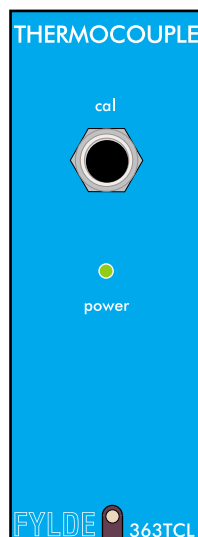


FE-363-TCL Linearised Thermocouple Amplifier



The Fylde FE-363-TCL Linearised Thermocouple Amplifier is a module in the range of miniature signal conditioning equipment, and is intended to be used with thermocouple sources as a pre-amplifier to condition the signal in individual or multi-channel applications.

The module contains all the necessary requirements for thermocouple conditioning and features cold junction reference, differential amplifier, and thermocouple linearisation.

In its standard form the module receives the signal from a type K thermocouple and produces a linear output equivalent to temperatures in the specified temperature range. A choice of four standard temperature ranges is available.

The output may be sent to a calibration level using the front panel push-button.

The response time of the module is set by an on board plug in resistor network, and rise times as fast as 100 μ s can be handled.

The module is compatible with FYLDE instrument cases or racks and may be mains or d.c. powered, as required.

SPECIFICATION**COLD JUNCTION REFERENCE**

Coefficient	39.4 $\mu\text{V}/^\circ\text{C} \pm 2\%$ (type K)
Setting	0°C
Working range	-10°C to +50°C

Note : Other cold junction settings/coefficients to special order.

AMPLIFIER

Sensitivity	10 Volts Output for full scale of temperature range.
Output	± 10 V into 1 k Ω load (short circuit protected)
Linearising	Available on several ranges and types of thermocouples. Type K is standard. Ranges Available for type K are : a) -50°C to +1300°C b) -50°C to +1000°C c) -50°C to +500°C d) -50°C to +200°C
Linearising Accuracy	$\pm 0.2\%$
Stability	Stability of gain <0.1% of output range over 12 months. Temperature Coefficient <5 $\mu\text{V}/^\circ\text{C}$ referred to input.
Input Impedance	20 k Ω .
Common Mode Rejection	>65 dB at 50Hz.
Common Mode Range	± 10 volts.
Calibration	Half full scale at the output (5.000 V).
Settling Time (0.1%)	Set by plug in filter network. Factory fitted network is 220 ms to settle to 0.1% of correct value following a step change of input.

FRONT PANEL

Calibration Push Button	Manual injection of 50% of F.S.D.
Indication	Power indication.

OPERATING TEMPERATURE RANGE -10°C to + 50°C

POWER SUPPLY REQUIREMENT
200 - 250 V 50Hz
100 - 120 V 50/60Hz to order
12 V DC to order (at extra cost).

DIMENSIONS
Front panel 1" x 2.75" high (2.5 cm x 7 cm)
Overall length 7.2" (180 cm)

CONNECTOR 25 way edge connector, 0.1" pitch.

HOUSING
FE-PE2 Two channel case.
FE-PE8 Eight channel case. (Or 6 channel with FE-M6-DS Monitor Unit)
FE-PE17 19" rack mounting crate or case holds up to 16 channels, or 14 channels with FE-M14-DS Monitor Unit.