

CONTHERM SCIENTIFIC LTD

TECHNICAL MEMORANDAM

PRODUCT : ZP19 PCB

No : 0024

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FROM : Russell Kirkwood

DATE : 24/2/92

TO : All Agents

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SUBJECT : Temperature linearity on ZP19 pcb's.

Problems have been experienced with temperature readout linearity when a customer wishes to operate a series 5 oven ABOVE about 250°C.

Depending on component tolerances the linearity of the A/D Converter on the ZP19 controller pcb will give a reading which could be in error by as much as 30oC at 300oC. (Controller always reads LOW).

To correct this linearity error it is necessary to replace the series integrator resistor (100k ohms) with a 150K ohm resistor, the recommended replacement part is a 1% metal film resistor of 150k ohms but a standard 5% resistor MAY be used as this component is not critical as to its tolerance. To further enhance calibration linearity it is suggested that resistor R09 (68k ohm) be replaced with a 56k ohm resistor.

This change will only effect OVENS, and then only for customers operating ABOVE 250oC.

PARTS :

1 only 1% (or 5%) 150k ohm 1/4watt metal film resistor (or similar).

1 only 1% (or 5%) 56k ohm 1/4 watt metal film resistor (or similar)

REMEDY:

Locate the existing resistor (100k ohm), immediately to the left of the chopper stabilized amplifier IC (IC 7652 OR 7650), replace with the recommended part, locate the existing 68k ohm resistor the third one to the left of the chopper stabilized amplifier and preferable replace that one also and check calibration. (there should be no calibration change required if operating below about 120°C).