Universal 200k iso Digitizer with Differential Inputs, Current Mode and ICP-supply

Specifications

GEN SERIES UNIVERSAL 200K ISO DIGITIZER

Universal 200 iso CARD

Analog Input Selection

Number of Channels	4
Input Type	Fully isolated and differential; software selectable: voltage, current or ICP®(1); differential or single ended isolated
Input Connectors	4 x 2 isolated BNC
Input Coupling	AC (-3 dB @ 1.6 Hz) DC, GND
Input Impedance	2 x 1 MΩ // 100 pF
Input Ranges	13, programmable:
Course	± 10 mV to ± 100 V in 1, 2, 5 steps
Fine	Variable gain in 1000 steps (0.1 %) of the selected range within each course range
Offset (zero position)	Software selectable in 1000 steps (0.1 %) of selected Full Scale, with a maximum of +/- 50 % in the +/- 100 V range
Analog Bandwidth	20 kHz (-3 dB)
CMRR	≤ 80 dB typical @ 80 Hz for all ranges
CMV Range	Ranges ‹ ± 2 V: ‹ 10 Vp Ranges › = ± 20 V: ‹ 250 Vp Other ranges ‹ 100 Vp; all referred to amplifier ground
Measurement Overrange	5 % above/below Full Scale
Recovery time	≤ 10 µs to 0.03 % after a 200 % Full Scale overload

ICP Support(1)

Excitation Current	1 to 15 mA, software selectable in 1 mA steps
Excitation Voltage	24 Volt nominal
Coupling Time Constant	1 second
Input ranges	7 ranges from ± 0.2 V to ± 20 V in 1, 2, 5 steps

Current Shunt Support

Accuracy(2)	≤ 0.2 % of FS ± 300 µA
Ranges	5 ranges from ± 50 mA to ± 1 A in 1, 2, 5 steps
Measurement Shunt	0.2 Ω ± 1 %
Maximum Current	1 Ampère
Overload Protection	1.6 Ampère resettable fuse, 0.1 Ω ± 20 %

Isolation and Protection

Maximum Input Voltage	± 100 V, ranges ‹ ± 2 V ± 250 V, ranges ≥ ± 2 V
Overload Protection	± 250 Volt non-destructive
Channel-to-chassis	250 Volt peak isolation
Channel-to-channel	250 Volt peak isolation
Maximum Common mode voltage	250 Volt peak with isolated common floating

Error and Noise(2)

Overall Maximum Static Error (MSE)	≤ 0.1 % of Full Scale ± 100 µV
Gain Error	≤ 0.1 % of FS ± 100 µV
Offset Error	≤ 0.1 % of FS ± 100 µV
Noise (RMS)	≤ 0.02 % of FS ± 120 µV

Acquisition

Sample Rate	From 200 kS/s to 0.1 S/s
ADC Resolution	16 bit (0.0015 %)
Timebase Accuracy	50 ppm
Anti-Alias Filters	Time- or Frequency domain optimized
Time Domain	7-pole Bessel: optimal step response, 20 kHz (-3 dB)
Frequency Domain	7-pole Butterworth:extended frequency response, 20 kHz (-3 dB)
Digital Decimation Filter	IIR or FIR
Time Domain	6-pole Bessel style IIR, sample rate divided by 10, 20, 40, 100
Frequency Domain	12-pole FIR, sample rate divided by 4, 10, 20, 40

Transient Memory

64 MS per card, shared by enabled channels.

4 channels	16 MS per channel

Triggering

Each channel has a dual-level trigger detector; selectable hysteresis, modes and qualifiers.

Pre- and Post-trigger	0 to full memory length
Trigger Rate	Up to 200 triggers per second, zero re-arm time
Resolution	16 bit for each level (= 0.0015 %)

StatStream® Real-time Analysis

Each channel includes real-time extraction of Max, Min, Mean, Peak-to-peak, and RMS values.

Acquisition Modes

Sweeps	Triggered acquisition to RAM without sample rate limitations; for single or repetitive transients or intermittent phenomena
Continuous	Direct storage to PC or mainframe hard disc without file size limitations; triggered or untriggered; for long duration recorder type applications with up to 1 MS/s rate per channel; (maximum aggregate rate pending from mainframe configuration and PC)
Dual	Combination of Sweeps and Continuous; recorder type streaming to hard disc with simultaneously triggered sweeps in RAM

(1) ICP refers to internally amplified sensors - low impedance, piezoelectric force, acceleration and pressure type sensors with built-in integrated circuits. ICP® is a registered trademark of PCB Group, Inc., Depew, New York.
(2) Errors are listed for amplifier with filter (IIR or FIR)

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HBM Genesis HighSpeed products were previously sold under the Nicolet brand. The **Nicolet** brand is owned by Thermo Fisher Scientific Inc. Corporation.

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