

## Description

The FE-386-TC is a dual channel Thermocouple Amplifier with linearisation for type k thermocouples to suit the MA32(40) racking system. It provides high bandwidth with accurate and stable measurements.

The cold junction reference and connections for the thermocouples are incorporated into a connector adaptor type CA-386-TC which mates with the 7 pin Tuchel input connectors fitted to the racking system.

The amplifier has three ranges:- -50°C to 200°C, -50°C to 500°C and -50°C to 1000°C for full output, adjustable by internal jumper link.

## Specification

**CJC** 39.4 $\mu$ V/°C (Type k), set for 0°C  $\pm$ 0.5° (incorporated in CA-386-TC connector adaptor).  
0°C to +50°C range.

**Amplifier section** Two identical amplifiers and linearisers.

Input Impedance 20k $\Omega$  differential.

Common Mode Rejection >50dB @50Hz.

Stability  $\pm$ 5 $\mu$ V °C referred to input (includes CJC error).

Ranges  
-50°C to 200°C, -2.5V to +10V o/p  
-50°C to 500°C -1V to +10V o/p  
-50°C to 1000°C -0.5V to +10V o/p

Accuracy  $\pm$ 1°C  $\pm$ 0.5% of full scale.

Vernier Gain Control increases gain from x1 to x2.5. Calibrated ranges are with vernier in fully anti-clockwise position.

Frequency response 1kHz bandwidth, rise time 0.3mS (10-90%).  
Filter Jumper reduces bandwidth to 10Hz, rise time=30mS (10-90%).

Voltage Output  
Full scale  $\pm$ 10V into 2k $\Omega$ , 5nF max.  
Offset  $\pm$ 10mV typ.

## Physical

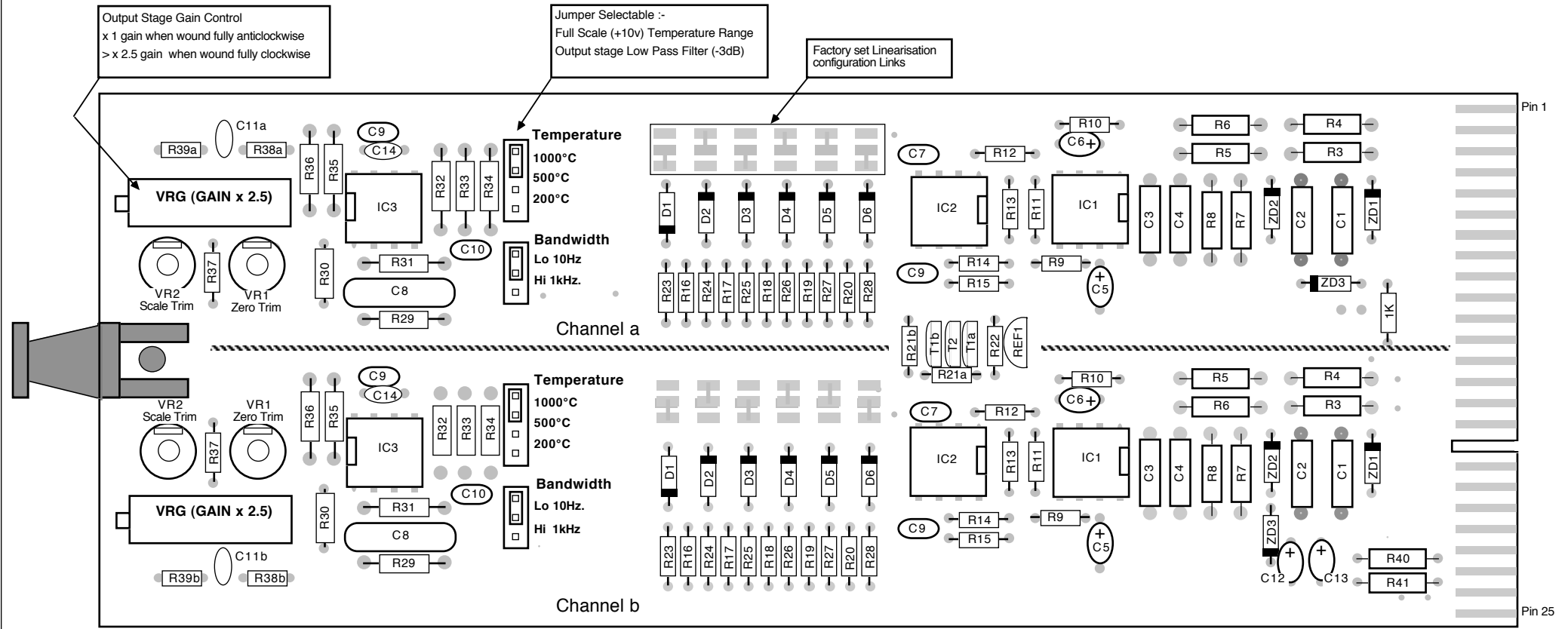
Temp. Range 0°C to 50°C operating

Card size 7" x 2.65". 2u high format (180mm x 67mm)

Environment Temp. Range 0°C to 50°C operating

Physical Card size 7" x 2.65". 2u high format (180mm x 67mm).

Iss	Modification
1	New Drawing



Output Stage Gain Control  
 x 1 gain when wound fully anticlockwise  
 > x 2.5 gain when wound fully clockwise

Jumper Selectable :-  
 Full Scale (+10v) Temperature Range  
 Output stage Low Pass Filter (-3dB)

Factory set Linearisation  
 configuration Links

Note:-  
 The FE-386-TC is a dual channel module. Both channels are identical.  
 All Controls and Components above the center line relate to Channel a  
 All Controls and Components below the center line relate to Channel b

The FE-386-TC must only be used in a Fylde Micro Analog 2  
 compatible racking system.  
 Cold Junction Compensation is performed by the Fylde  
 Dual Channel, CA-386-TC Connector Adaptor.