

Specifications

**GEN SERIES BRIDGE 1M ISO DIGITIZER
WITH FULL DIFFERENTIAL MODE**

Bridge 1M iso Digitizer

Analog Input Section

Number of Channels	4
Input Type	Fully isolated bridge or fully isolated full differential, software selectable
Input Connectors	Lemo 16-pin, mating connector: FGG2B316CLA52
Input Ranges	± 2 mV, ± 5 mV, ± 10 mV, ± 20 mV, ± 50 mV, ± 100 mV, ± 200 mV, ± 500 mV, ± 1 V, ± 2 V, ± 5 V, ± 10 V
Gain (± 10 V ÷ range)	5000, 2000, 1000, 500, 200, 100, 50, 20, 10, 5, 2, 1
Offset (zero position)	1000 steps (0.1 %)
Input Coupling	AC (-3 dB @ 1.6 Hz), DC, GND
Input Impedance	2x 10 MΩ // 130 pF
Analog Bandwidth	> 120 kHz at maximum gain (ranges ≤ ± 20 mV), 450 kHz at minimum gain
CMRR	> 72 dB @ 100 Hz
CMV	± 10 V to amplifier ground ± 50 V to isolated ground
Overload Protection	35 Volt
Number of Slots	1, including signal conditioners

Bridge Support

Completion	Half bridge: 2x 10 kΩ Quarter bridge*: 350Ω, and user-defined, software selectable, auto balance
Excitation Voltage	Off, ± 1.0 V to ± 7.5 V in 1000 steps, up to 85 mA per channel
Balance Voltage	+/- 250mV max unbalance voltage compensation
Remote Sensing	2 separate sense wires or internal
Excitation Current	Off, 2 mA to 40 mA, 15 V compliance
Shunt Calibration	2 pre-installed calibration resistors* (20 kΩ, 100 kΩ), one user-defined, plus external, shunt to + or - excitation
Wiring Configurations	Two to ten wire incl. driven guard

Isolation

Channel-to-chassis	50 Volt peak
Channel-to-channel	100 Volt peak
Non-destructive	100 Volt to chassis (earth)

Error and Noise

Maximum Static Error	0.1 % of FS ± 40 μV
Noise (RMS)	0.02 % of FS ± 30 μV

Acquisition

Sample Rate	From 1 MS/s to 0.1 S/s
ADC Resolution	16 bit (0.0015 %)
Timebase Accuracy	50 ppm
Anti-Alias Filters	Bypass, Time-, Frequency domain optimized
Time Domain	7-pole Bessel 250 kHz, optimal step response
Frequency Domain	7-pole Butterworth 400 kHz, extended frequency response
Digital Decimation Filters	Off, 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

256 MS per card, shared by enabled channels.	
4 channels	64 MS per channel

Triggering

Each channel has a dual-level trigger detector with 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



* These are metal-foil high-performance instrumentation resistors with a tolerance of 0.1% and a TCR of 0.6 ppm/°C

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