ACQ32CPCI – M2 Active Mezzanine

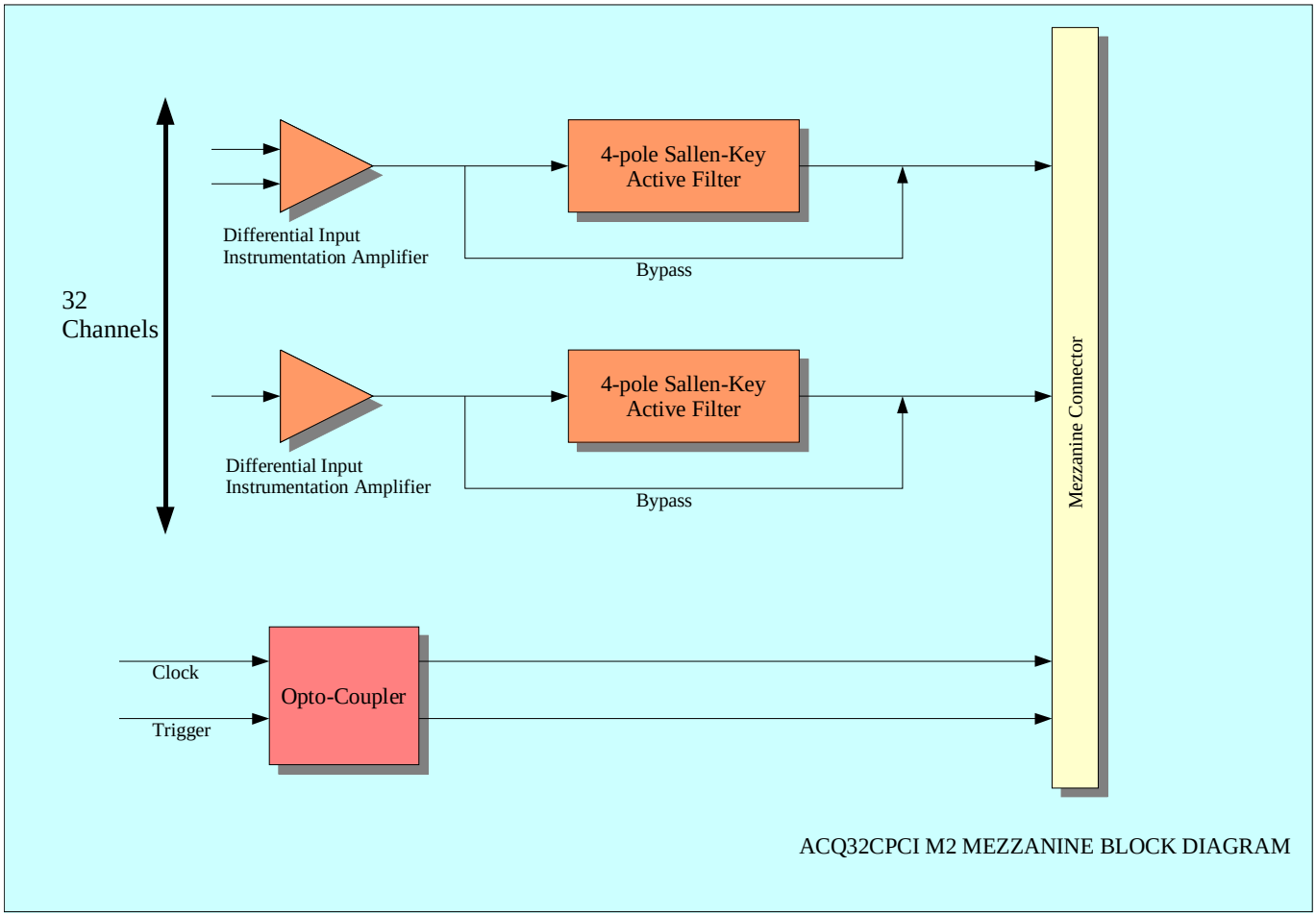
32 Channel differential receiver and anti-aliasing filter module for the ACQ32CPCI Intelligent CompactPCI™ Data Acquisition Card

Features

32 Channels of signal conditioning
Differential Receiver Instrumentation Amplifier
4 pole active anti-aliasing filter per channel
Minimal phase delay between channels.
By-pass jumpers for anti-aliasing filter.

2 optically isolated digital input signals for clock and trigger reception.

The ACQ32CPCI M2 Active Mezzanine card provides 32 channels of signal conditioning for the ACQ32CPCI digitizer. A differential instrumentation amplifier is provided for each channel with factory set gain with a typical Common-Mode Rejection of 86 dB at unity gain (130 dB at gain 1000). This signal is then filtered by a 4 pole active filter providing a signal filtering or anti-aliasing function; the filter cut-off is configured by factory setting. The anti-aliasing filter may be by-passed with user selectable links.
The M2 Active Mezzanine card also provides two channels of high speed opto-isolated digital inputs for the reception of digital clock and trigger for the ACQ32CPCI digitizer.



ACQ32CPCI M2 MEZZANINE BLOCK DIAGRAM

Performance (Typical)

Analog Input

Number Of Channels	32
Coupling	Differential
Input Impedance	Factory Set – typical 100 kΩ Minimum 2 kΩ Maximum 10 GΩ
Gain	Factory Set – typical 1 Minimum 1 Maximum 1000
Voltage Range	±10V
Common Mode Range	±13V
Overvoltage Protection	±40V
Filter Cut-off	Factory Set – typical 50 kHz Minimum 5 kHz Maximum 100 kHz
Offset Error	Calibrated with ACQ32CPCI Digitister
Gain Error	Calibrated with ACQ32CPCI Digitister

THD	-74dB dB*
SINAD	73dB*
SFDR	Limited by ACQ32CPCI
SNR	Limited by ACQ32CPCI
Full Power BW 60 kHz	(Gain = 1) 20 kHz (Gain = 1000)
Small Signal BW	500 kHz
Crosstalk (3 dB)	<90 dB @ 1 kHz FS Input
Temperature Stability	<25 ppm/°C

**Typical values measured at full scale 9.76 kHz input*

Digital Inputs

Number	2
Switching Characteristics	TTL
Coupling	Opto-Isolated
Input Impedance	500 Ω

External Connectors

Analog Inputs	2 x 37 way D-Type, 16 channels per connector
Digital Inputs	“00” size LEMO connectors, single pin, 2 connectors per signal providing convenient connections to “T” off signals

Ordering Information

ACQ32CPCIM2-G-T-C

Where

G = Gain setting

T = Input Impedance (in kOhms)

C = Cut-Off Frequency (in kHz)

For Example

ACQ32CPCIM2-1-1000-10

Gain	=1
Input Impedance	=1 MΩ
Cut-Off Frequency	=10 kHz

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