



Product Bulletin

24 Bit Digital Input/Output Module for PC/104

PB7543

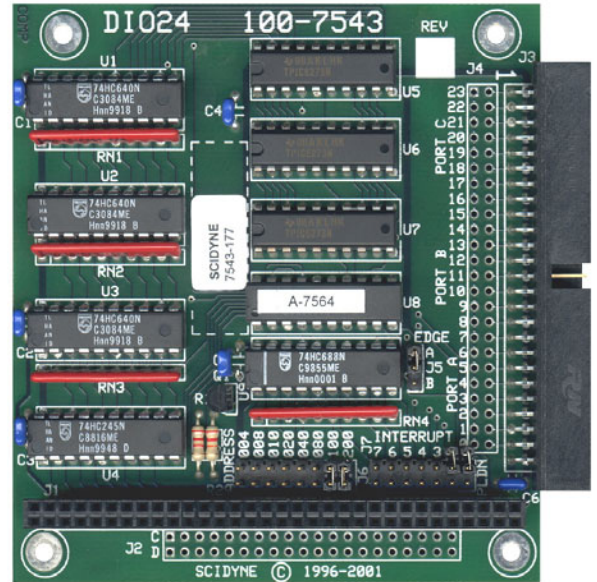
DIO24

FEATURES

- 24 Individually programmable digital Input/Output channels
- Directly connects to standard Solid State Relays and peripheral devices
- High output current capability
- Industry standard PC/104 form factor (IEEE P996)
- Interrupt supports level-edge triggering and can be configured for any single channel programmed as an input
- Read-Back of output status eases software development

APPLICATIONS

- Industrial Automation and Process Control
- SCADA Systems
- Automated Test Equipment
- Custom Instrumentation and Control Panels
- Vending Machines



PRODUCT DESCRIPTION

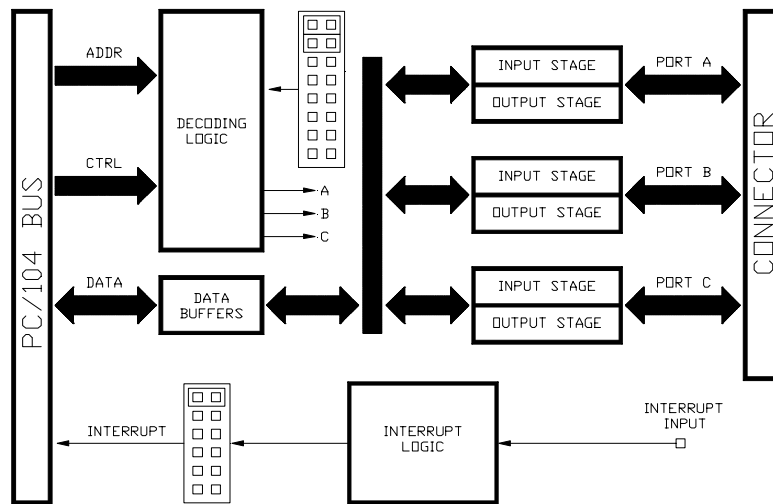
The DIO24 is a 24 bit input/output module specifically designed to interface peripheral devices to PC/104 bus computers. Every channel can be individually defined as being an input or output through software. Each output stage is capable of sourcing 2.5ma and sinking 85ma. The DIO24 occupies four consecutive, eight bit, I/O address spaces. The base address can be set to any value between 0 and 1020 decimal. Any single input channel can be configured to interrupt the host when that channel changes state. The transition is latched so that even short duration pulses are captured. CMOS construction assures low power consumption and greater noise immunity from external electrical devices. The DIO24 interfaces to outside devices through a single 50 conductor IDC connector. The pinout of this connector is fully compatible with standard 8, 16 and 24 position solid state I/O module racks available from a variety of third party vendors.

BENEFITS

The DIO24 is ideally suited to interface PC/104 bus embedded computers to solid state I/O modules and peripheral devices in harsh industrial environments. It does not use the common 82C55 peripheral interface adapter and therefore is not subject to the limited drive current, marginal noise immunity and susceptibility to the mode register changes associated with that device. In addition, the high output current capability allows the driving of heavy loads at CMOS/TTL levels. The ability to configure any channel as an input or output makes the DIO24 particularly useful for applications with the requirement of reading contact closure status information while also controlling external devices. Since the DIO24 permits I/O channels to be configured independently, the restriction of committing an entire port as being strictly eight inputs or eight outputs is totally eliminated. The interrupt feature relieves the host computer from continuously polling a critical input yet requests immediate attention when the anticipated event occurs.

Industry Standard I/O Rack Connections			
Pin	Description	Pin	Description
1	Port C, Bit 7	2	Ground
3	Port C, Bit 6	4	Ground
5	Port C, Bit 5	6	Ground
7	Port C, Bit 4	8	Ground
9	Port C, Bit 3	10	Ground
11	Port C, Bit 2	12	Ground
13	Port C, Bit 1	14	Ground
15	Port C, Bit 0	16	Ground
17	Port B, Bit 7	18	Ground
19	Port B, Bit 6	20	Ground
21	Port B, Bit 5	22	Ground
23	Port B, Bit 4	24	Ground
25	Port B, Bit 3	26	Ground
27	Port B, Bit 2	28	Ground
29	Port B, Bit 1	30	Ground
31	Port B, Bit 0	32	Ground
33	Port A, Bit 7	34	Ground
35	Port A, Bit 6	36	Ground
37	Port A, Bit 5	38	Ground
39	Port A, Bit 4	40	Ground
41	Port A, Bit 3	42	Ground
43	Port A, Bit 2	44	Ground
45	Port A, Bit 1	46	Ground
47	Port A, Bit 0	48	Ground
49	+5vdc Unfused	50	Ground

Simplified Block Diagram



SPECIFICATIONS

- Number of channels:** 24 Individually programmable digital Input/Output channels, non-isolated.
- Input level:**
Logic 0 = 0.8vdc maximum, -0.6vdc minimum
Logic 1 = 2.0vdc minimum, 5.6vdc maximum
- Output level:**
Logic 0 = < 0.4vdc (15ma load)
Logic 1 = > 2.0vdc (1ma load)
- Max output current:**
Per channel: Source: 2.5ma
 Sink: 85ma
- Addressing:** 4 consecutive I/O bytes
Jumper selectable between 0 and 1020 decimal (0 to 0x3fc hexadecimal)
- Interrupt:** Any single input channel can be configured to interrupt the host computer when that channel changes state.
Interrupts: IRQ 3, 4, 5, 6, 7, 9 (Note: IRQ9 is re-directed as IRQ2 on most AT computers)
Polarity: Selectable positive or negative level-edge
Pulse detection 2 μ s pulse width minimum
Interrupt sharing: Fully supported including read-only interrupt status register
- Power requirement:** +5vdc \pm 5% @ 20ma typical, external loads excluded
- Dimensions:** PC/104 (IEEE P966) compliant, 3.6"W x 3.8"L x 0.6"H. 8-Bit stack-through.
Holes provided for adding J2/P2 connector creating 16-bit stack-through compatibility
- Environmental:** Operating temperature: -40°C to 85°C
Non-condensing relative humidity: 5% to 95%
- Ordering Information:** 100-7543, DIO24, PC/104 Digital Input/Output module
100-7568, Optional terminal board, permits field wiring of eight I/O channels
115-0001, Optional 50 conductor ribbon cable, 5' length, SSR rack compatible
104-0002, Optional 20 pin J2/P2 stack-through connector

