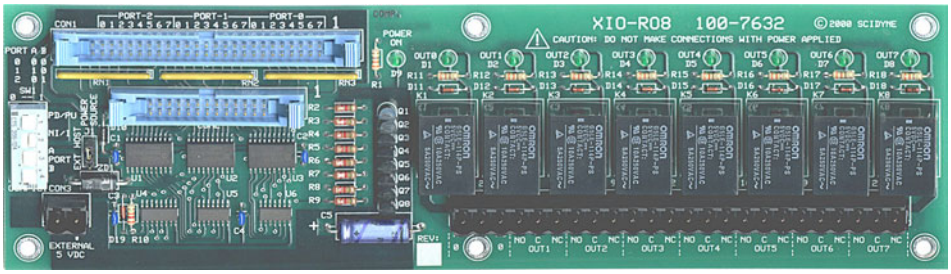
Product Bulletin

External I/O - 8 Channel Relay Output Board

PB7632

XIO-RO8



Dual IDC Headers Support Two Industry Standard Pinouts

PORT.BIT	50-Pin	26-Pin
P0.7	1	1
P0.6	3	2
P0.5	5	3
P0.4	7	4
P0.3	9	5
P0.2	11	6
P0.1	13	7
P0.0	15	8
P1.7	17	9
P1.6	19	10
P1.5	21	11
P1.4	23	12
P1.3	25	13
P1.2	27	14
P1.1	29	15
P1.0	31	16
P2.7	33	17
P2.6	35	18
P2.5	37	19
P2.4	39	20
P2.3	41	21
P2.2	43	22
P2.1	45	23
P2.0	47	24
+5V	49	25
COM	2-50	26

FEATURES

- Converts a low-power 8-bit digital port to eight 10A/250V SPDT relay outputs
- Removable Screw-Terminals accept 12-24 AWG field wiring
- LED status indicators show board's operation at a glance
- +5V only power requirement can be supplied by Host or Externally
- Works with products from SCIDYNE and most other manufacturers
- Conveniently mounts using SNAPTRACK®, Standoffs or on DIN rail

APPLICATIONS

- Industrial Automation
- Process Control
- Automated Test Equipment
- Laboratories and Schools

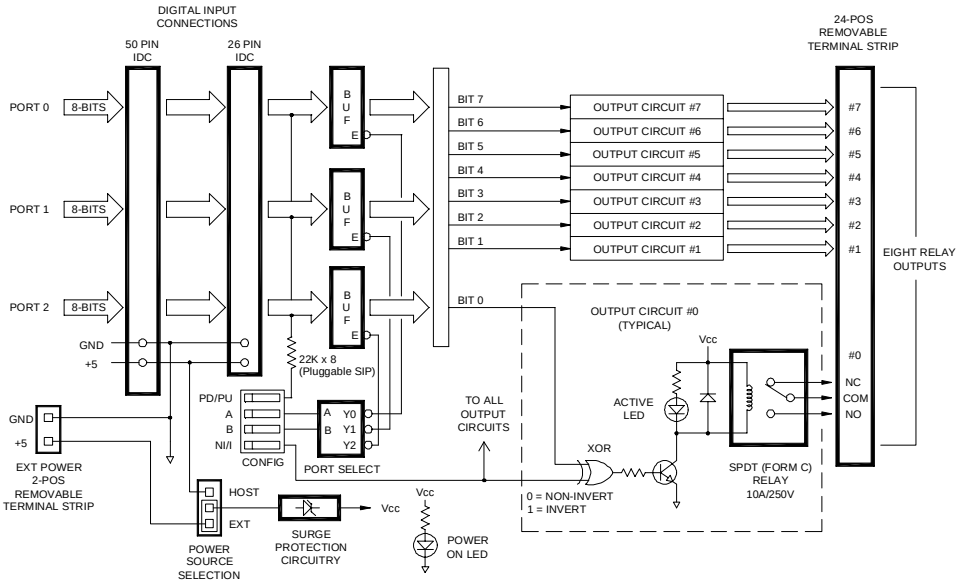
PRODUCT DESCRIPTION

The XIO-RO8 accepts up to three 8-bit TTL/CMOS digital ports and uses one of the ports to control eight isolated SPDT (Form C) relay outputs. Dual IDC input headers directly support the two most common pinout arrangements for digital I/O ports. Other pinouts can be accommodated with custom cable assemblies. A DIP switch configures which one of the three ports will be used, the control signal polarity, and whether the input signals will be resistively Pulled-up or Pulled-down. The input resistors serve to keep the XIO-RO8 outputs in a known state in the event the host loses power or becomes disconnected. The remaining two non-selected ports are unaffected and can be used with other circuitry including additional XIO-RO8 boards. Each bit of the selected port controls a corresponding relay output. Depending on whether the XIO-RO8 is configured for "non-inverted" or "inverted" operation, a relay is activated by its control bit being logic "1" or logic "0" respectively. A status LED on each channel illuminates whenever its relay is energized. By taking advantage of the buffering circuitry and bussed interconnection nature, a special feature can be realized which allows multiple boards to be simultaneously driven by the same digital port. This effectively creates another relay "pole" for each XIO-RO8 added. For example, a single digital port driving five identically configured XIO-RO8 boards in parallel would form the equivalent of eight 5PDT relay outputs. Independent access to each relay's Normally-Closed, Normally-Open and Common contacts eases wiring constraints and permits flexible mixing of AC and DC signals. Field wiring is made through a single 24-position removable screw-terminal strip which accepts wires in the range of 12-24 AWG. The XIO-RO8 operates from a single +5Vdc supply which can be provided by the Host, through either of the IDC headers, or externally by means of a two-position removable screw-terminal strip. For ease of installation, the board may be mounted in one of three ways: placed within a 3" SNAPTRACK®, by using standoffs or by attaching it to a DIN rail using optional SNAPTRACK® adapter clips.

BENEFITS

Computer peripheral board manufacturers frequently offer digital I/O ports as a standard feature on their products. The ports are usually based on chips such as an 8255 peripheral interface or its equivalent. Although versatile in nature, these devices do not provide electrical isolation or sufficient drive capability to directly control heavy loads or AC signals. The XIO-RO8 performs the intermediate function of converting a low-power 8-bit digital port to eight high-power SPDT relay outputs. Its flexibility makes the XIO-RO8 compatible with virtually all digital I/O peripheral boards and suitable in many demanding applications.

Simplified Block Diagram



SPECIFICATIONS

General:

Description:	Eight channel high current relay output board
Power requirement:	+5Vdc ±5% @ 700mA typical, all relays activated. Host or Externally supplied, "Power-On" LED
Environmental:	Operating temperature: -20° C to 70° C Non-condensing relative humidity: 5% to 95%
Dimensions:	3.00" W x 10.00" L x 1.35" H
Mounting:	Mounts using Standoffs, SNAPTRACK® or DIN Rail
Isolation:	500V DC or AC, board-to-output; Isolation between adjacent relay outputs channels: 250V maximum

Digital Inputs:

General:	24 digital inputs arranged as three 8-bit ports, 50-Pin and 26Pin IDC headers with latches
Input levels:	TTL/CMOS compatible
Logic "0":	1.35Vdc maximum
Logic "1":	3.15Vdc minimum
Control polarity:	Switch selectable for Non-Inverted or Inverted operation
Input impedance:	Selected port: 22kΩ typical, switch selectable as Pull-Up or Pull-Down. Non-Selected Port: 1MΩ typical

Relay Outputs:

General:	Eight SPDT (Form C) sealed electro-mechanical relays, Break-Before-Make operation, "Active" LED
Power handling:	
DC:	8 Ampere @ 30Vdc maximum (resistive load)
AC:	10 Ampere @ $125V_{RMS}$ maximum (resistive load)
Switching capacity:	100ma, 5Vdc minimum, 1200 VA, 240W maximum, 250Vac, 125Vdc
Contact resistance:	100mΩ maximum, $AgSnO_2$ contacts
Operate time:	10ms maximum (activate or release)
Bounce time:	Operate: 0.6ms Release: 7.2ms
Switching frequency:	1,800 operations per hour under rated load
Service life:	10,000,000 operations minimum

Ordering Information:

100-7632	XIO-RO8, Relay output board
115-7623 / 2618	Ribbon cable, 26 cond., Female IDC on each end, 18" long
115-7623 / 5018	Ribbon cable, 50 cond., Female IDC on each end, 18" long
121-0003-12	SNAPTRACK®, 3" W x 12" L
121-0004	DIN Rail mounting clip for use with SNAPTRACK®
121-0005-12	DIN rail, 35.0 x 7.5mm (EN50022-35), 12" L

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