SPECIFICATION

INPUTS
User adjustable ranges from 0-10mV to 0-100mV

OUTPUTS

mA Ranges	Max. Load (ohms)	Optional*
0-10mA	2000	4000
0-20mA	1000	2000
4-20mA	1000	2000

*Options available to order

Voltage Ranges	Min. Load (ohms)
0-5 Volts	500
0-10 Volts	1000
1-5 Volts	500
2-10 Volts	1000

CALIBRATED ACCURACY
Set at 100% to be within 0.1% FSD

LINEARITY ERROR
0.1% FSD

OUTPUT RIPPLE
0.1% (Peak to Peak) of FSD.

LOAD RESISTANCE EFFECT
0.001% of span/100 ohm change.

ISOLATION
The input and output are not isolated from each other, but are isolated from the power supply.

TEMPERATURE COEFFICIENTS
Zero: 0.02% span/ ^{o}C
Span: 0.02% span/ ^{o}C

TEMPERATURE RANGE
Operating: -10^{o}C to + 60^{o}C
Storage: -20^{o}C to + 70^{o}C

SUPPLY VOLTAGE REJECTION
Output change <0.01% span/ % supply change.

TRANSDUCER EXCITATION SUPPLY
Constant Current:
Typically 5mA; set during manufacture to suit transducer.

Constant Voltage

Output	Typically 10V at 6mA max.
Accuracy	± 0.01%
Load Regulation	0.005% / mA
Temp. Coefficient	0.002% / ^{o}C

POWER SUPPLY
AC 110, 220, 240V 10% 50/60Hz; 5VA
Fuse (internal) 100mA quick-blow (20 X 5mm)
DC 12, 24, 48V -10% +20%; 3.5W
Fuse (internal) 250mA anti-surge (20 X 5mm)

WEIGHT
Approximately 0.5 kg.

Continuous development may necessitate changes in these details without notice.

STROUD INSTRUMENTS LTD.
Electrical & Electronic Equipment Manufacturers
36-40 SLAD ROAD, STROUD, GLOUCESTERSHIRE GL5 1QW ENGLAND.
TELEPHONE (01453) 765433 FACSIMILE: (01453) 764256

BRIDGE AMPLIFIER TYPE 107-1/B

Installation and Set-up Procedure

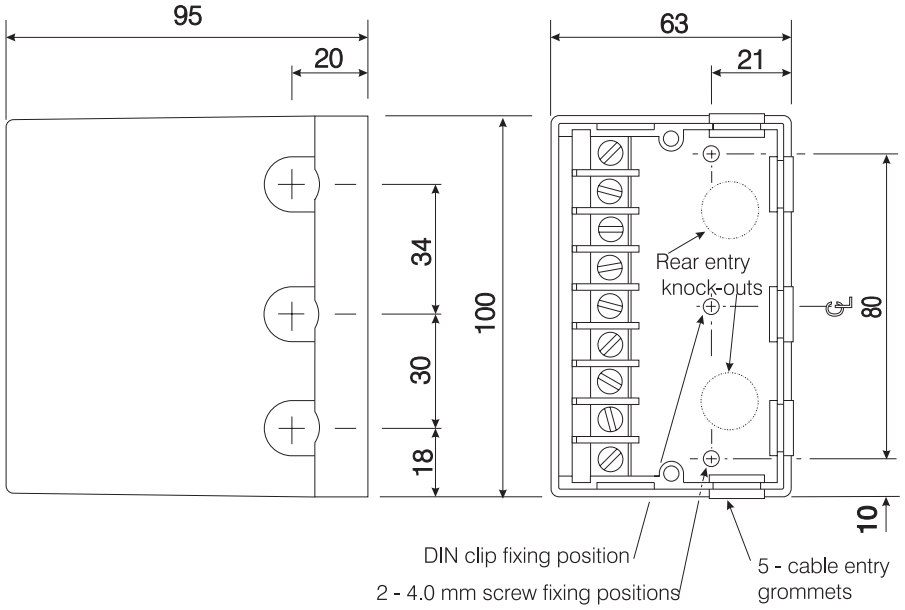
Installation

This unit can be fitted either to a suitable dry, flat surface with a two screw fixing or to a mounting rail (to BS5584:1978, EN50 022, DIN46277-3) with an optional mounting clip.

Release the two securing screws and remove the plug-in module from the base section to reveal fixing positions and wiring terminals.

Good instrumentation practice must be observed when wiring to the unit to ensure segregation of supply and signal wiring, and the use of suitably screened signal cabling.

WARNING! This unit can be mains powered. All inputs must be isolated from dangerous voltages before the plug in module is removed from the base section for maintenance or adjustment. Live terminals will be exposed.



Electrical connections

Auxiliary Supply

1	Line	AC Mains Supply
2	Neutral	
3	Earth	

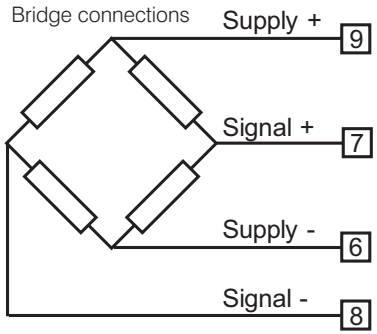
Positive Negative – Earth (+)	DC Supply Option

Outputs

4	Output Common (–)
5	Output (+)

Inputs

6	Constant V (–)
7	Input (+)
8	Input Common (–)
9	Constant I or V (+)



Please Note: constant current or voltage transducer supply outputs and DC auxiliary supply versions are options which must be specified at time of order.

Adjusting calibration

Suitable measuring equipment is required to set the unit to its specified accuracy or to the requirements of the application e.g. a 4½ digit DVM, 100 ohm laboratory standard resistor (for current outputs) and a signal source to simulate the input transducer.

Gaining access to adjustments

The fine-trim span and zero controls are accessed through the front panel. The range setting switches are mounted internally and may be accessed as follows:

(i) Isolate all supplies to the unit.

(ii) Unscrew two module retaining screws and separate the plug-in module from the base section.

(iii) With the fingers, ease apart the shorter sides of the cover releasing the interlocking tongue and groove fastenings to remove the plastic plate (i.e. the plate with the connections label).

(iv) Slide out the printed circuit board assembly.

Calibration procedure

(i) Set the range switches (SW1) as required (see table).

(ii) Reassemble and plug the module into the base section. (see 'Module reassembly').

(iii) *Set output Zero:* with input signal at its zero setting monitor the output signal with a suitable instrument and adjust the zero control (via upper hole).

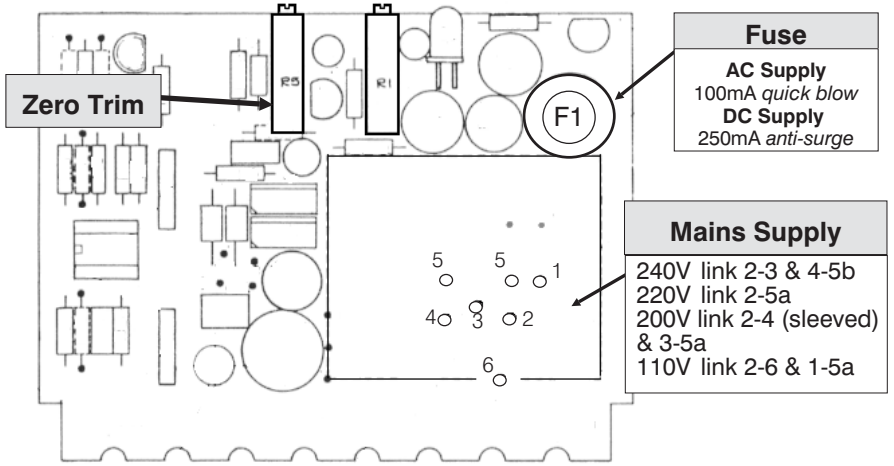
(iv) *Set Span:* with input at full scale, adjust the span control (lower hole).

(v) Repeat steps (iii) and (iv) readjusting if necessary.

Mains supply and fuse replacement

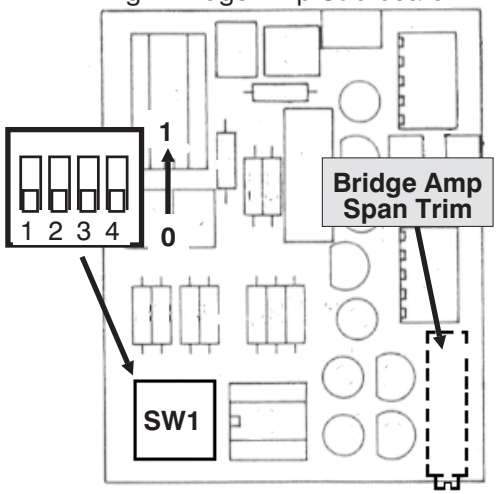
See fig 1 for details of the mains supply link settings made by soldered tinned copper wire links.
NB operating supply voltage of DC powered versions cannot be changed.

Fig 1 Output



SW1 Positions				Nominal Input (mV)	
1	2	3	4	Min	Max
0	0	0	0	7.5	9
1	0	0	0	8	10
0	1	0	0	9	11
1	1	0	0	10	12
0	0	1	0	11	13
1	0	1	0	11	14
0	1	1	0	12	15
1	1	1	0	13	17
0	0	0	1	17	22
1	0	0	1	20	25
0	1	0	1	22	30
1	1	0	1	26	33
0	0	1	1	33	45
1	0	1	1	40	54
0	1	1	1	54	75
1	1	1	1	72	100

Fig 2 Bridge Amp Sub-board



Module reassembly

(i) Slide the PCB assembly into the slots in the case.

(ii) Replace the plastic plate, PCB edge first, and press into place engaging the locking tongues into their slots.

(iii) Insert plug-in module into the base section and secure with the retaining screws. *NB do not over tighten.*