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Find the *ADInstruments ML112* at our website: ***Click HERE***

ML112 Quad Bridge Amp

Signal Conditioner Series

Description



The ML112 Quad Bridge Amp (Wide Bandwidth) is equivalent to four ML110 Bridge Amps. It is useful if 2 kHz bandwidth is required or unconventional transducers are used. Suitable for use with force, pressure, displacement, and other strain gauge or semiconductor bridge based transducers. It uses chopper stabilized amplifier techniques to reduce temperature drifts and offers software controlled zeroing.

Compatibility

The Quad Bridge Amp is compatible with PowerLab and MacLab models and requires the following versions of software or later: LabChart v6, Chart v4 or Scope v3.

The following are some of the transducers suitable for use with the Bridge Amp:

MLT003/D	Hand Dynamometer
MLT0015	High Grade Isotonic Transducer
MLT500/D	Force Transducer (0 - 500 g)
MLT844	Physiological Pressure Transducer
MLT0201	Force Transducer (5 mg - 25 g)
MLT1030/D	Wide Range Force Transducer
MLT0202	Sensitive Force Transducer (0-25 g)
MLT0380/D	Reusable BP Transducer
MLT1020	IR Plethysmographs
MLT050/D	Force Transducer (0 - 50 g)
MLT409/D	Skin Temperature Probe
MLT415/D	Nasal Temperature Probe
MLT0210/D	Teaching Force Transducer

For transducers with Grass connectors, a MLAC11 Grass Adapter Cable is required.

Applications

Includes cardiac and smooth muscle contraction studies, animal arterial or venous pressures measurements, force and displacement measurements and some respiratory experiments.

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Specifications

Input

Number of inputs:	4 (8-pin DIN)
Input configuration:	Differential
Amplification range:	±50 µV to ±200 mV full scale in 12 steps (combined PowerLab and Bridge Amp) ±200 mV ±100 mV ±50 mV ±20 mV ±10 mV ±5 mV ±2 mV ±1 mV ±500 µV ±200 µV ±100 µV ±50 µV
Amplification accuracy:	±0.5% (combined PowerLab and Bridge Amp)
Maximum input voltage:	±5 volts
Input impedance:	2 × 10 kΩ
Low-pass filtering:	1 Hz to 2 kHz in eight steps (software selectable), using fifth-order, switched capacitance filter type
High-pass filtering:	DC or 0.1 Hz (software-selectable)
Frequency response (–3 dB):	2 kHz maximum at all gains with the 2 kHz filter selected
CMRR (differential):	100 dB @ 50 Hz (typical)
Input noise:	<2 μV_{rms} referred to input at highest gain

Excitation and Zeroing

DIN Excitation voltage range:	0 to 20 volts DC (±10 V referred to ground), adjusted by external resistor
Grass Excitation voltage range:	8 V DC (±4 V referred to ground)

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Transducer drive current:	±100 mA maximum
Zeroing circuitry:	Software-controlled, either manual or automatic
Internal offset resolution:	12-bit (internal DAC) ±2048 steps about 0 V.
	Maximum offset steps of ±0.25 µA, giving a resolution of ~0.075 mV for a transducer impedance of 300 Ω

Control Port

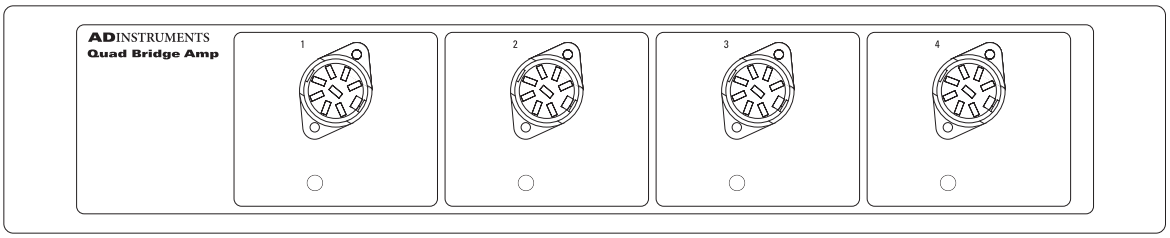
I²C port:	Power and control bus for front-end units. Supports a number of front-ends dependent on the PowerLab. Interface communications rate of ~50 Kbits/s.

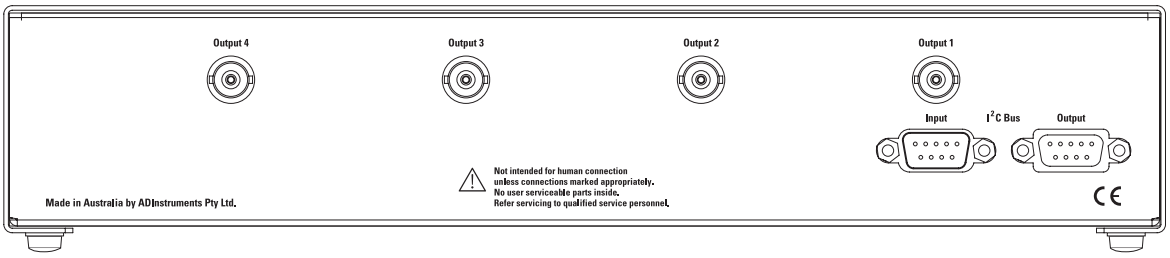
Physical Configuration

Dimensions (w × d × h):	300 mm × 300 mm × 60 mm
	(11.8" × 11.8" × 2.4")
Weight:	3.1 kg (6.8 lb)
Power requirements:	7.2 W (with no transducers)
Operating temperature range:	0 to 35 °C, 0 to 90% humidity (non-condensing)

ADInstruments reserves the right to alter these specifications at any time.

Front and Back Panels





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Caution

Read “Statement of Intended Use” on our website or in “Getting Started with PowerLab” before use.

Ordering Information

ML112 Quad Bridge Amp Wide Bandwidth

Includes:

I^2C cable (9 pin plug to 9 pin receptacle)

BNC to BNC cables (4)

Bridge Amp Owner’s Guide

Optional:

MLAC11 Grass Adapter Cable

For use with:

MLT003/D	Hand Dynamometer
MLT0380/D	Reusable BP Transducer
MLT0015	High Grade Isotonic Transducer
MLT1020	IR Plethysmographs
MLT500/D	Force Transducer (0 - 500 g)
MLT844	Physiological Pressure Transducer
MLT050/D	Force Transducer (0 - 50 g)
MLT409/D	Skin Temperature Probe
MLT0201	Force Transducer (5 mg - 25 g)
MLT415/D	Nasal Temperature Probe
MLT0210/D	Teaching Force Transducer
MLT0202	Sensitive Force Transducer (0-25 g)
MLT1030/D	Wide Range Force Transducer

ML112-DC-08A

CE

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