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Find the *ADInstruments ML228* at our website: ***Click HERE***

Single, Quad and Octal Bridge Amps

Signal Conditioners

Description



(FE221)



(FE224)



(FE228)

The FE221, FE224 and FE228 Bridge Amps are designed to allow the PowerLab to connect to most DC bridge transducers, including commonly available force transducers, temperature probes, light meters, displacement transducers, pressure transducers, and similar devices. They are capable of supporting various powered transducers, and certain low-impedance unpowered transducers.

An overload light on the front of each input indicates whether the attached transducer is operating correctly or incorrectly. If the overload light is on the transducer is incompatible with the Bridge Amp and should be disconnected. Contact your ADInstruments representative for assistance.

Compatibility

The Bridge Amps are compatible with PowerLab /SP, /20, /25, /26, /30 and /35 series or later.

The FE221, FE224 and FE228 require the following software versions or later: LabChart v6, Chart version 5.4.2. The FE221, FE224 and FE228 will also only operate with Scope for Windows (3.7.8 or later), Scope for Mac (4.0.3 or later) or LabTutor (version 3 or later).

Visit www.adinstruments.com/downloads/ for Windows and Mac operating system compatibility. For more information please contact your ADInstruments representative.

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

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
MLT1199 Blood Pressure Transducer/cable kit
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
MLT0202 Sensitive Force Transducer (0-25g)

Applications

Used for measuring force, displacement and physiological pressures. Ideal for multi-channel isolated tissue studies.

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Specifications

Input

Number of inputs:	1 (Single), 4 (Quad) or 8 (Octal) (8-pin DIN)
Configuration:	Differential
Input range:	±200 µV to ±5 V full scale in 14 steps (combined PowerLab and Bridge Amp) ±5 V ±2 V ±1 V ±500 mV ±200 mV ±100 mV ±50 mV ±20 mV ±10 mV ±5 mV ±2 mV ±1 mV ±500 µV ±200 µV
Accuracy:	±0.5% (combined PowerLab & Bridge Amp)
Maximum input voltage:	±10 V
Input impedance:	2 x 1 MΩ (Single-ended) 2 MΩ (Differential)
Low-pass filtering:	1 Hz to 1 kHz in seven steps (software selectable)
Frequency response (-3 dB):	2 kHz maximum at all gains with the 2 kHz filter selected.
CMRR (differential):	100 dB at 50 Hz (typical).
Noise:	<1µV_{rms} referred to input at highest gain

Excitation and Zeroing

Excitation voltage range:	0-20 volts DC (±10 V referred to ground), adjusted by external resistor
Transducer drive current:	±45 mA maximum
Zeroing circuitry:	Software-controlled, either manual or automatic
Internal offsetting range:	±10 V (1 V - 5 V range) ±1 V (100 mV - 500 mV range) ±100 mV (200 µV - 50 mV)

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Internal offset resolution:	16 bit (internal DAC) ± 32 000 steps about 0V. 1, 2, 5 V -310 µV/step 100 mV, 200 mV, 500 mV - 31µV/step 200 µV to 50 mV - 3 µV/step

Control Port

I^2C 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.

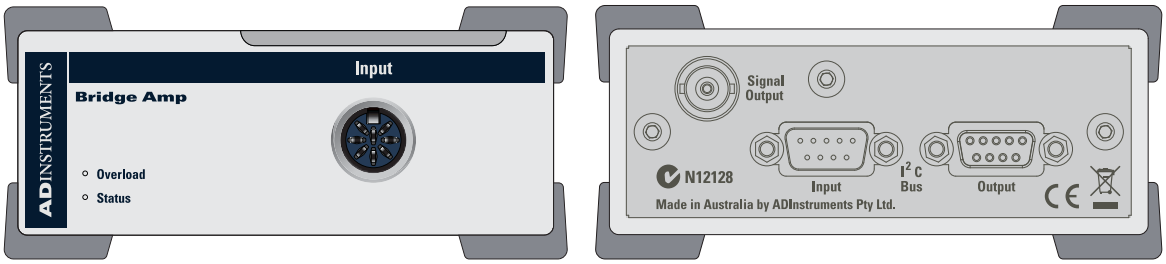
Physical Configuration

Model	Dimensions and weight
Single (FE221):	55 mm (h) x 120 mm (w) x 260 mm (d); 1.2 kg
Quad (FE224):	55 mm (h) x 240 mm (w) x 260 mm (d); 2.1 kg
Octal (FE228):	70 mm (h) x 240 mm (w) x 260 mm (d); 2.6 kg
Power requirements:	(Without transducer attached)
Single (FE221):	0.8 W
Quad (FE224):	2.5 W
Octal (FE228):	5.0 W
Operating temperature range:	10 to 40 °C, 0 to 90% relative humidity (non-condensing)

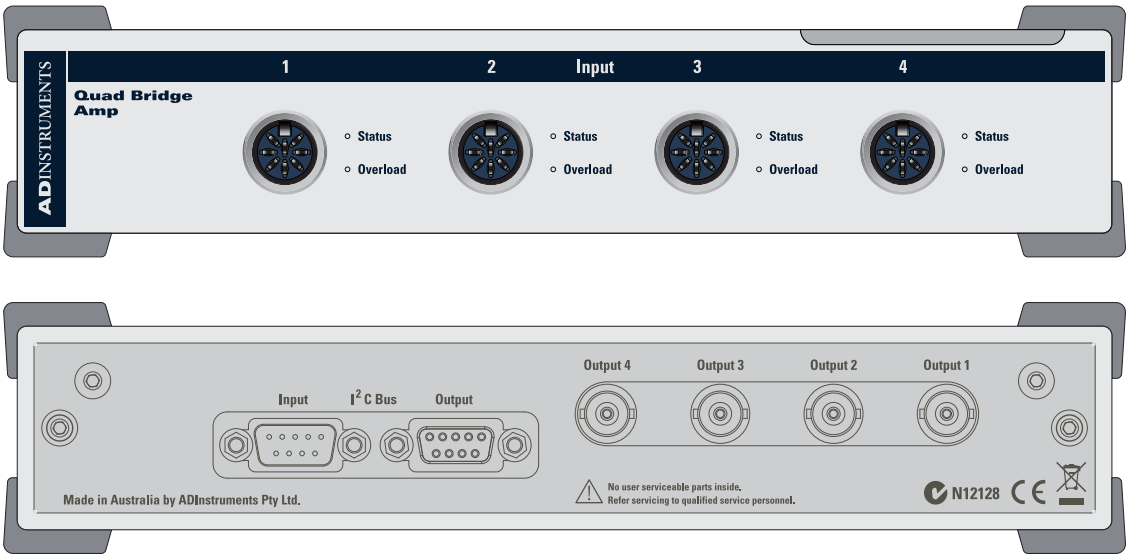
ADInstruments reserves the right to alter these specifications at any time

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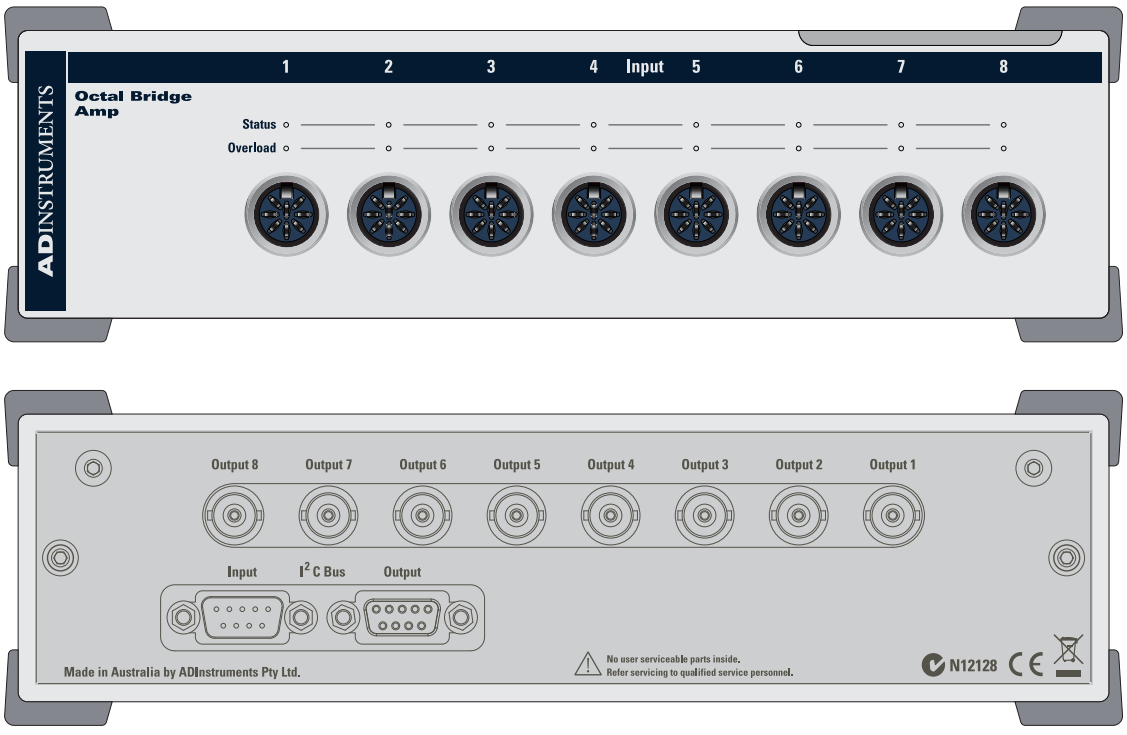
Front and Back Panels



FE221



FE224



FE228

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WARRANTY: ADInstruments PowerLab data acquisition units (Product Number Prefix: PL), Front-end Signal Conditioners (Product Number Prefix: FE) are warranted against defects in materials and workmanship for a period of 5 years from the date of purchase. Other PowerLab data acquisition units and ADInstruments manufactured Front-end and Pod Signal Conditioners, and Instruments are warranted of a period of 3 years from the date of purchase. Third party products are covered by the manufacturer's warranty. Warranties are void if the product has been damaged due to negligence. Consumables and electrodes are not covered by a warranty. All questions regarding service and warranty should be directed to your nearest ADInstruments representative or one of the offices listed below.

Caution

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

Ordering Information

FE221 Bridge Amp
FE224 Quad Bridge Amp
FE228 Octal Bridge Amp

FE221 Includes:
I²C Cable (9-pin plug to 9-pin receptacle)
BNC to BNC Cables (1)
DIN Connector Kit (1)
Bridge Amp Owner's Guide

FE224 Includes:
I²C Cable (9-pin plug to 9-pin receptacle)
BNC to BNC Cables (4)
DIN Connector Kits (4)
Bridge Amp Owner's Guide

FE228 Includes:
I²C Cable (9-pin plug to 9-pin receptacle)
BNC to BNC Cables (8)
DIN Connector Kits (8)
Bridge Amp Owner's Guide

A MLAC11 Grass Adapter Cable may be ordered as an optional extra for connecting transducers with grass connectors to the bridge amps.

FE221-FE228-DC-11A

CE

ADINSTRUMENTS.com ISO 9001:2008 Certified Quality Management System

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