Product Information

Category: Thermosystems

Document Number: PI008RC

Date Posted: 03/15/2007

Description: SCREEN EXPLANATIONS for PC DIAGNOSTIC TOOL THERMO 230/300/350

"Overview" screen explanation

Overall Operational Conditions

1. **Supply voltage** – voltage measured at the heater.
2. **Temperature sensor voltage** – voltage values depending on coolant temperature (see repair manual for details, page 602).
3. **Flame sensor voltage** – voltage values depending on light in the combustion chamber (see repair manual for details, pages 203 & 602).
4. **Combustion air fan voltage** – voltage at electric motor, should be similar to Supply Voltage (see repair manual for detail, pages 202 & 604).
5. **Current temperature** – coolant temperature measured at the outlet of the heater.
6. **Upper threshold** – temperature level at which heater stops delivering heat (combustion off). Normal reading is 70°C with engine off, 85°C with engine running.
7. **Lower threshold** – coolant temperature at which heater starts back on (combustion on). Normal reading is 55°C with engine off, 70…80°C with engine running.

LED Abbreviation Descriptions

8. **CAF – C**ombustion **A**ir **F**an, electric motor driving combustion air fan and fuel pump.
9. **SV – S**olenoid **V**alve, controls fuel flow from fuel pump to the nozzle.
10. **ST – S**park **T**ransmitter, ignition coil (20.000 V).
11. **CP – C**oolant **P**ump, coolant circulating pump.
12. **FI – F**lame **I**ndicator, flame detector provide information to the control unit if the combustion takes place in the combustion chamber.
13. **OI – O**perating **I**ndicator, the light stays on when the heater is switched on and flashes code when the heater switches off on error.
14. **MS – M**aster **S**witch, switch to turn the heater on.
15. **SHR – S**upplemental **H**eat **M**ode, key on/engine on signal present – heater will operate between 70…80°C and 85°C.
16. **UPFA – O**ptional **C**oolant **P**ump **S**ignal – signal to operate coolant circulating pump only (heater is not running).
17. **ECO** – **Ec**onomy **M**ode, preheat mode, heater will operate between 55°C and 70°C.
18. **TS** – **T**emperature **S**ensor, signal from the temperature sensor controlling operation of the heater in desire temperatures.

Category: Thermosystems

Document Number: PI008RC

Date Posted: 03/15/2007

Description: SCREEN EXPLANATIONS for PC DIAGNOSTIC TOOL THERMO 230/300/350

Overall Operational Conditions – cont.

19. **Flame Detector** – indicates presence/absence of flame in the combustion chamber.
20. **Operating State** – indicates operational state of the heater, e.g. Off State, Start-Up, Foreign Light Check, Pre-Ignition, Safety Period, Cool Down.
21. **Device State** – indicates number faults/errors in the memory. Memory will hold up to 7 faults.

"Operating Data" screen explanation

1. **Working Hours** – overall time the heater was switched on [hours: minutes]
2. **Operating Time Circulating Pump** – overall time the coolant circulating pump was operating [hours: minutes]
3. **Working Hours** – heater's duty cycle, the heater was switched on and it was running (creating heat) [hours: minutes]
4. **Start count** – number of times the heater was switch on.

"Error" screen explanation

1. **Fault 1…7** – Error/fault number. Seven last error/faults can be stored in the diagnostics memory, if there more than seven errors/faults than the oldest will be erased.
2. **Code** – internal error/fault code.
3. **Counter** – number of hours back (working hours – see point 1 in Operating Data Screen Explanation) when the error/fault accrued.