

CONTHERM SCIENTIFIC LTD

TECHNICAL MEMORANDUM

PRODUCT : PLCS
No : 0035

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FROM : Russell Kirkwood
28/1/93

DATE :

TO : ALL AGENTS

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=SUBJECT : PLCS UPGRADE FROM HS CABINET TO PHS.

To upgrade a LATE model PLCS cabinet from HS to PHS in the field the following procedure should be followed.

HARDWARE:

- A) REFRIGERATION SYSTEM:
 - 1) Compressor, condenser and refrigeration base, completely wired and tested as a replacement unit.
 - 2) Evaporator (To match above unit).
 - 3) Wiring to solenoids. (Both HOT & COLD).

- B) PLCS CONTROL SYSTEM:
 - 1) As a general rule the **COMPLETE** control system (consists of PLCS CONTROLLER, INTERFACE PCB and SENSOR BOX), should be returned to CONTHERM for evaluation and /or upgrading where deemed necessary. (This could involve some additional components and possibly a new EPROM).

- C) HARDWARE CHANGES:
 - 1) The new refrigeration evaporator and compressor (base unit) must be installed into the existing cabinet by a qualified and competent refrigeration engineer. The unit must then be charged with refrigerant.

- D) WIRING CHANGES:
 - 1) The additional refrigeration components (Solenoids & compressor) must be wiring into the existing cabinet along with a refrigeration ON/OFF switch.

- E) TESTING:
 - 1) The cabinet must be tested to see if it will achieve the target temperature and humidities.

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WIRING CONNECTION

All wiring MUST be carried out by a suitably qualified and competent electrical engineer.

A) REFRIGERATION MAINS:

The refrigeration mains wire (largest diameter of the three cables) is wired to the large grey terminals marked "FRIDGE" at the front of the INTERFACE PCB. The connections are BROWN wire - O(phase), BLUE wire - N(Neutral), GREEN wire - E(Earth).

B) COLD SOLENOID:

This solenoid is wired into the "Soln" position on the "FRIDGE 1" section of the interface pcb (terminals 17,18,19). The GREEN earth wire must be connected EITHER to terminal 19(E) OR directly to the METAL CABINET CHASSIS. The BROWN (PHASE) wire should be connected to terminal 17 (it shares a connection with the BROWN wire from the HOT GAS Solenoid). The BLUE(Neutral) wire should connect to terminal 18).

C) HOT-GAS SOLENOID:

This solenoid is wired into the CO2 "Soln" terminals (lefthand side of mains transformer), the GREEN(Earth) wire goes to the connection nearest the front OR it can be connected directly to the CABINET METAL CHASSIS, and the BLUE neutral wire to the terminal nearest the rear (The centre terminal is unused). The BROWN (PHASE) wire connects to terminal 17 (which it shares with the BROWN wire from the COLD solenoid).

D) FRIDGE ON/OFF SWITCH:

The refrigeration ON/OFF switch is used to REMOVE power from BOTH fridge solenoids when in the UP (OFF) position, thus causing the refrigeration system to "PUMP DOWN" and stop.

This switch is connected to terminals 15 & 16 on the interface PCB (marked "SW"). The switch is physically mounted on the cabinet front panel by drilling the appropriate sized hole.