

CONTERM SCIENTIFIC LTD

TECHNICAL MEMORANDUM

PRODUCT : PLCS4

No : 0033

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FROM : Russell Kirkwood

DATE : 23/7/92

TO : ALL AGENTS

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SUBJECT : PLCS4 CONTROLLER/INTERFACE PCB SWAPS.

In situations when troubleshooting the PLCS4 range of precision controllers it may be necessary to completely SWAP the faulty PCB for an exchange unit, this service memo sets out to describe some of the problems that you may encounter when carrying out this procedure.

NB: If the sensor components are not going to be replaced NOTE any CALIBRATION factors BEFORE replacing the INTERFACE PCB so that they can be input into the new control system.

- A) This procedure should only be carried out by a suitably qualified service engineer as many of the connections to the INTERFACE PCB are connected to the 230v mains supply.
- B) Disconnect the cabinet from the mains by first switching off the main switch and then by removing the mains plug from the wall socket.
- C) Remove the top cover from the cabinet.
- D) Unplug the connectors from the various sockets on the INTERFACE PCB and NOTE where they came from, then disconnect the mains and hi-limit wires from the interface PCB. NB: There should be NO wires connected to the FRIDGE mains supply at the interface PCB.
- E) Squeeze the PCB mounts together and remove the INTERFACE PCB from its metal chassis.
- F) Reverse the process to install the new INTERFACE PCB onto the chassis and reconnect the wires.
- G) Unless specifically upgrading to new firmware OR if a firmware fault is suspected, put the customers ORIGINAL CPU/FIRMWARE into the IC socket on the replacement PCB (Note orientation of the CPU IC).
- H) Carefully look over the wiring to ensure no wires have been missed or displaced.

CONTHERM SCIENTIFIC LTD

TECHNICAL MEMORANDUM

PRODUCT : PLCS4

No : 0033a

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FROM : Russell Kirkwood

DATE : 23/7/92

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SUBJECT : PLCS4 CONTROLLER/INTERFACE PCB SWAPS. (Continued)

- I) Reapply power to the cabinet and check for normal operation, if the replacement controller has not recently been powered up the controller will start on PRESETS (Alarm 03). Check cabinet CALIBRATION and if the firmware has been upgraded inform the customer of any relevant changes and supply documentation.
On some installations there may be features which were not implemented on earlier versions (DOOR AJAR SWITCH, LOW WATER SWITCH etc) these may have to be added OR bypassed to allow the controller to operate correctly.

Most problems will be able to be overcome by a change of the INTERFACE/CONTROL PCB as this board has the majority of the complex hardware on it. When a problem is being experienced with either control stability or calibration the SENSOR box should be considered as a prime suspect area.

The DISPLAY PCB is not envisaged to give many problems and should only be replaced where a definite problem has been traced to that area.

NOTE: On the V2.0 display PCB the switches have been changed to a better type, this has resulted in the mounting height of the PCB changing and could result in some difficulties when installing into an older cabinet with a V1.0 display PCB. The V2.0 display PCB also has marked provision for the DOOR AJAR microswitch (Fitted to the top inside of the outer door) this switch may have to be bypassed when fitted to older units which do not have a door ajar microswitch fitted.

Most of the incompatibility problems noted above can be overcome if the ORIGINAL customers firmware/cpu version is retained and fitted to the new PCB, and this should be done whenever a definite hardware fault is established on the interface PCB that is not related to the firmware.

There are basically TWO versions of the INTERFACE & DISPLAY PCB's

V1.0 - Fitted to early units (only about 11 in existence), these units may have some incompatibilities when upgrading to V2.0.

V2.0 - The latest revision as of the time of this service memo.