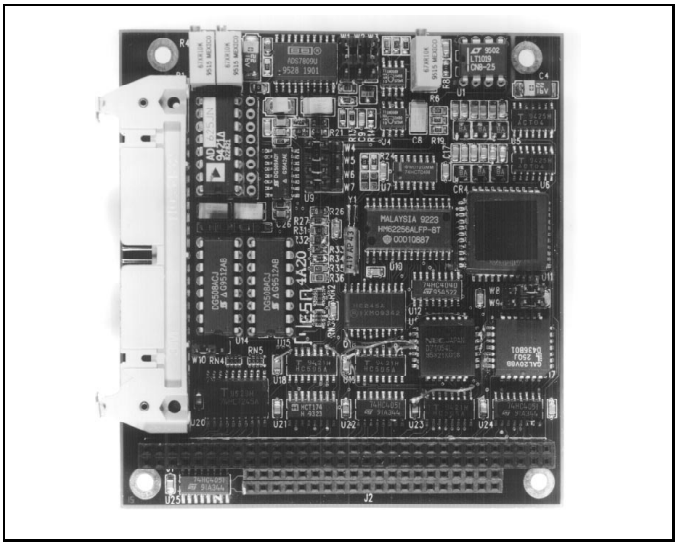
MESA ELECTRONICS 4A20 PC/104 16 BIT A-D

FEATURES:

- 75KHz 16 bit A-D
- Instrumentation amp. input
- 16 single / 8 differential inputs
- 50 mV, 0.5V and 5V full scale
- Unipolar or bipolar inputs
- DMA, polled, or interrupt operation
- Table driven gain and channel
- Made in USA - local support
- Better than +- .02% accuracy
- 5V only operation



The 4A20-16 is a high performance 16 bit A-D card for the PC/104 bus. The 4A20 has a true instrumentation amplifier input with 8 differential or 16 single ended inputs. The input amplifier has programmable 1X, 10X, and 100X gains. Input range can be unipolar or bipolar. Unipolar input ranges are 0V to 5V, 0V to 0.5V, and 0V to 0.05V full scale. Bipolar input ranges are -5V to 5V, -0.5V to 0.5V and -0.05V to 0.05V full scale. Input multiplexors and intrumentation amp are socketed for simple replacement.

A buffered 2.5V reference voltage output is available for ratiometric measurements. A buffered temperature output can be used for thermocouple cold junction compensation.

All analog power on the 4A20 is generated on-card, so only +5V power is required. All sensitive analog circuitry on the 4A20 is powered by a regulated supply to provide high rejection of power supply variations.

The 4A10-16 has a maximum sampling rate of 75KHz (100KHz with reduced accuracy). The sampling rate can be determined by an on card crystal controlled programmable timer or an external start convert input.

Data transfer can be via programmed I/O, Interrupt driven, or DMA driven. I/O and DMA can use either 8 bit or 16 bit transfers. A combined DMA and interrupt driven mode allows background data acquisition with minimal CPU overhead.

Gain settings and channel sequence are table driven when used in the DMA mode. The gain/ channel table can have a sequence length of up to 4096 cycles. This allows arbitrary sequences of channels and gains to be selected during DMA operation without processor intervention.

A lower cost 12 bit version of the 4A20-16 is available, the 4A20-12

4A20 INPUT CONNECTOR

PIN	FUNCTION	PIN	FUNCTION
1	Input shield	2	Input shield
3	Input 0	4	Input 1
5	Input 2	6	Input 3
7	Input 4	8	Input 5
9	Input 6	10	Input 7
11	Input shield	12	Input shield
13	Input 8	14	Input 9
15	Input 10	16	Input 11
17	Input 12	18	Input 13
19	Input 14	20	Input 15
21	Input shield	22	Input shield
23	Input common	24	Input common
25	+ 2.5V reference	26	+ 2.5V reference
27	Input gnd.	28	Input gnd.
29	Input shield	30	Input shield
31	Ext StartConv.	32	Pwr gnd.
33	Mux Address 4	34	Mux Address 5
35	Pwr gnd.	36	Card temperature
37	Pwr gnd.	38	-10V unreg.
39	+10V unreg.	40	Pwr gnd.

4A20 SPECIFICATIONS:	Min	Max	Units	Notes
POWER REQUIREMENTS:				
Supply voltage	4.5	5.5	V	
Supply current	----	75	mA	
INPUT CHARACTERISTICS				
Input current	-25	+25	nA	at 25°C
Common Mode Range	-7	+7	V	
Input offset drift	-.25	+.25	uV/°C	
Gain Drift	-15	+15	PPM/°C	
CMMR (50 mV range)	105	---	dB	60Hz 1K Ohm S imbal.
ENVIRONMENTAL:				
Temperature range -C version	0	+70	°C	
Temperature range -I version	-40	+85	°C	
Relative humidity	0	90	Percent	Non-Condensing

ORDERING INFORMATION:

4A20-16

Add -C or -I to specify commercial or industrial temperature range

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