

ZEBAX TECHNOLOGIES

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ZX332 Analog Signal Measurement module

240 Single ended / 120 differential analog input channels using 24bit ADC

Signal Input range: 0.0 to 4.5Volts
Programmable Gain amplifier: 1.0 to 1200
Low Pass filter: -6dB @ 100KHz
Analog to Digital Converter: 24bits, 128KSPS, 110dB dynamic range

ARM processor controlled module, ZX300 core design utilizing USB, UART, SPI, or I2C inputs for control. See ZX300 core for more information.

Ease of use, tailored for automation, and general purpose application where reliability and integrated software solution provides level of performance for new generation of instrumentation products from Zebax.

Input interface: Samtec QTH120 0.5mm connector.

Board size: 4"x4.5", Standard USB i/f, see [ZX300_Core](#) for details.

Control Inputs: USB, UART, SPI, or I2C .
Programmable interface voltage level for SPI, or I2C from 0.7Vdc to 4.75Volts

ZX332 Package: ZX332 , USB cable, Power Supply, UART cable interface, ZX300 GUI Software.

ZX332 Interface: ZX300 core interface connector pin assignment is define in ZX300 core specification, please see ZX300 core data.

ZX320 Board2Board : Board to board interface connectors. Please ZX300 core data for more information.

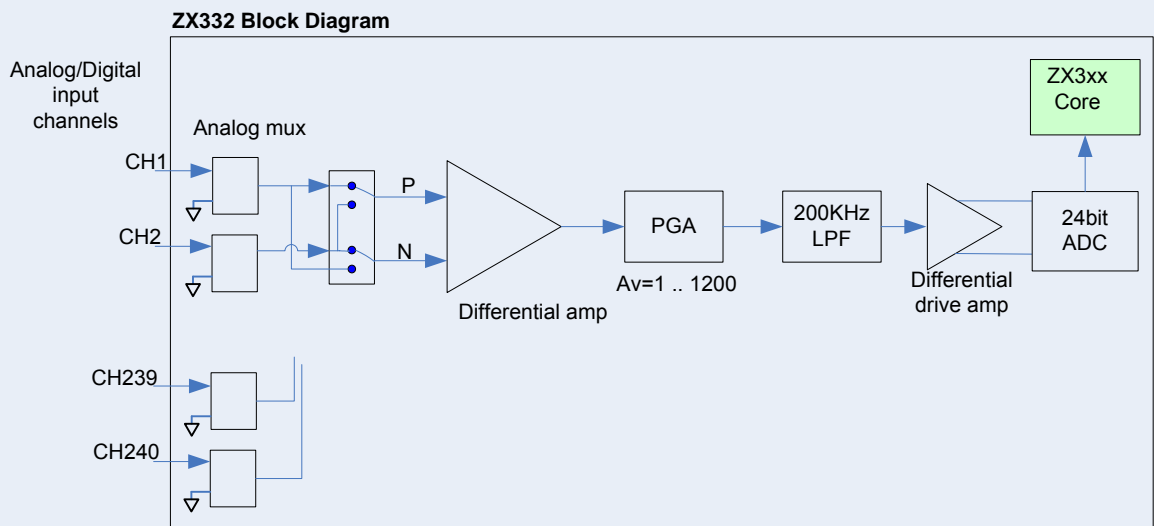
Method of use: Standalone, Stackup, or mini_Rackmount

ZX332 Overview:

- 120 differential or 240 single ended analog or digital input ports, configurable in mixed modes
- Programmable signal input voltage range 2.6 to 4.5Volts
- PGA: manual gain selection for each channel or auto scaling ranging from 1 to 1200
- 24 bit ADC, no missing codes

Software features

- Input channel assignment, gain selection, sampling rates, averaging, FIR, IIR, graph



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Analog Input Channels

Guaranteed Break-Before-Make switching
Programmable supply voltage: 2.5 to 4.5 Volts

Analog input range: 0.0 to 4.5Volts
On Resistance (R_{ON}) 4 Ω (typical)

Leakage currents:

Source OFF, I_s (OFF): $\pm 0.01nA$ (typical)
Drain OFF, I_d (OFF): $\pm 0.05nA$ (typical)
Channel ON, I_d , I_s (ON): $\pm 0.05nA$ (typical)

Dynamic Range

Charge Injection 5pC(typical)
Off Isolation -72dB $f=1MHz$
Channel to channel Crosstalk: -72dB $f=1MHz$

Ambient Temperature: $-35^{\circ}C \sim +85^{\circ}C$
Relative Humidity: 85% at $40^{\circ}C$

PGA, Programmable gain amplifier

Digitally programmable via Zebax SW, ranging from 1 .. 1200

Input offset drift 50nV/ $^{\circ}C$
Maximum gain drift: 10ppm/ $^{\circ}C$
CMRR 80dB @ G=1
Input Offset Voltage: 15 μV (max)
Noise 0.7 μV p-p (0.1H to 10Hz)
ac performance 2.7MHz bandwidth
Slew rate 1.1V/ μSec
Gain error 0.05% G=1
1.0%(max) G=1200

ADC 24 bit s 128KSPS analog to digital converter

Dynamic range: 110dB 128KSPS
THD+N -112dB
SNR 108dB
DC accuracy:
Resolution: 24 bits, no missing code
Differential Nonlinearity: Guaranteed monotonic to 24bits
Zero error: 20 μV
Gain error: 0.0075%FS(typ) 0.075%FS(max)
Gain error drift: 0.4ppm/ $^{\circ}C$

INL: $\pm 6ppm$ (typ), $\pm 15ppm$ (max),
Zero error drift: 15nV/ $^{\circ}C$
Gain error drift: 0.4ppm/ $^{\circ}C$
On chip low pass FIR filter
Pass-band ripples: $\pm 0.005dB$
Stop-band attenuation: 100dB