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Find the *Acromag BusWorks XT1231-000* at our website: ***Click HERE***

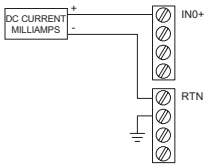
Ethernet I/O: BusWorks® XT Series

XT1230 Ethernet Analog Input Modules

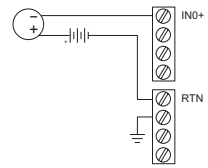


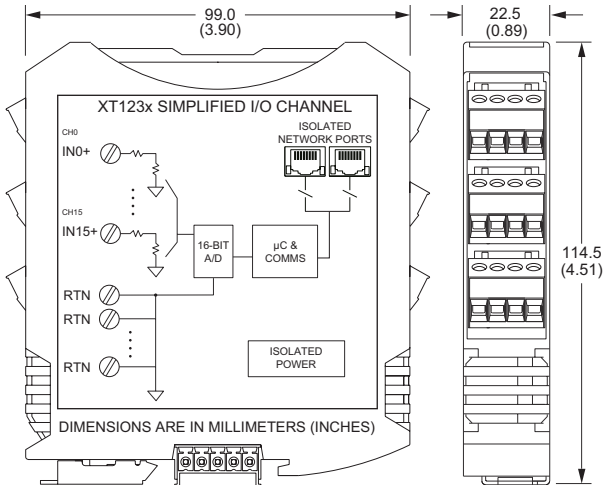
EXAMPLE INPUT CONNECTIONS

SOURCED DC CURRENT



TWO-WIRE CONNECTION





16-channel single-ended analog current input ◆ Modbus TCP/IP, Ethernet/IP, Profinet, or i2o communication

Description

The XT1230 offers an isolated Ethernet network interface for up to to sixteen single-ended current input channels. Single-ended inputs enable a higher channel density to save space and a lower cost per channel.

Rugged construction, high density design, and easy USB-to-PC/Windows setup combine for a very effective and reliable module. These units are ideal for remote monitoring, distributed control, or SCADA applications.

Input Ranges

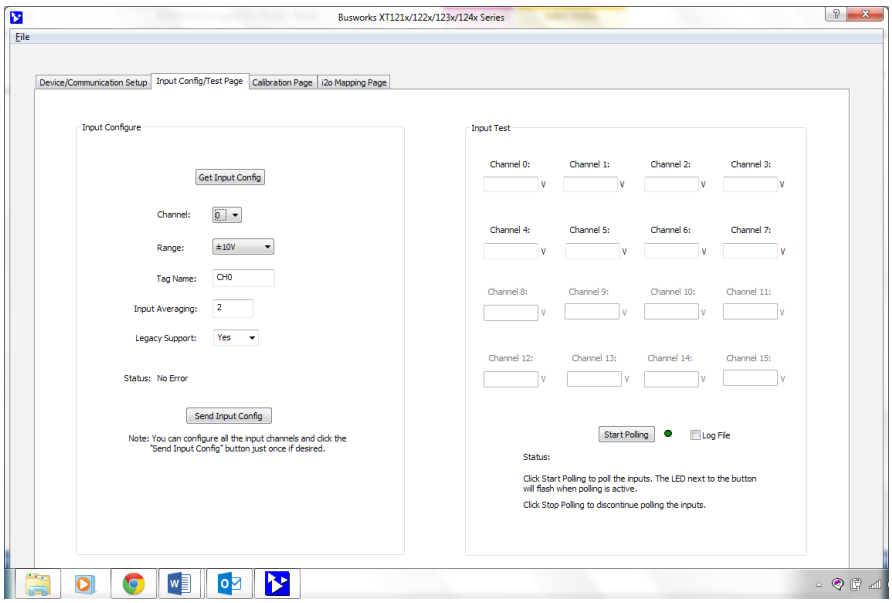
DC Current:
0 to 11mA, 0 to 20mA, 4 to 20mA, ±20mA.
0 to 20 amps AC (with optional AC sensor)

Ethernet Communication

Modbus TCP/IP, Ethernet/IP, Profinet, i2o® peer-to-peer, 10/100Base-T(X) PriorityChannel™ device determinism

Power Requirement

12 to 32V DC (2.8W)



BusWorks XT software (download free from www.acromag.com) allows you to configure I/O modules offline with USB or save the configuration file and download settings into units later at your convenience.

Key Features & Benefits

- Easy setup with Windows software via USB
- Low input impedance (27 ohms) reduces loading on current loops
- User-configurable sample averaging (1-200) on a per-channel basis
- 10ms network updates for all 16 input channels
- i2o peer-to-peer updates based on percent-of-change and/or timed updates
- High-resolution 16-bit Σ-Δ A/D converter ensures precise, high accuracy measurements
- High-Density 22.5mm wide package with pluggable, front-facing terminals
- Dual Ethernet 10/100 ports (auto-negotiation) reduce switch port requirements
- 1500V AC isolation (between I/O, power, and network ports) and surge/transient protection
- Supports bussed/rail and redundant power
- -40°C to +70°C wide temperature operation
- Withstands 25g shock and 4g vibration
- CE compliant. UL/cUL Class 1 Div 2 Zone 2 approvals. ATEX Certified.

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Ethernet I/O: BusWorks® XT Series

XT1230 Ethernet Analog Input Modules

Performance Specifications

IMPORTANT: To prevent damage or errors from grounded PCs and surges, Acromag strongly recommends use of the USB-ISOLATOR when configuring an XT1000 I/O module.

USB Interface

USB Connector
Type: USB Mini-B type socket, 5-pin
Data rate: 12Mbps. USB v1.1 and 2.0 compatible
Maximum cable length: 5.0 meters

USB Transient Protection
Transient voltage suppression on power and data lines

Driver
Not required. Uses Windows HID drivers

Input

Accuracy
±0.05% of span, typical for nominal input ranges

Analog to Digital Converter (A/D)
16-bit Σ-Δ converter. 1.476uA/bit resolution

Noise Rejection
Better than -110dB @ 60Hz

Input Filter Bandwidth
-3dB at 25KHz, typical

Input Conversion Rate
10ms for all 16 input channels

Input Impedance
27.4 ohms

Ethernet Communication

Protocols
Modbus TCP/IP, i2o peer-to-peer, Ethernet/IP, or Profinet depending on model number.

Ethernet Communication Controller
Innovasic RapID™ Platform with PriorityChannel™ for determinism at the device regardless of network load.

Modbus TCP/IP (slave)
Port 502 reserved. Supports up to 10 sockets

i2o Peer-to-Peer (master/slave)
Can map each of 16 analog input channels separately to output channels. Timed (1-65535 sec) or percent-of-change updates. Supports GPRS/GSM systems.

Ethernet/IP (adapter)
Supports 10 connections. EDS file on website

Profinet (server)
Supports 1 connection. GSDML file on website

Connectors
Two shielded 8-pin RJ-45 sockets, 10BaseT/100BaseTX

Wiring
Auto-crossover for MDI or MDI-X

IP Address
User-configurable. 192.168.1.100 default IP address

Data Rate
Auto-negotiated, 10Mbps or 100Mbps

Compliance
IEEE 802.3, 802.3u, 802.3x

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.

MTBF: 463,547 hrs. at 25°C
345,200 hrs. at 40°C

Power Requirement
12 to 32V DC, 2.8W maximum
(113mA maximum @ 24V)

Isolation
4-way isolation between I/O channels, network (each port), and power
Peak: 1500V AC, ANSI/ISA-82.01-1988
Continuous: 250V AC, 354V DC

Shock and Vibration Immunity
Vibration: 4g, per IEC 60068-2-64
Shock: 25g, per IEC 60068-2-27

Electromagnetic Compatibility (EMC) Compliance
Radiated Emissions: BS EN 61000-6-4, CISPR 16
RFI: BS EN 61000-6-2, IEC 61000-4-3
Conducted RFI: BS EN 61000-6-2, IEC 61000-4-6
ESD: BS EN 61000-6-2, IEC 61000-4-2
EFT: BS EN 61000-6-2, IEC 61000-4-4
Surge Immunity: BS EN 61000-6-2, IEC 61000-4-5

Approvals
CE compliant. UL/cUL listed. ATEX Certified.
Designed for Class I; Division 2; Groups ABCD; Zone 2.
Ⓔx II 3 G Ex nA IIC T4 Gc -40°C ≤ Ta ≤ +80°C

Physical

General
General purpose plastic enclosure for mounting on 35mm "T-type" DIN rail

Case 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 (IPC-4101/98)

I/O Connectors
Removable plug-in type terminal blocks rated for 12A/250V; AWG #26-12, stranded/solid copper wire

Dimensions
Width = 22.5mm (0.9 inches), Length = 114.5mm (4.51 inches), Depth = 99.0mm (3.90 inches)

Shipping Weight
0.5 pounds (0.22 Kg) packed

Ordering Information

Models

XT1231-000
16-channel single-ended current input module, Modbus/TCP and i2o protocol

XT1232-000
16-channel single-ended current input module, Ethernet/IP protocol

XT1233-000
16-channel single-ended current input module, Profinet protocol

Software

XT-SIP (recommend one kit per customer)
Software Interface Package. Includes software (XT-CONFIG), isolator (USB-ISOLATOR), two USB cables (4001-112, 4001-113), Ethernet cable (5035-360).

Accessories

XT BUS-KIT
DIN rail bus power/excitation connector kit. Includes one DIN rail bus connector (1005-070), one left-side female connector terminal block (1005-220) and one right side male connector terminal block (1005-221).

USB-ISOLATOR
USB-to-USB isolator, includes USB cable (4001-112)

5020-350
AC current sensor (toroidal transformer)
Converts 0-20A AC to 0-11.17mA DC

PS5R-VD24
Power supply (24V DC, 2.5A)

DIN RAIL 3.0
DIN RAIL 16.7
DIN rail strip, Type T, 3 inches (75mm) or 16.7 (425mm)

20RM-16-DIN
19" rack-mount kit with DIN rail

ISO9001
AS9100
MADE IN USA

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