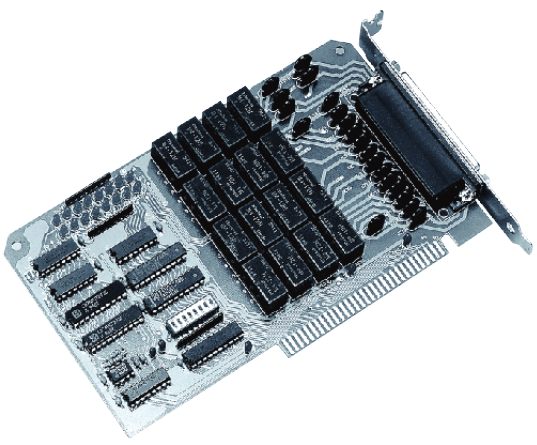
AR-B2103



Features

- Contact resistance: 100m ohms max
- Contact ratings: AC125V/1A or DC30V/3A (Resistive Load)
- Operation time: 8 msec max
- Release time: 8 msec max
- Output status read back
- 16 LED indicator for each channel
- Connector: 37-pin D-type (ext. AR-B9007)
- Isolation: 2100VDC isolation acrosser open contacts
- 1400VDC isolation between coil and contacts
- For IBM PC/XT/AT personal computers and compatible
- Dimensions: 175mm x 108mm

Specifications

General

Number of Outputs	12 Form A (SPST) and 4 Form C (SPDT) relays
Max Switching Power	Resistive load - AC 250VA, DC 120W, Inductive load - AC 125VA, DC 60W
Max Switching Voltage	250VAC, 220VDC
Max Switching Current	4A
Contact Rating	Resistive load - AC 125V, 1.0A or DC 30V, 3A, Inductive load - AC 125V, 0.6A or DC 30V, 2A
Contact Resistance	100 milli ohms maximum (Initial value)
Operate Time	8mS maximum at the rated voltage
Release Time	8mS maximum at the rated voltage
Bounce Time	8mS maximum
Isolation	Contact and coil - 1500Vrms, 2100VDC, Contact to contact - 1000Vrms, 1400VDC
Life Expectancy	100 million. (Ref. 10VDC, 10ma)
Varistor Voltage	140Vrms, 180VDC
Varistor power	0.2W
Active Indicators	16 LED
I/O Address	Base port switch selectable from 000H to 3FCH with increments of 4
Power Consumption	+5VDC@100mA max. (All relays On), +12VDC@300mA max. (All relays On)
Dimensions	175mm x 108mm
Applications	Control switching, Analog multiplexing, Motor starter control, Alarm control, Lighting control

Registers

The AR-B2103 occupies 4 consecutive addresses in the PC I/O space of which only two actually used. The base or starting address is selected during the installation procedure.

The registers of the AR-B2103 are loca

Address	Output Register	Input Status
Base +0	Relay Port 1(write)	Relay Port 1(read)
Base +1	Relay Port 2(write)	Relay Port 2(read)
Base +2	Not Used	Not Used
Base +3	Not Used	Not Used

Registers

Note that all port are 8 bit (one byte) wide and require byte oriented write operations rather than work operations. All relays in a port are updated simultaneously. Writing a low (0) to a relay within a port deactivates the relay. Writing a high (1) to a relay activates it.

The registers of the AR-B2103 are located as follows:

BASE +							
D7	D6	D5	D4	D3	D2	D1	D0
CH8	CH7	CH6	CH5	CH4	CH3	CH2	CH1

BASE +							
D7	D6	D5	D4	D3	D2	D1	D0
CH16	CH15	CH14	CH13	CH12	CH11	CH10	CH9

When the output is energized, the status LED indicator will light up to indicate an active input.

Programming

No driver is supplied with the AR-B2103 since the program is very simple and can be accomplished most efficiently using direct I/O instructions, in whatever application language is used (i.e., Basic, C, Assembly, Pascal, etc.). For example, assume that one wishes to turn on relay channel 7. Also assume the AR-B2103 board has been set to base address 992(3E0 hex). To turn on relay channel 7, one simply writes 01000000 to base address 992. Likewise to turn on channel 10, 12 and 14 one writes 42 decimal (00101010 binary or 2A hex) to I/O address 993(3 E1 hex).The following example is the BASIC language but it can be easily been translated to other languages. Example:

Assume the AR-B2103 is installed at base address 992(3E0 hex).

To turn on the channel 1 and 10, write as follows:

1000BASE_PORT = &H3E0: REM Base I/O addresses

1010 OUT BASE_PORT, 1: REM Turns channel 1 ON

1020 OUT BASE_PORT+1,2: REM Turns channel 10 ON

To control the desired relays but make no effect to other relays, write as follows:

2000 BASE_PORT = &H3E0 : REM Base I/O addresses

2010 PORT1 = (INP (BASE_PORT) OR1): REM Read back port 1 status and set bit of channel 1

2000 OUT BASE_PORT, PORT 1: REM Turns channel 1 ON

2030 PORT2 = (INP (BASE_PORT,1) OR2): REM Read back port 2 status and set bit of channel 10

2040 OUT BASE_PORT+1, PORT2: REM Turns channel 10 ON

Ordering information:

Model No.	Description	Accessories
AR-B2103	Relay Card	(1). Disk: Win31/95 Driver
AR-B9007	37 pin Screw Terminal Board for AR-B2103 with 0.6m Round cable.	