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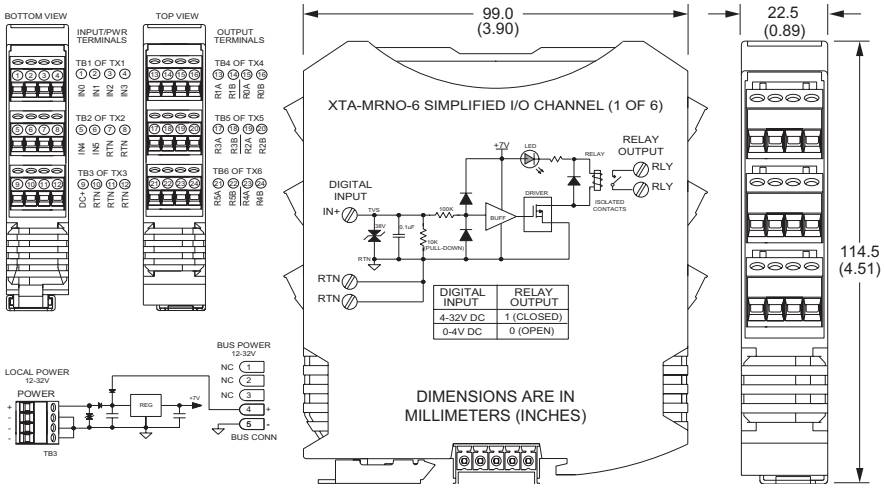
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Find the *Acromag BusWorks XTA-MRNO* at our website: *Click HERE*

Ethernet I/O: BusWorks® XT Series

XTA-MRNO Mechanical Relay Output Modules





6 discrete input/output channels ◆ Form A normally open SPST 5A relays ◆ 4-32V logic input

Description

The XTA-MRNO-6 is an interposing relay module with six digital inputs and six mechanical relay outputs. It is intended for use with BusWorks XT Series discrete I/O or other digital output modules for the purpose of driving high energy loads. This module serves as an interim digital interface to switch high voltage devices at high currents based on digital logic inputs. Each pair of output contacts are individually isolated.

These modules are very easy to use. Removable front-facing terminal blocks on the module's top and bottom greatly simplify field wiring. Individidual channel LEDs indicate the output state for convenient troubleshooting.

Rugged construction and high density design combine for a very effective I/O solution. These units are ideal for remote monitoring, distributed control, or SCADA applications.

Input Ranges

4-32V digital logic (0V OFF, 4-32V ON)

Output Ranges

Relays drive up to 250V AC / 30V DC at 5A

Power Requirement

12 to 32V DC

Key Features & Benefits

- Six buffered digital logic inputs
- Six mechanical relay outputs
- Normally open, sealed, Form A mechanical relay contacts (SPST-NO)
- Switches both AC and DC voltage loads
- 1500V AC isolation (between each I/O channel and power) and surge/transient protection
- High-Density 22.5mm wide package with pluggable, front-facing terminals
- Individual LEDs for each channel
- Supports bussed/rail and redundant power
- -40°C to +80°C wide temperature operation
- Withstands 25g shock and 4g vibration
- CE and UL/cUL Class 1 Div 2 Zone 2 approvals. ATEX Certified.

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Bulletin #8400-659e

Ethernet I/O: BusWorks® XT Series

XTA-MRNO Mechanical Relay Output Modules

Performance Specifications

■ Digital Inputs (Logic Side)

Configuration
Six DC voltage inputs share return with power.

Input Signal Voltage Range
0 to +32V DC, 36V peak.

Input Signal Threshold
4V DC typical w/100mV hysteresis.

Input Impedance
10KΩ typical, input includes 10KΩ pull-down to return.

Input Response Time
See Output Response Time.

Input Over-Voltage Protection
Bipolar transient voltage suppression (TVS diodes) and capacitive filtering (0.1µF) is included at every input. TVS diodes are rated for a working voltage up to 38V DC, a breakdown voltage of 72V DC, and a clamping voltage of 100V DC.

Input Current
3.2 mA at 32V DC, typical. Inputs include 10KΩ pull-downs to return.

■ Relay Outputs (Field Side)

Configuration
Six normally open, isolated, SPST, mechanical relay contacts.

Contact Type
1 Form A (Six Channels), plastic-sealed contacts.

Contact Material
Gold overlay silver-Nickel alloy (Au + Ag 90 Ni 10).

Maximum Switching Voltage
Up to 277 V AC or 125V DC, maximum.

Maximum Switching Current
5A maximum.

Minimum Load
1mA, 5V DC

Maximum Switching Power
Up to 1,250VA or 150W, maximum.

Contact Resistance
1000mΩ at 500V DC, minimum (initial contact resistance).

Dielectric Strength
750V AC (50/60Hz) for 1 minute between open contacts, 3000V AC (50/60Hz) for 1 minute from contacts to input coil.

Mechanical Life
20 x 10^6 operations, minimum. External contact protection is required for use with inductive loads.

Electrical Life
100 x 10^3 operations, minimum at 3A & 250V AC, 30V DC resistive. 50 x 10^3 operations, minimum at 5A & 250V AC, 30V DC resistive w/ switching frequency at 20 times/minute.

Note: It is not recommended to switch mechanical relay contacts at high frequencies for long periods of time as this will quickly degrade the life of the relay.

Output Response Time
5.25ms typical, 10ms maximum, no bounce measured from input trigger to corresponding output contact closure.

Note: External relay contact protection is required for use with inductive loads. Failure to use adequate protection may reduce contact life or damage the unit.

■ Environmental

Operating Temperature
-40 to 80°C (-40 to 176°F).

Storage Temperature
-40 to 80°C (-40 to 176°F).

Relative Humidity
5 to 95% non-condensing.

Power Requirement
12–32V DC SELV (Safety Extra Low Voltage), 0.9W. Current draw varies with power voltage as follows (current indicated is with all six relays energized).

Power Supply	Current Draw
12V DC	62mA typical, 68mA maximum
15V DC	50mA typical, 55mA maximum
24V DC	32mA typical, 35mA maximum
32V DC	25mA typical, 27mA maximum

Isolation
Channel-to-channel and power isolation.
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 listings. 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 per IPC-4101/98 with humi-seal conformal coating.

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

XTA-MRNO-6
6-channel mechanical relay output module

◆ 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).

ISO9001
AS9100
MADE IN USA

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