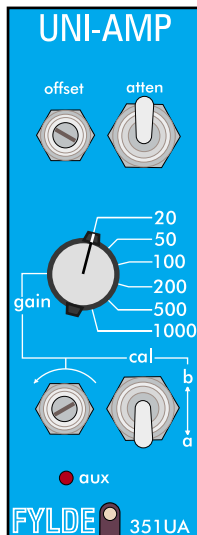


FYLDE

M O D U L A R
I N S T R U M E N T A T I O N

FE-351-UA universal amplifier



For use with signals from :-

THERMOCOUPLES

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RESISTIVE BRIDGES

*

BRIDGE-TYPE TRANSDUCERS

*

OPTICAL AND MAGNETIC PICKUPS

*

HIGH & LOW LEVEL SIGNALS GENERALLY

The FE-351-UA is our highest specification differential d.c. amplifier and provides excellent performance and considerable flexibility of operation.

Very low noise performance is complemented by high gain accuracy (0.1%), stability and linearity, high CMR and wide dynamic range.

Using the gain switch, vernier control and switched input attenuator, a wide gain range of $\times 0.2$ to $\times 10,000$ is provided.

Calibration injection simulates input signals on any gain range, with vernier gain in any position.

Offset of the amplified signal enables full use of Unipolar or Bipolar A-D's.

Outputs are available to drive computer A-D, recorder or displays. A configurable low pass filter may be used for noise reduction and / or alias protection.

The amplifier input is protected against excessive normal or common mode voltages, and outputs are proof against indefinite duration short circuit.

Power requirement is 200-250V AC or alternative 100-120V a.c. 50/60Hz. 12V D.C. powered modules are also available.

Circuitry is earth free.

Up to 16 modules (plus power switch module) fit the standard 2U FE-PE17 crate; 8 in an FE-PE8. The FE-PE4 and FE-PE2 will house up to 4 channels and 2 channels respectively.

A wide range of compatible amplifiers and signal conditioners is available.

GAIN	Range Accuracy Vernier Stability Calibration	x20 to x1000 in six switched steps. ±0.1%. x1 to x10 (calibrated), by front panel screwdriver control. Better than 0.01%/ °C. Better than 0.1%, 12 months. Injection of 50% & 10% of full-scale input on each switched gain position. ±0.1% f.s.
ATTENUATION	Factor Accuracy Stability Balance	100 (-40 dB) by front panel toggle switch. ±0.2%. Better than 0.01%/ °C. Better than 0.1%, 12 months. 0.1%.
INPUT	Resistance Bias Current Offset Current Offset Voltage Protection CMRR	Direct - 10 MΩ either input. Via attenuator - 100 kΩ either input. Typically 20 nA. Typically 20 nA. Less than 0.1% f.s. output. ±15 V d.c. normal or common mode, or HV transient. Greater than 100 dB, d.c. - 1kHz.
OUTPUT	Range Impedance Protection	Direct voltage ±10 V ±15 mA. Less than 0.5Ω D.C. - 1kHz. (see note 1.) Accepts short-circuit of unlimited duration
FREQUENCY RESPONSE		d.c. - 100 kHz (-3 dB), d.c. -10 kHz (1%). When filter is not used, response may be preset on card; a.c. coupling optional.
SLEWING RATE		Full output up to 25 kHz.
NOISE	Full Bandwidth 100 Hz	Less than 10μ V pk-pk r.t.i. +1 mV r.t.o. Less than 1μ V pk-pk r.t.i. +0.2 mV r.t.o.
STABILITY	Temperature Time (1000 hours)	Less than 1μ V r.t.i. +0.5 mV r.t.o. per °C. Less than 2μ V r.t.i. +10 mV r.t.o.
FILTER		Internal Low Pass filter may be applied to set cut-off in range 50Hz - 50kHz (18 dB/octave roll-off). The filter is set using a plug in resistor network. Filter may be set "in" or "out" using on board switch and illuminates the "aux" led when "in".
OFFSET		Output may be offset by more than ±10 V using front panel control. Jumper positions allow selection of bipolar or uni-directional offset.
OPERATING TEMPERATURE RANGE		0-50 °C.
POWER REQUIREMENT		200-250 V / 100-125V 50/60Hz . 12 V d.c. to order at extra cost (FE-605-DCC fitted)
DIMENSIONS		Panel 2.75" x 1" wide (7 x 2.5 cm), overall depth 8.5" (21.5 cm).
CONNECTOR		25-way edge connector 0.1" (2.5 mm) pitch.
ENCLOSURE		2, 4 or 8 channel cases (FE-PE2, FE-PE4, or FE-PE8). Up to 16 channels with power switch in 2U rack mounting crate or case (FE-PE17). Normally 14 channels in crate or case, with switched monitor unit type FE-M6-DS.

Note 1: Output impedance excludes impedance of enclosure and rear panel connectors which typically include a RF filter with an impedance of 100 ohm.