ISA PC-30F/G

Analog Input Boards - 12bit with DIO & D/A

Features

- 100kHz or 330kHZ conversion rates
- 8 differential or 16 single-ended inputs
- 12 bit Analog resolution
- Programmable gain
- Simultaneous sample and hold option available
- 4x12-bit Analog outputs with flexible ranges
- 24 Digital I/O lines (3 ports)
- One 16-bit user Counter timer

Description

PC-30F/G is an ISA-bus multi-function Analog & Digital I/O board. A variety of models with programmable gain, simultaneous sample and hold, and with or without DACs are available. 16 single ended inputs or 8 differential analog inputs are provided. Gains for each channel can be individually programmed in the board's memory (G, GA, F and FA models).

Programmable gain makes the PC- 30F/G board ideal for measuring low level signals. Throughputs in excess of 330KHz can be achieved using the FIFO buffer on the PC 30F models.Four 12 bit DACs are an optional feature.The PC 30F/G has uniquely flexible digital I/O capabilities consisting of 24 lines in three ports. Each port can be configured as inputs or outputs. Each PC 30F/G also includes a 16 bit Counter Timer used to generate or measure frequency and count events.

Ordering Information

Supplied with EDR Software and PC30MIA (DB50 to IDC50 adaptors)

PC-30G	100kHz 16 SE or 8 Diff Inputs
PC-30GA	100kHz 16 SE or 8 Diff Inputs with four 12 Bit DACs
PC-30GS4	100kHz 4 Simultanously Sampled SE and 12 SE Inputs
PC-30GAS4	100kHz 4 Simultanously Sampled SE and 12 SE Inputs with four 12 Bit DACs
PC-30GS16	100kHz 4 Simultanously Sampled SE Inputs
PC-30GAS16	100kHz 4 Simultanously Sampled SE Inputs with four 12 Bit DACs
PC-30F	100kHz 16 SE or 8 Diff Inputs
PC-30FA	100kHz 16 SE or 8 Diff Inputs with four 12 Bit DACs
PC-30FS4	100kHz 4 Simultanously Sampled SE and 12 SE Inputs
PC-30FAS4	100kHz 4 Simultanously Sampled SE and 12 SE Inputs with four 12 Bit DACs
PC-30FS16	100kHz 4 Simultanously Sampled SE Inputs
PC-30FAS16	100kHz 4 Simultanously Sampled SE Inputs with four 12 Bit DACs

Optional Accessories

OPTION 1:	
ADPT-5050	DB50 (M) & IDC50 (M) to 51way Screw Terminal
DB50M/F	50way Screened Cable DB50 (M) to (F)

Specifications

ANALOG INPUTS (A/D)		
Input channels:	16 single-ended, 8 differential	
Overvoltage protection:	±20V (powered on); ±35V (powered off)	
Resolution:	12bits (1 in 4096)	
Total Sys. Accuracy:	±1 LSB depending on environment	
Linearity	PC 30G	PC 30F
Differential:	±¾ LSB max	±¾ LSB max
Integral:	±0.05% FS	±0.05% FS
Input Ranges:	±5V, ±10V;'0 to 10V (G, GA) ±5V, ±10V (F, FA) ±5V (S Models)	
Acquisition Rates:	100kHz (G models) 330kHz [G<1000] (F models) 100kHz [G=1000] (F models)	
Input Impedance:	10G Ohm/20pF (On chan) 10G Ohm/100pF (Off chan)	
Offset voltage:	Adjustable to zero	
Input Gains (G, GA, F and FA models only):		
Ranges:	1, 10, 100, 1000	
Error:	Adjustable to 0	
Gain Accuracy:	0.25% max, 0.05% typ	
CMRR:	1% max, 0.1% for G=1000	
Monotonicity:	0 to 70°C	
Temperature drift:	6ppm/°C (Full Scale) 1ppm/°C (Bipolar Zero) ±30ppm/°C(Gain)	
Overvoltage Input:	±12V max	
A/D FIFO buffer:	16 samples	
Acquisition Modes:	Polled I/O, Interrupts, Single and Dual channel DMA	
ANALOG OUTPUTS (D/A)		
No. of Channels:	4	
Resolution:	4 x 12bit	
Accuracy:	±1 LSB (12bit)	
Diff Non-linearity:	½ LSB max	
Output Ranges:	±5V, ±10V, 0 to 10V, 0 to 13V	
Throughput Rate:	130kHz	
Offset Error:		
Unipolar:	LSB typ, 1 LSB (max)	
Bipolar:	½ LSB typ, 2 LSB (max)	
Gain ranges:	x1, x2	
Settling time:	10mS max in load 500pF, 2k Ohm	
Max current output:	5mA	
DIGITAL I/O		
No of TTL I/O lines:	24 in 3 ports (8255 PPI)	
Counter/Timers		
Resolution:	16 bits	
Frequency:	2 or 8 MHz (for A/D)	
No of counters:	3 (2 used for A/D conversion)	
PC Interface		
Base Address:	0 to 1FE0h	
No of registers:	32x 8bit	
Interrupts:	IRQ2 to IRQ15	
DMA:	Dual DMA levels 5, 6 or 7	
Environmental / Physical		
Operating Temperature:	0 to 90°C	
Board Dimensions:	193mm x 111mm	
Power Requirements		
+5V:	500mA typ	
±12V:	100mA typ	

DB-50F (Int)

PORT C4	50	25	EXT TRIG
PORT C0	49	24	CH2
PORT C1	48	23	CH4
PORT C2	47	22	CH6
PORT C3	46	21	EXT CLK
PORT B2	45	20	CH0
PORT B1	44	19	CH9
PORT B0	43	18	DAC1 O/P
AGND	42	17	DGND/ +5V
CH15	41	16	PORT C6
CH14	40	15	PORT A0
CH13	39	14	PORT A2
CH12	38	13	PORT A4
CH11	37	12	PORT A6
CH10	36	11	PORT B4
DAC2 O/P	35	10	PORT B5
DAC3 O/P	34	9	PORT B7
PORT C5	33	8	CH1
PORT C7	32	7	CH3
PORT A1	31	6	CH5
PORT A3	30	5	CH7
PORT A5	29	4	CH8
PORT A7	28	3	-12V
PORT B3	27	2	+12V
PORT B6	26	1	DAC0 O/P

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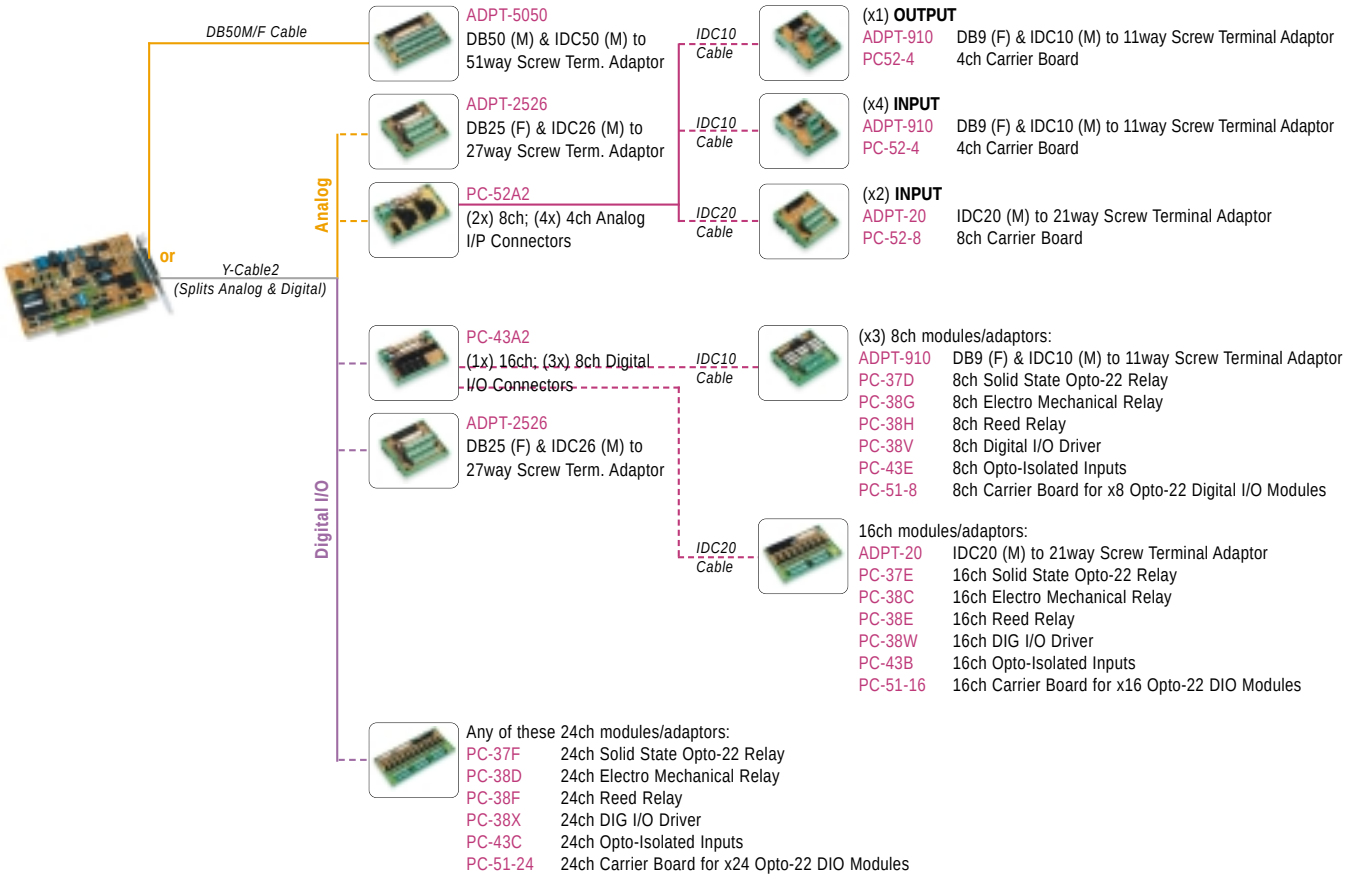
System Diagram



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