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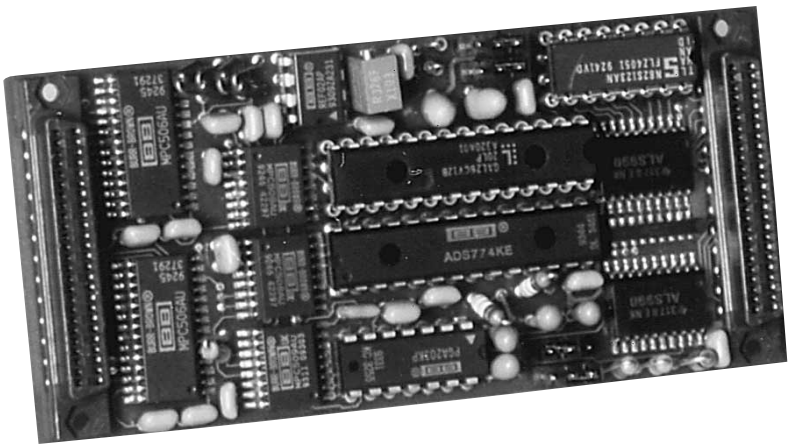
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Find the *Acromag / Xembedded / Xycom XIP-5320-000* at our website: *Click HERE*

XIP-5320 I2-Bit A/D, Analog Input



FEATURES

- 20 differential or 40 single-ended inputs
- 12-bit, successive approximation A/D converter (ADC) with an 8.5µS conversion time
- 100K samples per second maximum system throughput rate
- Three jumper-selectable input ranges: -5 to 5V, -10 to 10V, and 0 to 10V
- Programmable gains of 1, 2, 4, and 8
- Built-in calibration references

BENEFITS

- Software or external hardware inputs can trigger A/D conversions for synchronization to external events.
- On-board, precision voltage references enable accurate software calibration of the module without external instruments.
- The module supports both wait states (generated by the IP module) and hold states (generated by the carrier board).

The XIP-5320 monitors 20 differential or 40 single-ended input channels. When used with a carrier that holds four IP modules, up to 160 inputs can be obtained from a single card cage slot.

A jumper offers a choice of three input voltage ranges. Using the software programmable gain, you can easily customize the input voltage on an individual channel basis. The control register provides further flexibility with the option of single-ended or differential inputs and controlled channel selection. Software or external triggers enable synchronization of data acquisition to external events.

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PRODUCT SPECIFICATIONS AND RATINGS

Environmental

	Operating	Nonoperating
Thermal	0 to 70°C	-40 to 100°C
Humidity	5% to 95% RH, noncondensing	5% to 95% RH, noncondensing
RFI resistance (27, 159, 460 MHz)	Error < ±0.25% of 20V span up to 10V/m per SAMA PMC33.1	

Hardware

Power	• +5V: 350mA, max. • +12V from P1 or +15V from P2: 20mA, max. • -12V from P1 or -15V from P2: 20mA, max.
Input channels	40 single-ended or 20 differential
Input ranges	• Bipolar -5 to +5V • Bipolar -10 to +10V[a] • Unipolar 0 to +10V[a]
Programmable gains	x1, x2, x4, x8
Overvoltage protection	±32V powered, ±20V unpowered
Input resistance	1000M ohms, typical
Input bias current	1nA, typical
Rejection Ratio	• Common mode (60 Hz): 71dB • Channel-to-channel (60 Hz): 71dB
A/D Resolution	12 bits
Data format (left-justified)	• Bipolar: Bipolar Offset Binary (BOB) • Unipolar: Unipolar Straight Binary (USB)
No missing codes over temperature	12 bits
A/D integral linearity error	±1/2 LSB (maximum.)
Calibration voltage temp. effect	±20ppm/°C, maximum
Settling time	8.5µS to 0.01% of FSR for 10V step.
A/D conversion time	8.5µS, max. (inc. S/H acquisition)
A/D triggers	External and software
Input noise	0.2 LSB rms (with PGA gain = 1)
Maximum throughput rate[b]	• One channel: 100KHz (10µS/conversion) • Twenty channels (differential): 5.3KHz (187.5µS/20 ch) • Forty channels (single-ended): 2.7KHz (375µS/40 ch)

[a]Range requires ±15V external power supply. Clipping occurs with ±12V supplies, typically to ±9V.

[b]Outputs can only be updated individually

Maximum overall calibrated error at 25°C			
Input Range (volts)	0 to 10	-5 to +5	-10 to +10
PGA Gain	1	1	1
ADC Range (volts)	0 to 10	-5 to +5	-10 to +10
Max. Error ±LSB (%span)	3.2 (0.078)	1.8 (0.044)	2.8 (0.069)

IP Compliance (ANSI/VITA 4)

- Meets IP specifications per ANSI/VITA 4-1995
- IP data transfer cycle types supported: input/output (IOSel*), ID read (IDSel*)
- Access times (8MHz clock):0 wait states (250nS cycle) for all functions, except 1 wait state (375nS cycle) for control register write and 3 wait states (625nS cycle) for read ADC data

I/O Pin Connections

Pin	Description	Pin	Description	Pin	Description
01	SCH00/+DCH00	18	SCH28/-DCH08	35	SCH17/+DCH17
02	SCH20/-DCH00	19	SCH09/+DCH09	36	SCH37/-DCH17
03	SCH01/+DCH01	20	SCH29/-DCH09	37	SCH18/+DCH18
04	SCH21/-DCH01	21	SCH10/+DCH10	38	SCH38/-DCH18
05	SCH02/+DCH02	22	SCH30/-DCH10	39	SCH19/+DCH19
06	SCH22/-DCH02	23	SCH11/+DCH11	40	SCH39/-DCH19
07	SCH03/+DCH03	24	SCH31/-DCH11	41	Sense
08	SCH23/-DCH03	25	SCH12/+DCH12	42	Sense
09	SCH04/+DCH04	26	SCH32/-DCH12	43	Common
10	SCH24/-DCH04	27	SCH13/+DCH13	44	Common
11	SCH05/+DCH05	28	SCH33/-DCH13	45	Reserved
12	SCH25/-DCH05	29	SCH14/+DCH14	46	Reserved
13	SCH06/+DCH06	30	SCH34/-DCH14	47	-15V DC
14	SCH26/-DCH06	31	SCH15/+DCH15	48	Ext Trigger[c]
15	SCH07/+DCH07	32	SCH35/-DCH15	49	+15V DC
16	SCH27/-DCH07	33	SCH16/+DCH16	50	Shield
17	SCH08/+DCH08	34	SCH36/-DCH16		

[c]Indicates an active-low signal.

ORDERING INFORMATION

Order Number	Description
XIP-5320-000	Forty single-ended or twenty differential inputs

Xycom Automation, Inc.
734-429-4971 • Fax: 734-429-1010
http://www.xycom.com

Canada Sales: 905-607-3400
Northern Europe Sales: +44-1604-790-767
Southern Europe Sales: +39-011-770-53-11

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