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HEAT EXCHANGERS CONTROLS
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SERVICE BULLETIN : HAN-L62/PCB-132.

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SUBJECT : TROUBLE SHOOTING.

OVERVIEW.

This trouble shooting guide is for the HAN-L62 series microprocessor wall controller when used with PCB-132. The HAN-L62/PCB-132 was introduced in late 2006 and has additional features to the earlier PCB-087. The PCB-132 is identified by the model on the PCB base near the transformer. The wall control has PCB-126 silk screened on the top right hand corner of the circuit board.

The HAN-L62 wall control and PCB-132 main board communicate with each other through a sophisticated 4 wire system. Shorting of any of these 4 wires with mains power connected will result in possible severe damage to the main CPU's, one located on the wall control and the other on the main board. The PCB-132 has 2 fuses. One is a glass standard fuse that protects the transformer primary (line) only, and the other is a black encapsulated fuse that protects the secondary (low voltage) side of the transformer and is located between the 4 way green terminal block and the last relay on the board.

4 WIRE INTERCONNECTING LEAD COLOUR CODES.

Colour	Purpose	Values Between (Measured when control is switched on and is in slave mode)
Red	Low voltage +	Black / Red 15 vdc
White	Clock communications	Black / White 5 vdc
Yellow	Data communications	Black / Yellow 5 vdc
Black	Low voltage -	
Green	Earth Shield	Earth at PCB-132 end

Note: Unusual voltages between these points, eg: 9 volts between Black & Red, 2 volts between Black / Yellow and Black / White indicate damaged CPU's / low voltage fuse.

COMMON VALUES.

Wall control sensor	1 note jumper TH-1 must be removed before measuring	10 kΩ at 25°C 12 kΩ at 20°C 8.4 kΩ at 30°C
Remote sensor (ambient) eg RES-10 or RSP-100/10		As above
CT sensor (system warm up)		5 kΩ at 25°C 6 kΩ at 20°C 4 kΩ at 30°C

IMPORTANT:

Check that the correct control model is installed.

For reverse cycle air conditioners, control model HAN-L62/PCB-132 HP →

For cool only + electric element heat air conditioners, model HAN-L62/PCB-132 EH →

Problem	Cause	Remedy
Wall control will not operate.	**a)** No power to relay board.	**a)** Check 240V power supply at relay board at terminals “L” & “N”. Note:- The relay board is polarity sensitive. Active must be on “L”.
	b) Fuse on relay board open circuit.	**b)** Check fuse for continuity & replace if open circuit (both glass & encapsulated)
	c) Jumper missing from “CSD” pins.	**c)** Fit jumper bridge to “CSD” pins.
	d) Damaged interface cable	**d)** Check with multimeter across the red and black wires at the interface cable at the wall control end. Reading should be approx. 15V DC.
Display back ground is dim blue or blank, no digits, no output from PCB-132 relay board.	Red (+12 vde) wire is disconnected or bad contact.	Re-terminate.
Wall control buttons only work intermittently and with slow response. No outputs from PCB-132 relay board.	Yellow (data) wire is disconnected or bad contact.	Re-terminate.
Any of the above three symptoms	4 wire interconnecting lead was short circuited while power was up.	Replace control CPU and encapsulated fuse.
Indoor fan will not run in heat.	**a)** “CT” sensor incorrectly positioned. If fitted, must be attached to evaporator.	**a)** Check for correct position
	b) Indoor coil sensor plugged on wrong position on main board PCB-132.	**b)** Sensor must be connected to plug “CT-1” not plug “DDC” or “CT-2”. Reposition sensor to plug “CT-1”.
Compressor will not run.	**a)** Link Removed.	**a)** For 240V control system, the link must be between terminals “Line” & “line”.
	b) Mode Selection is in fan only position.	**b)** Press mode selection tab to cool, auto or heat position.
	c) Mode selector or temperature adjustment changes have been instigated 4 min. safety delay.	**c)** Set mode switch to required position, adjust temp. to start cooling or heating. Reset No. 1 dip switch on HAN main board to on. When commissioning of unit is complete, No. 1 dip switch must be set to off (down) for normal operation.
	d) Delay timer in condenser unit .	**d)** Check for timer in condenser & wait for time delay period to complete.
Temperature display reads extremely high/low	**a)** Remote sensor connected to plug on wall control (HAN-L62).	**a)** If using a remote sensor from the wall control, this sensor becomes the on board sensor (zone one). JP1 jumper must be relocated from the TH1 to the TH1-R position.
	b) Warm air from wall cavity affecting control reading.	**b)** Check temperature of wall cavity behind control. Cover cable hole with duct tape.
Display reads “---” . In Room Temp Display 1 Mode	**a)** Room sensor on wall control jumper in wrong position.	**a)** Move JP1 jumper. Must be installed in the TH1 position.
	b) Remote sensor installation, damage to remote sensor cable.	**b)** Check remote sensor for damage & replace if damaged. Check value.
	c) Damaged on board sensor.	**c)** Check on board sensor for damage. Replace wall control if damaged.
A/C unit will not turn off on heat.	**a)** Wiring fault.	**a)** Check that compressor contactor is connected to terminal C1 & not RV N/C on PCB-132.
	b) Control is not seeing a sensor	**b)** Check displayed ambient sensor.

Compressor will not run on heat	**a)** Reverse cycle units. **b)** Wiring fault. **c)** Location of remote sensor (if used).	**a)** Check correct control is installed. HP model not EH. Check page 1. **b)** Check that compressor contactor is connected to terminal C1 & not RV N/C on PCB-132. **c)** Check location of remote sensor and displayed ambient temperature.
Time Clock programs not working.	**a)** Incorrect setting of ON/OFF programs. **b)** Time not advancing.	**a)** Check that for every "ON" program there is an "OFF" program. **b)** Check interface cable connections especially data clock terminals. Physical damage may have been inflicted on PCB-132 componentry and may require replacement.
Indoor fan runs continually on heat.	**a)** Dip Switch SW4 on wall control turned on.	**a)** For auto fan operation on heat, the dip switch must be in the Off position, if fan is required to turn off with compressor.
HAN-L62 wall control flashes "Defrost"	**a)** Incorrect Dip switch setting on PCB-132 main board. Dip switch 4 in off position.	**a)** Dip switch 4 must be in the **ON** position. (UP).
HAN-L62 wall control flashes "De-ice" in Cooling Mode	**a)** Warm up sensor damaged. **b)** Correct Operation. This is normal if the sensor detects low suction temperatures in the cooling cycle and switches off the compressor.	**a)** Check if sensor is damaged and repair or replace. (Check value) **b)** Check unit operation. Return air filter blocked, no air flow, refrigerant charge.
Compressor runs in heat but not in cool	**a)** Control not seeing a sensor.	**a)** TH-1/R jumper in wrong position on back of wall control. **b)** Sensor or remote sensor damaged. Check displayed ambient temperatures to see if it is reading correct.
Compressor runs in heat but not in cool.	**a)** Control is not seeing a sensor	**a)** TH-1/R jumper is in the wrong position on the back of the wall control. **b)** Sensor or remote sensor is damaged. Check displayed ambient temperature to see if it is reading correct. **c)** Sensed zone not turned on. Eg. Sensing zone 1 but zone 2 is turned on without a sensor connected to TH-2 plug on PCB-132
Control appears to freeze on occasion or behave erratically	**a)** No earth shield **b)** Earth shield connected at both ends **c)** Incorrect dip switch setting on wall control **d)** Loose or hot connection on 4 wire interface lead.	**a)** connect power relay board (PCB-132) end of earth shield cable to a fully earthed object. **b)** Cut off wall control (PCB-126) end of earth shield. **c)** Where multiple wall controls are used dip 1 & 2 on each control must be addressed differently. **d)** Re-terminate lead.
Defrost flashing on HAN-L62 wall control	Dip switch on PCB-132 plain board in wrong position, should be "ON"	Switch No. 4 dip switch on PCB-132 main board "ON"

After all remedies control should be re-set. With wall control in slave mode put dip 3 on wall control to on (up), while watching display press reset button. All display components should flash, then control flashes '1', then normal control operation resumes. Set dip 3 to off and then re-adjust comfort settings.