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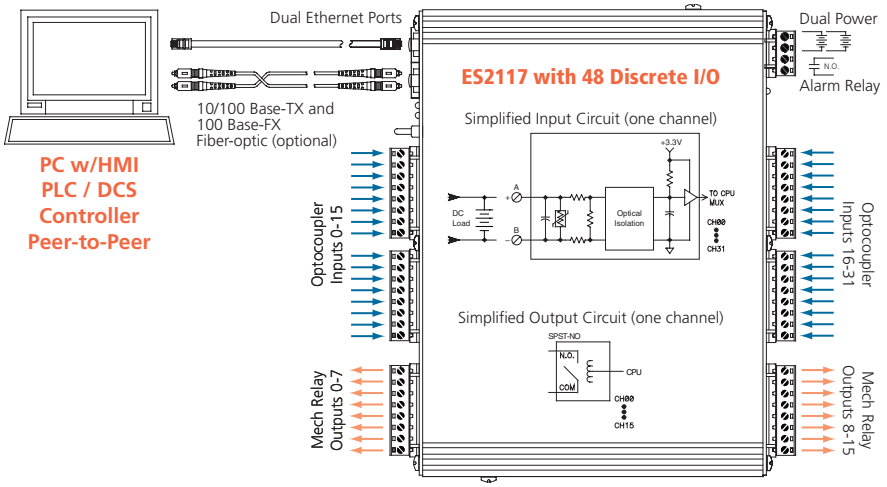
Find the *Acromag EtherStax ES2117-0000* at our website: ***Click HERE***

Ethernet I/O: EtherStax® Series

ES2117 Ethernet Discrete I/O Modules

c UL us LISTED · 24 HOUR STOCK ITEM · 2 YEAR WARRANTY





48 Channel-Isolated Discrete I/O (32 DC inputs, 16 AC/DC outputs) ◆ Modbus TCP/IP, i20 peer-to-peer

Description

EtherStax I/O blocks provide a ruggedized, high-density solution to interface a large quantity of isolated discrete I/O signals to your control system. A stackable aluminum housing maintains a small footprint and stands up to harsh, industrial environments. Web-based configuration simplifies setup with any web browser.

Input Range
20-36V DC

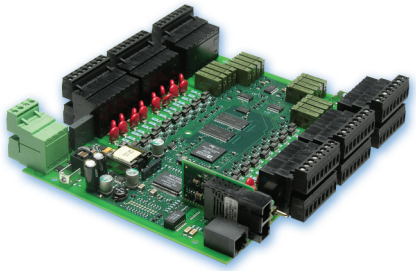
Output Range
Outputs: 2A @ 250V AC or 110V DC SPST
Alarm: 2A @ 240V AC or 125V DC SPST

Ethernet Communication
10/100Base-T(X) and 100Base-FX
Modbus TCP/IP or UDP/IP protocol
Acromag i2o® peer-to-peer technology

Power Requirement
18 to 36V DC (redundancy-ready)

Approvals
UL & cUL listed:
Class 1; Division 2; Groups A, B, C, D.

- **Fully isolated between all circuits:** Inputs, outputs, alarm, network ports, enclosure, and power are isolated from each other for safety and noise immunity.
- **High-density stackable unit:** Stacked mounting puts a lot of I/O in a very small footprint to save panel space.
- **Modbus TCP/IP or UDP/IP protocol:** I/O functions as slave to host controller.
- **Peer-to-peer i2o communication:** Inputs to one unit automatically actuate outputs on another over Ethernet link.
- **Channel-to channel input isolation:** Inputs provide high or low-side sensing for AC or DC circuits.
- **Automatic change of state detection:** Inputs detect quick momentary changes of state that occur between polling.
- **Logic inversion (i2o only):** Active high inputs can switch remote peer-to-peer outputs on or off.
- **Change-of-state or timed updates:** Event-driven updates transmit data in less than 10ms between peers with i2o.
- **10 Modbus TCP/IP sockets/sessions:** Multiple masters can talk to unit at same time.
- **Local alarm function:** Dedicated failsafe relay is controlled via watchdog timer and link-loss conditions.
- **Heavy-duty 2A relays:** 16 SPST outputs provide high/low-side 2A switching up to 250V AC or 110VDC
- **Programmable outputs:** Normally open relays are configurable to energize or de-energize on power-up.
- **Built-in slave relays:** Inputs can control outputs on same unit to provide slave relay interface.
- **Self-test checks I/O operation:** Unit checks internal I/O communication and allows verification via web browser.
- **Watchdog timers:** Communication fault sends output to a pre-defined state or holds the last value.



Open circuit board versions also available.

Acromag® THE LEADER IN INDUSTRIAL I/O

Tel: 248-295-0880 ■ sales@acromag.com ■ www.acromag.com ■ 30765 S Wixom Rd, Wixom, MI 48393 USA

Ethernet I/O: EtherStax® Series

Performance Specifications

General Specifications

See Page 7 for communication and other specs.

Inputs

Configuration
32 individually isolated, buffered inputs grouped in two 16-ch ports. Active-high operation.

Input Voltage Range
20-32V DC, 36V DC max.
Max voltage/operating temperature:
36V DC @ 65°C max.

Input Signal Threshold and Hysteresis
OFF-ON: 13V min, 20V max, 16V DC typical.
ON-OFF: 11V max, 7V min, 9V DC typical.

Input Impedance
6k ohms

Input Isolation:
Channel-to-channel: 150V AC isolation rating.
Port-to-port: 250V AC safety isolation rating.

Input Response Time
Less than 5ms.

Peer-to-peer (i2o) communication
Change-of-state updates: Less than 10ms events.
Timed updates: Configurable for 1-90 seconds.

Outputs

Configuration
One 16-ch port of isolated SPST-NO mech. relays.

Maximum Switching Voltage / Load Rating
250V AC, 110V DC @ 2A.

Mechanical Life
20 million operations minimum.

Electrical Life (@ 20 cycles per minute)
100k operations minimum at 2A.

Contact Resistance (Initial)
30 milliohms, maximum.

Output Response Time
Less than 5ms.

Minimum Load
100µA/100mV DC.

Local Alarm Output

Configuration
Failsafe or non-failsafe (software-configurable) relay trips on power or link-loss failure.

Type
SPST-NO, 1 Form A, Class I, Division II approved.

Maximum Switching Voltage/Load Rating
240V AC, 125V DC @ 2A
100K operations minimum.

Ethernet Interface

Internal Switch or Hub/Repeater
Dual-port Ethernet switch. Web-configurable as a true switch (default mode) or low-latency hub.

Network Connector [10/100 Base-T(X)Copper]
One or two 8-pin RJ-45 connectors. Automatic MDI/MDI-X. 100m communication distance.

Network Connector (100 Base-FX Fiber-optic)
One multi-mode with SC connector. 2km communication distance. Full/half-duplex, selectable.

Protocols and Addressing
Modbus TCP/IP or UDP/IP. i2o peer-to-peer.
StaticIP, DHCP, BootP. Configurable IP addresses.

Ethernet Modbus TCP/IP Sockets/Sessions
1-10 socket/sessions programmable via web page.

Ethernet Redundancy
Compatible with STP, RSTP, proprietary schemes.

Environmental

Operating and Storage Temperature*
Operating: -40 to 65°C
Storage: -40 to 85°C (-40 to 185°F)

Power Requirements
18-36V DC. Redundant, diode-coupled terminals.
4.7W (copper ports), 6.0W (fiber-optic ports).

Isolation
I/O, power, relay and Ethernet port-to-port.
Peak: 1500V AC, ANSI/ISA-82.01-1988.
Continuous: 250V AC, 354V DC (150V AC ch-ch).

See User Manual for full temperature specs.

Enclosure and Physical

Housing Classification and Dimensions
IP20: 8.226" x 2.444" x 7.25", 4 lbs. packed
PCB: 7.920" x 1.875" x 7.25", 1.65 lbs. packed

Safety Approvals (pending)
UL/cUL Listed.

Hazardous Locations: Class I; Div 2; A, B, C, D
Open board units: UL Recognized

Shock and Vibration Immunity (in enclosure)
Mechanical Shock: 50g (3ms), 30g (11ms)

Random Vibration: 5g, (5-500Hz)

Ordering Information

EtherStax I/O Units

All units have 32 inputs,16 AC/DC outputs and i20 peer-to-peer communication capability.

ES2117-0000
20-36V DC inputs, two Cu ports, IP20 enclosure

ES2117-0010
20-36V DC inputs, two Cu ports, open board

ES2117-1000
20-36V DC inputs, Cu & fiber ports, IP20

ES2117-1010
20-36V DC inputs, Cu & fiber ports, open board

Accessories

Industrial Ethernet Switches
See Page 33.

Hardware Accessories and Power Supplies
See Page 34.

Software Support
See Page 36.

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