ACQ32CPCI – M3 Active Mezzanine

32 Channel Wide Common Mode Differential Receiver and Anti-Aliasing Filter Module for the ACQ32CPCI Intelligent CompactPCI™ Data Acquisition Card

Features

32 Channels of signal conditioning
100V Wide Common Mode Differential Receiver
4 pole active anti-aliasing filter per channel
Minimal phase delay between channels

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

The ACQ32CPCI M3 Active Mezzanine card provides 32 channels of signal conditioning for the ACQ32CPCI digitizer. A wide common mode differential receiver is provided for each channel providing up to 100 Volts of Common Mode Operating Range allowing the digitizer to operate in the presence of high common mode voltages, which can be either from channel to channel or field to bus. In addition to wide Common Mode operation the receiver provides a typical Common-Mode Rejection of 75 dB. 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 M3 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 M3 MEZZANINE BLOCK DIAGRAM
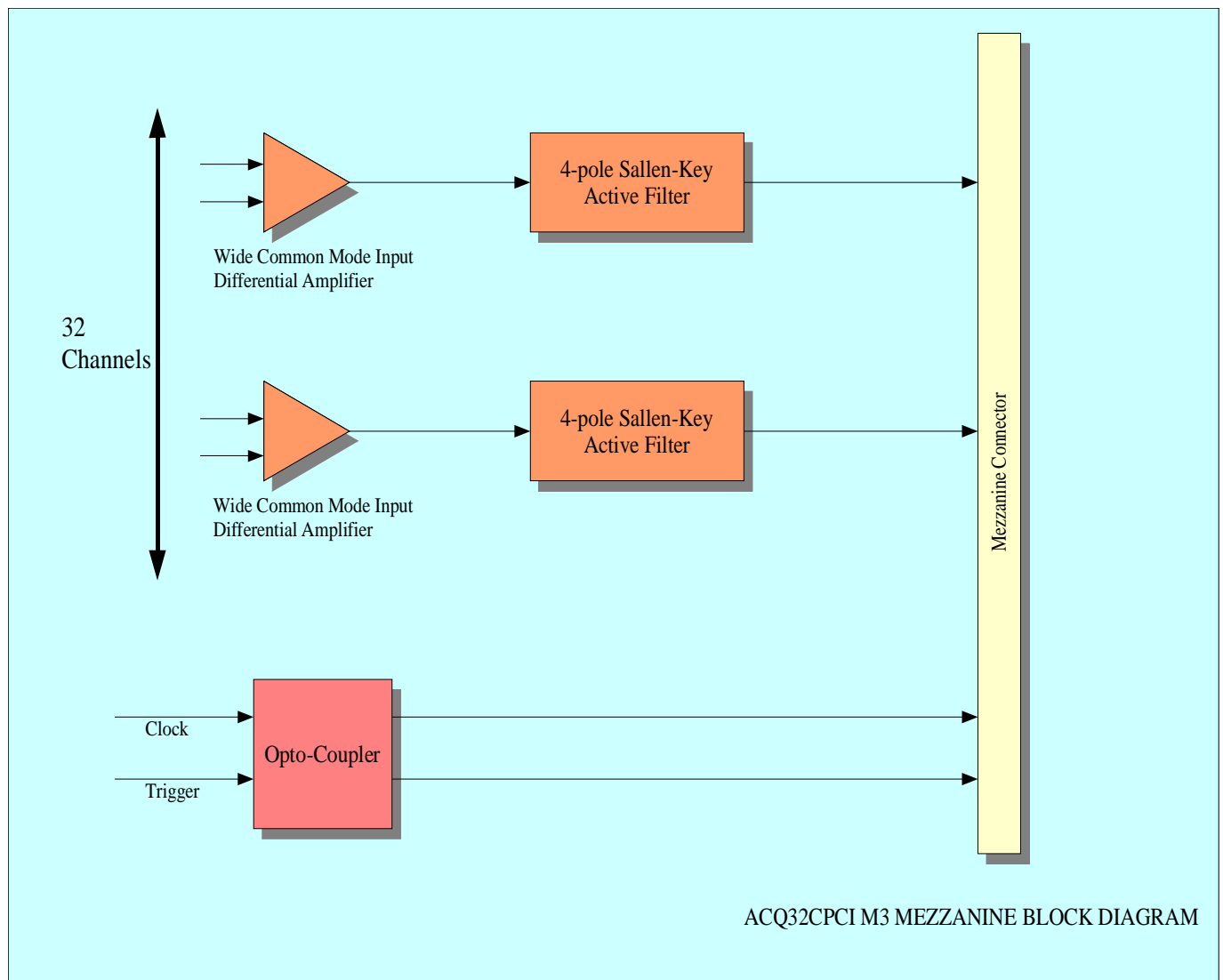
Performance (Typical)

Analog Input

Number Of Channels	32	THD	Limited by ACQ32CPCI
Coupling	Differential	SINAD	Limited by ACQ32CPCI
Input Impedance		SFDR	Limited by ACQ32CPCI
Differential	200 kΩ	SNR	Limited by ACQ32CPCI
Common Mode	200 kΩ	Full Power BW	200 kHz (Gain = 1)
Gain	Factory Set – typical 1		30 kHz (Gain = 10)
	Minimum 0.1	Small Signal BW	500 kHz
	Maximum 10	Crosstalk (3 dB)	<90 dB @ 1 kHz FS Input
Voltage Range	±10V	*Temperature Stability*	*<25 ppm/°C*
Common Mode Range	±100V		
Overvoltage Protection	±100V		
Filter Cut-off	Factory Set – typical 50 kHz		
	Minimum 5 kHz		
	Maximum 150 kHz		
Offset Error	Calibrated with ACQ32CPCI Digitizer		
Gain Error	Calibrated with ACQ32CPCI Digitizer		

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

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Ordering Information
ACQ32CPCIM3-G-C
Where
G = Gain setting
C = Cut-Off Frequency (in kHz)
For Example
ACQ32CPCIM3-1-10
Gain   =1
Cut-Off Frequency   =10 kHz