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Find the *Acces 104-AIM-32* at our website: ***Click HERE***

104-AIM-32

32-Channel

PC/104 Analog Signal Conditioner



KEY FEATURES:

- Designed to pair with an A/D board to increase channel count and signal conditioning capabilities
- 32 single-ended or 16 differential inputs
- 6 software programmable ranges: ±25mV, ±50mV, ±0.1V, ±2.5V, ±5V, ±10V
- Up to 8 104-AIM-32s can be stacked per A/D board for up to 256 S.E. or 128 diff. inputs
- +5VDC only operation
- 15VDC sensor excitation
- Input Signal Conditioning

FACTORY OPTIONS:

- 4-20mA inputs with offset
- RTD & thermocouple measurement
- Voltage divider on each input
- RC filters on each input
- Bridge completion configuration
- 0 to 70°C and -40 to +85°C versions available

The high-density Model 104-AIM-32 provides 32 single-ended or 16 differential inputs with flexible gain for use with factory configured options such as conditioning for Thermocouples, RTDs, Bridge type load cells and strain gages, and 4-20mA inputs with fault detection. Also available in a kit as model 104-AIM-32A Kit (signal conditioning mux & A/D board pair), the solution features an excellent price/performance value for temperature control and monitoring, scalable Data Acquisition Systems (DAS), environmental monitoring of pH, humidity, pressure, flow and other low-level signal applications.

All sensor signals are conditioned, amplified and calibrated then digitized by a 12-bit, 8-input A/D Board (included with kit version). Alternately, the 104-AIM-32 can be paired with either a 12-bit or 16-bit multifunction I/O board for applications where analog outputs or digital I/O are also needed. Up to eight signal conditioning boards can be stacked together to realize 256 S.E. or 128 Differential inputs, multiplexed into the eight channels of the A/D board. User and Factory Calibration constants for zero and span of each gain on each channel are stored onboard for use in widely varying temperature environments. The user calibration constants are invaluable and useful for a complete end-to-end system calibration including the sensor and lead wires.

SOFTWARE

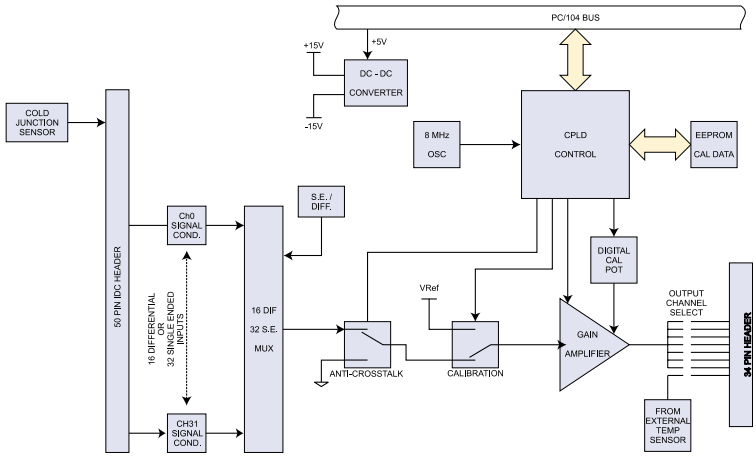
The 104-AIM-32 is supported for use in all operating systems and includes a free DOS, Linux and Windows 95/98/Me/NT/2000/XP compatible software package. This includes sample programs and source code in "C" and Pascal for DOS, and Visual Basic, Delphi, C++ Builder, and Visual C++ for Windows. Also included is a graphical setup program in Windows. Linux support includes installation files and basic samples for programming from any user level via an open source kernel driver.

ACCES I/O PRODUCTS, INC.

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32-Channel PC/104 Analog Signal Conditioner

Block Diagram & Pin Configuration



Input Header

AIN0+ / AIN0 S.E.	01	02	AIN0- / AIN16 S.E.
AGND	03	04	AIN1+ / AIN1 S.E.
AIN1- / AIN17 S.E.	05	06	AGND
AIN2+ / AIN2 S.E.	07	08	AIN2- / AIN18 S.E.
AGND	09	10	AIN3+ / AIN3 S.E.
AIN3- / AIN19 S.E.	11	12	AGND
AIN4+ / AIN4 S.E.	13	14	AIN4- / AIN20 S.E.
AGND	15	16	AIN5+ / AIN5 S.E.
AIN5- / AIN21 S.E.	17	18	AGND
AIN6+ / AIN6 S.E.	19	20	AIN6- / AIN22 S.E.
AGND	21	22	AIN7+ / AIN7 S.E.
AIN7- / AIN23 S.E.	23	24	AGND
Temperature Sense	25	26	AGND
AIN8+ / AIN8 S.E.	27	28	AIN8- / AIN24 S.E.
AGND	29	30	AIN9+ / AIN9 S.E.
AIN9- / AIN25 S.E.	31	32	AGND
AIN10+ / AIN10 S.E.	33	34	AIN10- / AIN26 S.E.
AGND	35	36	AIN11+ / AIN11 S.E.
AIN11- / AIN27 S.E.	37	38	AGND
AIN12+ / AIN12 S.E.	39	40	AIN12- / AIN28 S.E.
AGND	41	42	AIN13+ / AIN13 S.E.
AIN13- / AIN29 S.E.	43	44	AGND
AIN14+ / AIN14 S.E.	45	46	AIN14- / AIN30 S.E.
AGND	47	48	AIN15+ / AIN15 S.E.
AIN15- / AIN31 S.E.	49	50	AGND

Output Header

Vref	01	02	NC
AGND	03	04	NC
NC	05	06	AOUT0
AGND	07	08	AOUT1
NC	09	10	NC
AGND	11	12	NC
NC	13	14	AOUT2
AGND	15	16	AOUT3
NC	17	18	NC
AGND	19	20	NC
NC	21	22	AOUT4
AGND	23	24	AOUT5
NC	25	26	NC
AGND	27	28	NC
NC	29	30	AOUT6
AGND	31	32	AOUT7
AGND	33	34	NC

Specifications

Analog Inputs

Input channels	32 single-ended or 16 differential
Software programmable ranges	±25mV, ±50mV, ±0.1V, ±2.5V, ±5V, ±10V (additional ranges available per channel by selection of factory installed on-board attenuation resistors)
Current input	4-20mA (factory option)
Throughput	Up to 100KHz
Settling time	9µs to 0.01%
Slew rate	2V/µs
Input impedance	10M Ohms
Common mode voltage	15V
Common mode rejection ratio	Over 100dB
Maximum input voltage	40V (higher with factory installed on-board attenuation resistors)
ESD protection	Up to 2000V

Analog Outputs

Output channels	1 of 8, jumper selected
Output voltage range	5V
Output drive capability	600 Ohms

General

Power required	+5V at 200mA with no load on excitation
Operating temperature	0 to 70°C, -40 to +85°C optional, all versions
Storage temperature	-55° to +125°C
Gain non-linearity	±0.005%
Temperature coefficient of gain	Removed by calibration
Operating humidity	5% to 95% RH, non-condensing

104-AIM-32	32 channel analog input signal conditioner & multiplexer
104-AIM-32A	Kit - Includes A/D board

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