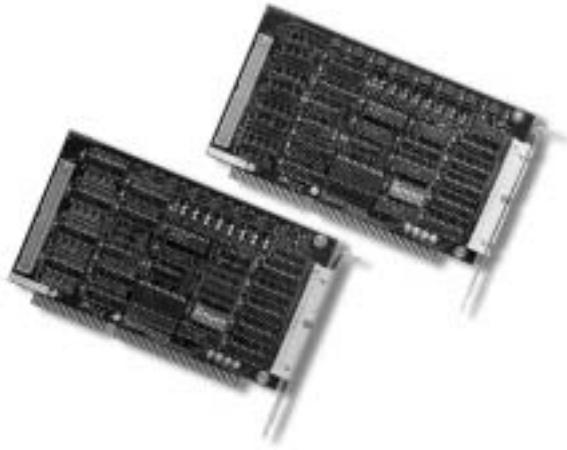


AX5220HA/B

32 Bit DIO & 3 Channel Counter/Timer Board



GENERAL DESCRIPTION

AX5220HA/B is a 32-bit digital input, 32-bit digital output and 3 channel counter/timer board. This board is designed to plug into any IBM PC/AT or compatible computers. For the various applications we release two versions of AX5220: AX5220A and AX5220B, to suit customer needs.

For AX5220HA, all digital I/O channels are TTL compatible and use the 74LS244 as driver buffer to provide higher driving capacity for outputs and require lower loading current for input than regular TTL IC. The AX5220HA is recommended to connect to MSC-1050 opto-isolated digital input module and MSC-1060 relay actuator module for control and sensing of devices.

For AX5220HB, all digital input channels are TTL compatible and use the 74LS244 as line receiver such that even lower loading current can be input to AX5220HB. All digital output channels are open-collector outputs. Each output is capable of high-power current sinks up to 100 mA for actuating external devices such as high voltage/high current relays, switches, alarms, buzzers and LEDs.

Additional feature for AX5220HB is the adjustable input threshold for the DIOA0/DIOA7 channels. This feature enables user to detect any voltage crossing between $-5V$. These 8 channels also support interrupt ability.

APPLICATIONS

Digital Input

- ¥ Counter closure monitor
- ¥ Switch panel status sensing
- ¥ BCD interface receiver
- ¥ Parallel communications

Digital Output

- ¥ Industrial ON/OFF control
- ¥ BCD interface driver
- ¥ Relays and LEDs on/off control
- ¥ Process control

FEATURES

AX5220HA/B

- ▶ 32 digital input channels and 32 digital output channels
- ▶ Low input loading
- ▶ High output driving capacity
- ▶ 3 programmable counter/timer channels

AX5220HB only

- ▶ Open-collector outputs
- ▶ Up to 32V outputs and 100mA current sinks
- ▶ Interrupt ability with 8 channel digital inputs
- ▶ Input threshold adjustable ($-5V$) with 8 digital input channels

Counter/Timer

- ¥ Period and pulse width measurement
- ¥ Event and frequency counting
- ¥ Waveform and pulse generation

SPECIFICATIONS

AX5220HA

Digital Input and Output

¥ Channels: 32 DI and 32 DO

¥ Optional interrupts:

2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15

¥ Electrical Characteristic

VIH : 2V min.
VIL : 0.8V max.
IIH : 20 A max. at VIH 2.7V
IIL : -.02mA max. at VIL 0.4V
VOH : 2.4V min. at IOH -3mA
VOL : 0.4V max. at IOL 12mA
IOH : -15mA max.
IOL : 24mA max.

AX5220HB

Digital Input

¥ Channels: 32

¥ Electrical Characteristic

VIH : 2V min.
VIL : 0.8V max.
IIH : 20(A max. at VIH 2.7V
IIL : -0.02mA max. at VIL 0.4V

¥ Input Hysteresis: 0.4V typ.

AX5220HA/B

ORDERING INFORMATION

¥ **Interrupt Ability:** 8 channels (DIOA0 to DIOA7)

¥ **Input Threshold:**

-5V to +5V adjustable for specified
8 channels (DIOA0 to DIOA7)

¥ **Optional Interrupt:**

2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15

Digital Output

¥ **Channels:** 32

¥ **Configuration:** Open-collector

¥ **Maximum Voltage:** 30V

¥ **Current Sink** :100mA continuous

Programmable Counter/Timer

¥ **Frequency Range:** DC to 10MHz

¥ **Counters:** 3 independent 16-bit counters

¥ **Modes:** 6 programmable modes

Power Requirements

¥ **+5VDC:** 500mA typ.

¥ **+12VDC:** 5mA typ.

¥ **-12VDC:** 5mA typ.

Physical/Environmental

¥ **I/O Connector:** 50-pin mating header

¥ **Dimensions:** 175mm x 99mm

¥ **Weight:** 150g

¥ **Relative Humidity:** 0 to 90%, non-condensing

¥ **AX5220HA**

32 Bit DIO & 3 channel counter/
timer board

¥ **AX5220HB**

32 bit DI and counter/ timer
board with high power output

Software Driver

¥ **AS59099** DOS, Windows® 3.1/95

/98/2000/NT DLL driver,
and device utility (in CD-ROM)
(Note: for PCI board, DOS and
Windows® 3.1 DLL driver are not
available)

¥ **AS59080** Including ActiveX control driver,

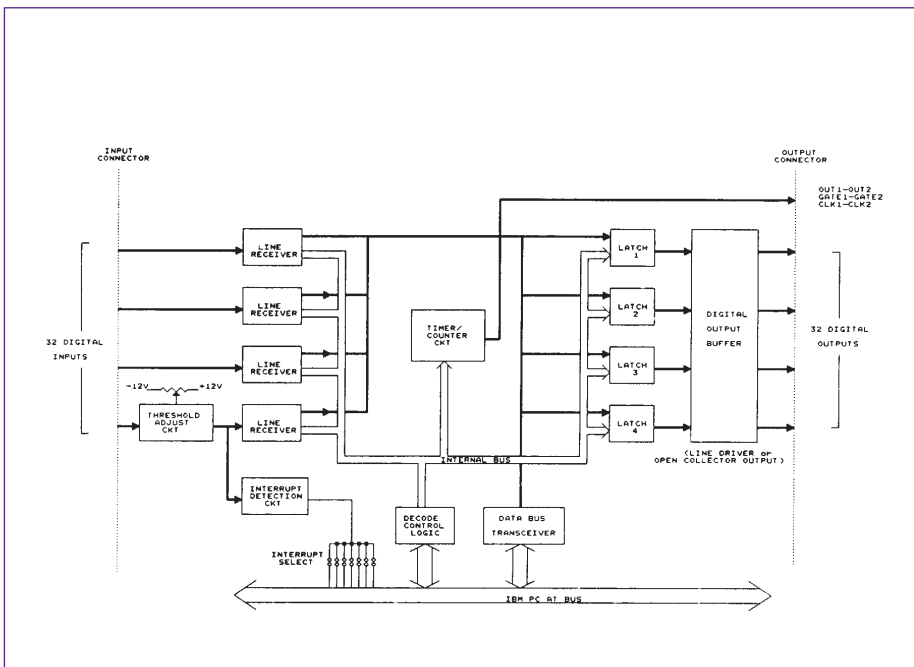
3rd party drivers (LABTECH, LabVIEW,
DASYLab), and OPC server

CONNECTOR PIN ASSIGNMENT CN1

CN1		
DIOC1	1	DIOC4
DIOC3	3	DIOC7
DIOC6	5	DIOC0
DIOC2	7	DIOC5
DIOC13	9	DIOC15
DIOC11	11	DIOC9
DIOC10	13	DIOC8
DIOC14	15	DIOC12
+12VP	17	+5VP
GND	19	GND
CLI0	21	CLK1
GO	23	G1
OUT0	25	OUT1
CLK2	27	OUT2
G2	29	N/C
GND	31	GND
+5VP	33	-12VP
DIOD12	35	DIOD14
DIOD8	37	DIOD10
DIOD9	39	DIOD11
DIOD15	41	DIOD13
DIOD5	43	DIOD2
DIOD7	45	DIOD6
DIOD0	47	DIOD3
DIOD4	49	DIOD1

(Output Connector)

BLOCK DIAGRAM



CONNECTOR PIN ASSIGNMENT CN2

CN2		
DIOA1	1	DIOA4
DIOA3	3	DIOA0
DIOA6	5	DIOA7
DIOA2	7	DIOA5
DIOA13	9	DIOA15
DIOA11	11	DIOA9
DIOA10	13	DIOA8
DIOA14	15	DIOA12
+12VP	17	+5VP
GND	19	GND
-12VP	21	IT4
IT0	23	IT5
IT1	25	IT6
IT2	27	IT7
IT3	29	-12VP
GND	31	GND
+5VP	33	+12VP
DIOB12	35	DIOB14
DIOB8	37	DIOB10
DIOB9	39	DIOB11
DIOB15	41	DIOB13
DIOB5	43	DIOB2
DIOB7	45	DIOB6
DIOB0	47	DIOB3
DIOB4	49	DIOB1

(Output Connector)