

CONTHERM SCIENTIFIC LTD

TECHNICAL MEMORANDUM

PRODUCT : PLCS4

No : 0045

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FROM : Contherm Scientific Ltd

DATE : 2/12/93

TO : All Agents

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=SUBJECT : Interference Alarm 09 - PLCS4FIX PCB.

Since the release of TECHMEMO.040 there has still been isolated instances of the 09 Alarm. The parameters effected are the current set points which are usually found to contain garbage instead of the proper values, if these changes have been detected by the controller it will result in the system **turning OFF** (except for co2 controllers which will try to maintain 37oC etc) and the system will remain so until the 09 alarm has been cancelled.

Any PLCS4 system in which changes to settings appear to occur without operator action must be considered a possible external interference suspect.

To improve the immunity of the system to outside interference four things can be done and on all future control systems the later three will be fitted as standard.

A) If at all possible ensure that the cabinet is powered from a **dedicated** line back to the main switchboard.

B) Fit a toroid to the mains transformer on the interface pcb, this involves unsoldering the primary wire going to the transformer and wrapping the wires around each side of the toroid to form a noise cancelling input filter. (A **MINIMUM** of FOUR turns per side is required - SIX turns is preferred)
(Contherm will fit a **14mm 4C65 TOROID (PURPLE) PHILLIPS PT No 4322-020-97183**)

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=SUBJECT : Interference Alarm 09 - PLCS4FIX PCB. (Continued)

C) Fit an external PCB - PLCS4FIX, which will **isolate** the data lines going from the PLCS4 Interface PCB to the DISPLAY PCB.

To Install the PLCS4FIX PCB:

- a) Unplug the two connectors from the DISPLAY cable at the Interface end.
Note the colors corresponding to the terminal layout.
- b) Insert the PLCS4FIX PCB into the now vacant sockets on the Interface PCB.
- c) Plug the connectors on the DISPLAY cable into the TOP of the new PLCS4FIX PCB ensuring the colors are in the same sequence as before.
- d) Use **SHIELDED** data cable (With the shield connected to the GROUND wire (green) at **BOTH** ends of the cable) between the Interface PCB and the DISPLAY PCB.
(Contherm Part No :**WIRE DOOR**)

The combination of the above methods will ensure that the cabinet is free from internal/external interference sources.