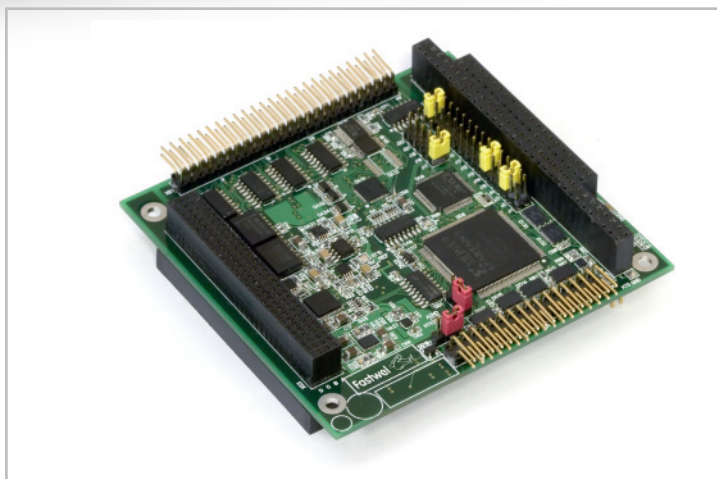


AIC 324

Analog and Digital Input/ Output Module



Features

- System controller interface – PC/104 (ISA 16 bit)
- Pass-through PCI bus
- 32 analog inputs; ADC 16 bit; 250 kHz; $\pm 10\text{ V} \dots \pm 0.625\text{ V}$
- 4 analog outputs; DAC 16 bit; 6 s; $\pm 10\text{ V} \dots \pm 2.5\text{V}$; programmable calibration of analog circuits
- 24 discrete input/output channels; 3.3 V or 5 V CMOS; support for 16-bit and 32-bit counters; electrostatic protection of outputs
- Analog/discrete isolation: 500 V
- Supported operating systems: Fastwel DOS, Linux, QNX

Technical Specifications

Analog input

- 32 single-wire or 16 differential voltage or current input channels with group galvanic isolation;
- Single-wire, differential or mixed connection of input signals;
- 16-bit digital-analog converter;
- AD converter conversion time 4 μs /channel;
- Input voltage range $\pm 10\text{ V}$, 0–10 V;
- Input current range: 0–20 mA;
- Programmable input signal gains: 1,2,4,8,16;
- Input resistance: $>1\text{ M}\Omega$ (voltage); 249 Ω (current);
- Programmable autocalibration of input signal measurement ranges;
- Programmable auto scanning of inputs;
- FIFO buffer for 2,048 words;
- Individual overvoltage protection of channels $\pm 40\text{ V}$ (DC).

Analog output

- 4 single-wire voltage output channels with group galvanic isolation;
- 16-bit digital-analog converter;
- DAC establishment time 6 μs ;
- Programmable selection of output signals conversion range: $\pm 10\text{ V}$, $\pm 5\text{ V}$, $\pm 2.5\text{ V}$, 0–10 V, 0–5 V;
- Programmable autocalibration of output signal conversion ranges;
- FIFO buffer for 2,048 words;
- Operation in signal generator mode;
- Individual protection of channels from static electricity (ESD).

Discrete input/output

- 24 + 6 + 7 TTL/CMOS level compatible input/output channels;
- 7 galvanically isolated channels;

- Discrete inputs/outputs configuration compatibility with 8255 (Mode 0 and mode 1 channel A);
- Group pull-down or pull-up of discrete outputs;
- 8254 type timer available.

Additional feature

- Automatic installation of calibrated ADC and DAC ranges when powered on;
- Built-in current measurement transistors with "floating" ground;
- 16/32 bit timer (8254 type), ADC start enabled;
- External ADC bit synchronization capability;
- Synchronous operation of ADCs on several boards capability;
- 16-digit timer for forming signals analogous to 8254;
- 10 shared hardware interrupt lines;
- 2 shared DMA channel request lines.

System bus

- 8/16-bit ISA bus;
- PC104+ feedthrough connector.

Module power supply

- Direct current power supply voltage: +5V $\pm 5\%$;
- Consumed power (without external devices): 450 mA;
- Insulation voltage: 1000 V.

Operating conditions

- Operating temperatures range: -40°C to $+85^\circ\text{C}$;
- Relative humidity: maximum 95% at $+25^\circ\text{C}$;

Storage temperature

- -55°C to $+85^\circ\text{C}$.

MTBF

- at least 100,000 hrs.

Moisture-proof coating

Dimensions

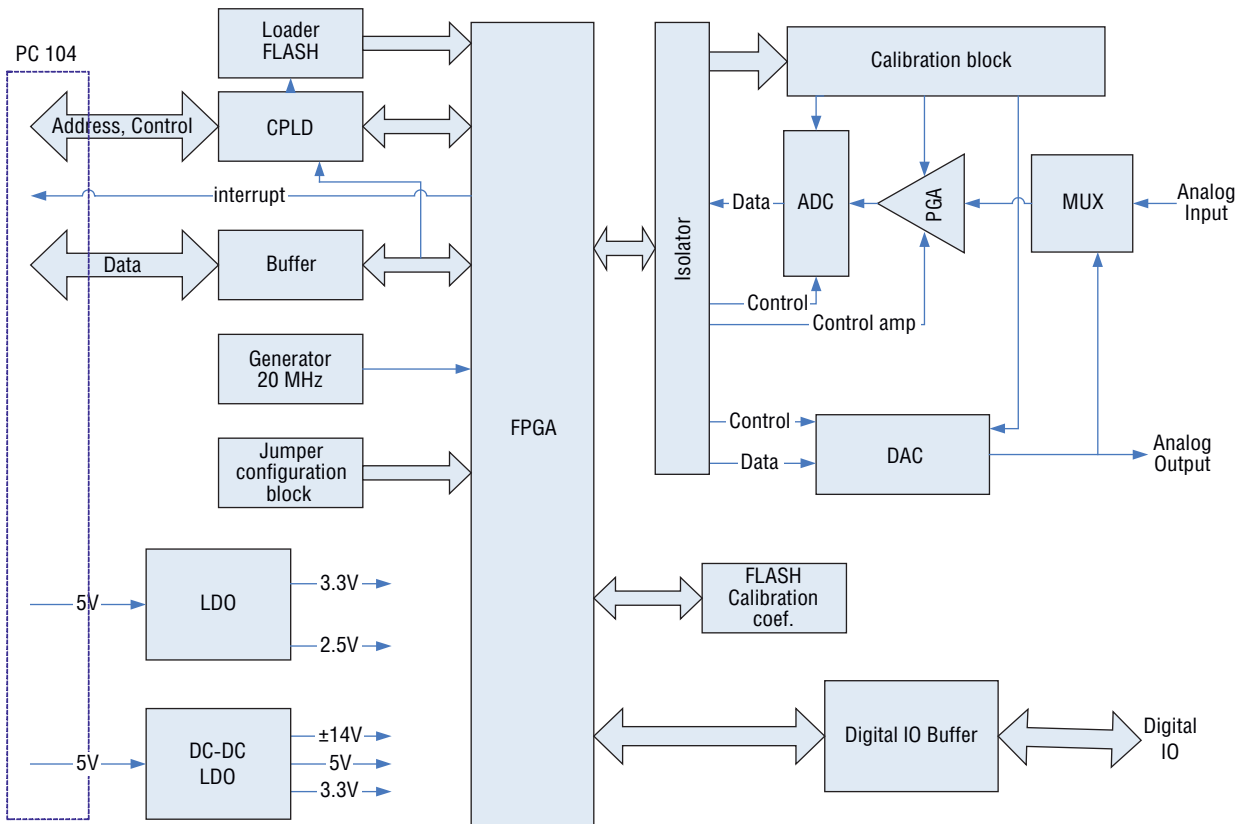
- 93 \times 96 \times 23 mm.



AIC 324

Analog and Digital Input/ Output Module

Board Layout



Ordering Information

Module hardware versions

AIC324-01 - AIC324 analog and digital input/output module.

Package contents

- AIC324 module - 1 pc.
- Antistatic package (bag) - 1 pc.
- Consumer package (cardboard box) - 1 pc.

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Corporate Offices

FASTWEL GROUP Co. Ltd

108 Profsoyuznaya str.
Moscow, Russia 117437
Tel: +7 (495) 232-1681
Fax: +7 (495) 232-1654
E-mail: info@fastwel.com
Web: www.fastwel.com

FASTWEL Corporation US

55 Washington street, Suite 310
Brooklyn, NY 11201
Tel: 1.718.554.3686
Fax: 1.718.797.0600
Toll free: 1.877.787.8443
(1.877.RURUGGED)
E-mail: info@fastwel.com

FASTWEL Asia

6F., No. 118, Ln.235, Baoqiao
Rd., Xindian Dist.
New Taipei City, Taiwan, R.O.C.
Tel: +886-2-8912 1938
Fax: +886-2-8912 1939
E-mail: asia@fastwel.com



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Product specifications are subject to change without notice



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