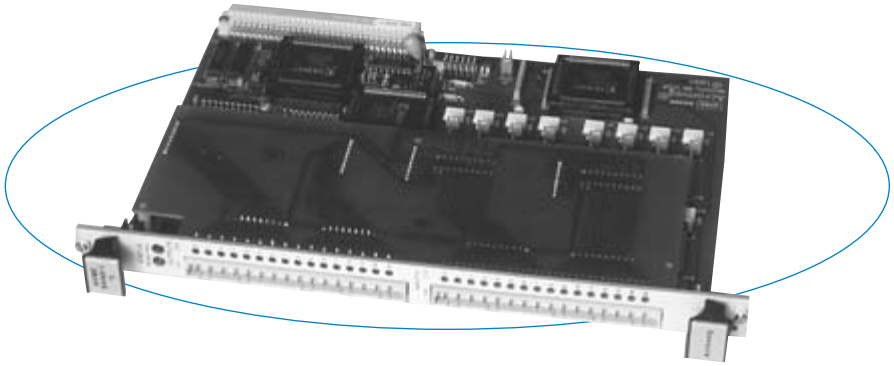
AVME9440-i
Isolated Digital I/O
(16 inputs and 16 outputs)



These digital I/O boards provide isolation between individual channels and from the VMEbus for maximum protection.

These boards provide an economical method for isolating and interfacing digital I/O signals to the VMEbus. Built-in optical relays eliminate the expense of external relay panels and simplify installations. The outputs can control valves, switch counters, mechanical or optical relays, indicator lamps and more.

On-board relays isolate all inputs and outputs from each other and from the VMEbus for protection against transients from ground loops and pick-up.

Selectable input threshold voltages let the user adapt the input points to a variety of applications including contact closures, alarm trips, switches, and power supply on/off monitoring.

Debounce circuitry offers a selectable time delay to eliminate false signals resulting from contact bounce commonly experienced with mechanical relays and switches.

Features

- 16 input and 16 output channels
- On-board optical relays
- All inputs and outputs are isolated from the VMEbus and from each other
- Interfaces to TTL and CMOS logic
- Optional LEDs indicate channel status
- Adjustable debounce circuitry
- Vectored interrupts for change-of-state, level (polarity), or pattern detection
- User can read back output states
- Outputs sink up to 1 Amp DC, from up to a 55V DC source

Specifications

Digital Inputs

Points per board: 16.

Input voltage range (jumper-selectable):
4 to 25V DC or 20 to 55V DC.

Input threshold:
4V DC maximum (4 to 25V range),
20V DC maximum (20 to 55V range).

Input current:
18.4mA DC typical @ 25V (4 to 25V range),
4.7mA DC typical @ 55V (20 to 55V range).

Input debounce: Jumper-selectable ranges. 7 to 8µS, 336 to 384µS, 672 to 768µS, 1.344 to 1.536mS.

Input response time: 1µS typical (excludes debounce).

VMEbus access time: 580nS typical (all registers; measured from the falling edge of DSx to the falling edge of DTACK).

Logic interface: TTL and CMOS logic.

Digital Outputs

Points per board: 16.

Output type: Solid-state relay, Form A, Single Pole, Single Throw, normally open (SPST - NO).

Output voltage range: 0 to 55V.

Output voltage @ 1 Amp DC: 0.5V DC maximum.

Output current range: 0 to 1 Amp DC (0 to 40°C).

Derate current above 40°C: 10mA/°C.

Output response @ 1 Amp DC: 2.0mS maximum.

Logic interface: TTL and CMOS logic.

Output fuse: F1-16 (2 AMP).

Environmental

Operating temperature: 0 to 70°C (32 to 158°F).

Isolation: Each channel individually isolated via opto-couplers (inputs) or solid-state relays (outputs). Rated 250V AC or 354V DC continuous from channel to channel and from VMEbus. Withstands 1500V AC surge for 60 seconds.

Power:
+5V DC (±5%): 1.0A typical.
+12V DC: 0.0mA (not used).

Connectors:
P1: 96 pin 603-2-IEC class 2.
P2: not used.
P3, P4: Panduit No. 100-532-053; Type B male connectors, rows A and B equipped, even pins only (32 pins total).

VME Compliance

Meets VME Specifications per revision C.1 dated October 1985 and IEC 821-1987

Data transfer bus: A24/A16:D16/D08 (EO) DTB slave.

Address modifier codes: 29H, 2DH, 39H, 3DH.

Memory map: standard or short address space occupying 1K byte.

Interrupts: I(1-7) request levels; single or multiple interrupt vectors; priority, sense and enabling are under software control.

Ordering Information

I/O Boards

AVME9440-i
16 inputs, 16 outputs (32 channels)

AVME9440-i-L
Same as AVME9440-i plus LEDs

Software *(see Page 81)*

90SW-API-VXW
VxWorks® software support package

Accessories *(see Page 87)*

6985-16DI
Isolated digital I/O panel, 16 output channels

6985-16DI
Isolated digital I/O panel, 16 output channels

9944-x
Cable, 64-pin female connectors at both ends. Links VME board front connector to 6985-16D panel. Specify length, x, in feet (12 feet max).