

Product Datasheet - Technical Specifications



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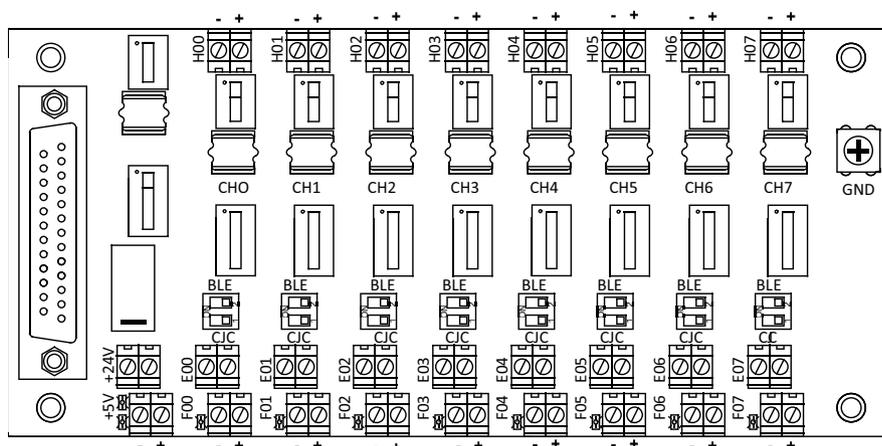
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Signal Conditioners: microBlox® Series

uB04/08/16 microBlox® Backpanels



uB module carriers ◆ 4, 8, or 16 channel versions ◆ DIN-rail option ◆ CJC sensor

Description

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 high-density analog I/O interface. Channel-to-channel isolation provides optimal noise and surge protection from ground loops, spikes, and high common mode voltages.

These backpanels serve as a carrier for up to 16 microBlox I/O modules. They provide power connections, input/output wiring terminals, and earth grounding (host-side) for the I/O modules. Each module slot (I/O channel) has switches to enable Bluetooth communication (with LED) and cold junction compensation for thermocouple inputs.

An industry-standard analog I/O bus aggregates all host I/O channels on a DB25 connector to facilitate simultaneous access by high-speed data acquisition systems. Field points are isolated channel-to-channel and as a group to the host analog I/O bus (host includes power).

Key Features & Benefits

- Choice of 4, 8, and 16 channel carriers
- Optional DIN-rail mounting
- Bluetooth and CJC support on all slots
- Slot for DC power converter module uBDC1
- Redundant power capable
- DB25 port for simultaneous access to all I/O over a single cable connection
- -40 to 80°C (-40 to 176°F) operation
- UL, cUL Class I, Div 2, ABCD and ATEX Zone 2 hazardous location approvals



ISO9001
AS9100  MADE IN USA

Acromag 
THE LEADER IN INDUSTRIAL I/O

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Performance Specifications

See specific I/O models for additional system specifications.

■ General

Reverse Voltage Protection
Solid-state protection Included.

Over-Voltage Protection
1ms to break power above 8.6V.

Under-Voltage Protection
1ms to break power under 2.5V.

Transient Protection
Transient Voltage Suppressor (TVS) per field channel, plus TVS per Host channel, TVS at Host power connections.

Power

Back-panel power is +5V, sourced by wiring 5V to the +5V terminals, or via an optional uBDC1 module with wiring to the 24V terminals (10-32V). Power can be driven redundantly if both the host 5V and 24V power terminals are wired to separate power supplies and uBDC1 power module is installed (uBDC1 dominates).

Pass-Thru Power Limit

Current limiting from 5V set by capacity to 480-720mA (uB04), 990-1350mA (uB08), and 1900-2500mA (uB16).

Power Consumption

Less than 4mA (back-panel only), 30mA (including uBDC1 w/no I/O modules plugged in).

Channel I/O

Printed circuit edge connector sockets are polarized to prevent a mix-up between the power module socket and I/O module sockets.

Module Retainer

I/O modules and power module are retained via 3AG clips, 1 per channel.

Earth Ground

Screw terminal earth ground connection on panel and common to host minus.

LED Indicators

5V power: green
24V power: green
Bluetooth link: blue LED/channel.

Switches

Two DIP switches/channel: CJC enable/disable thermistor connection to IN- set ON or OFF per I/O model; enable/disable Bluetooth link ability (set ON for access to -B modules).

Interface Connector

Field & host channel: high-density screw clamp type, 16AWG maximum.
Host analog I/O bus: DB25, industry-standard I/O pin assignment bundles host-side I/O and shared host common.

Dimensions

uB04: 2.845" high, 4.005" wide, 1.8" deep
uB08: 2.845" high, 6.213" wide, 1.8" deep
uB16: 2.845" high, 11.181" wide, 1.8" deep
DIN rail versions (uBxxD) add 0.105" to width and 0.3" to depth.
Inserting plug-in I/O modules add 0.780" to depth.

■ Environmental

Operating Temperature

-40 to 80°C (-40° to 176°F).
-CG Models: 0 to 50°C (32 to 131°F)

Storage Temperature

-40 to 85°C (-40° to 185°F).

Relative Humidity

0 to 95% non-condensing.

Safety Isolation

Field channels are individually isolated field channel-to-field channel and from the field to the host I/O bus (host group includes 5V power) for common-mode voltages up to 250V AC, or 354V DC off DC power ground, on a continuous basis (will withstand 1500VAC HIPOT/dielectric strength test for one minute without breakdown). This complies with test requirements of ANSI/ISA-82.01-1988 for voltage rating specified.

Shock and Vibration Immunity

Conforms to:
IEC 60068-2-6: 10-500 Hz, 4G, 2 hours/axis, for sinusoidal vibration.
IEC 60068-2-64: 10-500 Hz, 4G-rms, 2 hours/axis, for random vibration.
EC 60068-2-27: 25G, 11ms half-sine, 18 shocks at 6 orientations, for mechanical shock.

Electromagnetic Compatibility (EMC) Compliance

Minimum immunity per BS EN 61000-6-1 (2007): CE marked, per EMC Directive 2004/108/EC.
Electrostatic Discharge Immunity (ESD), per IEC 61000-4-2.
Radiated Field Immunity (RFI), per IEC 61000-4-4.
Electrical Fast Transient Immunity (EFT), per IEC 61000-4-4.
Surge Immunity, per IEC 61000-4-5. Conducted RF Immunity (CRFI), per IEC 61000-4-6.

Emissions

Class B product with emissions per BS EN 61000-6-3 (2007+A1:2011): enclosure port, per CISPR 16.
Low voltage AC mains port, per CISPR 16.

Approvals

CE compliant. RoHS Compliant.
UL/cUL Class 1, Division 2, Groups ABCD.
ATEX Zone 2. No UL or ATEX Approvals on -CG models.

Ordering Information

To order commercial grade panels append with -CG, e.g. uB04-CG. Note: Commercial grade panels should be paired only with -CG modules.

Model	Description
uB04	4 channel panel, surface mount
uB04D	4 channel panel, DIN rail mount
uB08	8 channel panel, surface mount
uB08D	8 channel panel, DIN rail mount
uB16	16 channel panel, surface mount
uB16D	16 channel panel, DIN rail mount

Accessories

Model	Description
5028-606	Interface cable for microBlox uB backpanels, DB25 male/female, 1m long
5028-607	Interface cable for microBlox uB backpanels, DB25 male/female, 2m long
5028-608	Interface cable for microBlox uB backpanels, DB25 male/female, 7m long
uBXIF	Universal interface board, rack mount