered through the USB port
- Supports USB 2.0 full speed (12 Mbps) and USB 1.1 low speed (1.5 Mbps) data rates with jumper-selection
- LED for power indication and diagnostics
- Reset button to reinitialize and re-enumerate peripheral devices
- Output short circuit protection with auto-retry
- No software or configuration required (transparent operation)
- Uses standard high-retention USB Type A/B cable connections (includes 1m cable)
- Compact size and rugged design for harsh environments
- Wide ambient temperature operation (-40 to 70°C (-40 to 158°F))
- CE, FCC, UL/cUL approvals

Ordering Information

Models

- **USB-ISOLATOR**
  USB isolator, includes USB cable (Part # 4001-112) for isolator-to-PC connection

- **TTC-SIP**
  CD-ROM (Part #5040-944), USB isolator and two USB cables (Part # 4001-112, 4001-113) for configuration of Acromag DT, TT and ST Series Transmitters, and SP and uBSP Series Signal Splitters.

- **XT-SIP**
  CD-ROM (Part #5041-094), USB isolator, two USB cables (Part # 4001-112, 4001-113), and one Ethernet cable (Part # 5035-360) for configuration of Acromag BusWorks XT Series Ethernet modules.

Accessories

- **4001-112**
  USB cable, 1 meter, with Type A to Type B plugs

- **4001-113**
  USB cable, 1 meter, with Type A to Mini-B plugs
USB-ISOLATOR  USB-to-USB Isolator

Performance Specifications

**USB Port Interface**

Standards
USB 1.1 and 2.0 compatible, full speed (12Mbps, default) and low speed (1.5Mbps) data rates supported. For low speed data rates, an internal jumper is provided for user setting. Connection is transparent, no software or configuration is required. Isolator will not be enumerated in the device manager.

**Physical**

Dimensions
2.40” Length x 1.85” Wide x 0.925” High (60.96mm x 46.99mm x 23.495mm).

Connectors
Standard high retention USB A/B connectors with minimum withdrawal force of 15 Newtons. 1 meter A/B cable included.

PC Connector
USB Type B receptacle

Device Connector
USB Type A receptacle

LED Indicator
Green LED indicates isolator receiving 5V power from the USB computer bus. Flashing indicates short circuit/retries on peripheral side.

Reset Button
Resets the connection to the USB peripheral device for reinitialization and re-enumeration.

Enclosure Material
ABS Resin, UL94 rated, IP30 plastic case.

**Environmental**

Operating temperature
-40 to 70°C (-40° to 158°F).

Storage temperature
-40 to 85°C (-40° to 185°F).

Relative humidity
5 to 95% non-condensing.

Power
PC Connect Side: Standard USB bus power (5V DC). Device Connect Side: 5V DC / 120mA with full power connection from PC. Includes over-current protection with auto-retry.

Isolation
1500V AC / 2100V DC peak isolation. 250V AC continuous safety isolation.

Agency Approvals:
CE and FCC compliant. UL/cUL Class 1 Div. 2 Zone 2.

Radiated Field Immunity (RFI)
Designed to comply with IEC1000-4-3 Level 3 and EN50082-1.

Electromagnetic Compatibility (EMC)
Minimum immunity per EN61000-6-2:2001

Electrostatic Discharge (ESD) Immunity
Per IEC61000-4-2.

Radiated Field Immunity (RFI)
Per IEC61000-4-3.

Electrical Fast Transient Immunity (EFT)
Per IEC61000-4-4. Complies with IEC1000-4-4 Level 3 and EN50082-1.

Surge Immunity
Complies with IEC1000-4-5 Level 3 and EN50082-1.

Conducted RF Immunity (CRFI)
Per IEC61000-4-6.

Emissions
Per EN61000-6-4:2001.

Radiated Frequency Emissions
Per CISPR11 Class A. Meets or exceeds EN50081-1 for Class B equipment.

Example USB Connections (TT Series, SP Series, uBSP Series, XT Series, or ST Series)

[Diagram of USB connections]

**Example USB Connections**

- **Personal Computer Running Windows OS**
- **Signal Splitter Carrier**
- **ST Series Transmitter Model ST131-0600**
- **SP / TT Series**

[Diagram of USB connections]

**ISO9001 AS9100**

**Acromag**

THE LEADER IN INDUSTRIAL I/O

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