D24W/D30W Water Heater

Fault Codes

For Heater Models

| D24W | D30W |
|--|--|
| 25 1869 01 00 00 25 1870 01 00 00 (NP) 25 1869 05 00 00 (C) 25 1870 05 00 00 (C) (NP) | 25 1871 01 00 00 25 1872 01 00 00 (NP) 25 1871 05 00 00 (C) 25 1872 05 00 00 (C) (NP) |
| (C) - Compact (NP)-Nozzle Prepheat | |

| Ela | | Indication | Remedy | | |
|---------------|--|----------------------------|--|--|--|
| Fault Code | Fault description | Fault signal/flashing code | | | |
| 000 | No fault | | | | |
| 001 | Pre-heating, overvoltage | | Check control unit. Charge battery | | |
| 002 | Pre-heating, under voltage | | Charge battery. | | |
| 010 | Overvoltage switch-off | | Check control unit. Check battery charge. Connect heater directly to the battery. | | |
| 011 | Under voltage switch-off | | Charge battery, Check control unit. Check cross sections of power leads. | | |
| 012 | Overheating | | Check electric lines, connections and function of safety thermal cutout fuse and relay burner display; check water flow; check water pump and if necessary replace; check leads and connections to fuel solenoid. | | |
| 025 | Short circuit at diagnostic output | No flashing code | Check diagnosis lead Check connection to control unit. | | |
| 032 033 | Burner motor | | Check combustion air fan. Replace if necessary. Check motor and connections to motor-power consumption approx.140W, speed 3000-3250 rpm. Check connections to control unit. | | |
| 047 | Short circuit at fuel solenoid valve or relay coil at burner | | Check electrical lines and connections to control unit. Check solenoid valve and burner relay. | | |
| 051 | Photoresistor defect | - | Check flame monitor-bright $<30k\Omega$, dark $>100k\Omega$ Clean photoresistor or replace. | | |
| 052 | Failure to start/safety time expired | | No flame was detected during the start up phase. Check the fuel supply & wiring to solenoid Check exhaust & combustion air piping. Check and if necessary replace ignition spark generator and relay for ignition generator; check and if necessary replace ignition electrodes; clean photoresistor. continued | | |

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| | | Indication | Remedy | | |
|--|---|----------------------------|---|--|--|
| Fault Code | Fault description | Fault signal/flashing code | | | |
| 053 | Flame goes out during operation/ Too many repeated starts | | Heater has started (flame detected) and indicates flame loss in power setting. Check fuel flow rate, blower speed (3000-3650rpm), fuel supply, exhaust pipe and combustion air piping. If combustion is O.K, check photoresistor, replace if necessary. | | |
| 059 | Water temperature rises too quickly | | Check water circulation and temperature control sensor. Check water pump | | |
| 060 | Interruption in temperature sensor | | Measured temperature lies outside measuring range. | | |
| 061 | Short circuit in temperature sensor | | Check sensor. Check connections to temperature probe, connections to control unit, check plug type connections at relay. Test values-20°C=2000 Ω , 65°C=2700 Ω | | |
| 064 | Interruption in flame sensor | | Measured temperature lies outside measuring range. Check sensor. | | |
| 065 | Short circuit in temperature sensor | No flashing code | Check connections to control unit | | |
| 090 092 093 094 095 096 | Control unit faulty | | Replace control unit | | |
| 097 | Control unit defect or cable harness fault | | Check and if necessary replace control unit. Check cable harness. | | |
| 091 | External interference voltage | | Check voltage supply. Check connection to control unit | | |

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| Troubleshooting | Fa | an de | n does not start | | | | | | |
|--|----|-------|---|---|---|---|---|--|--|
| without | | He | Heater does not ignite, cuts out automatically Heater gives off soot | | | | | | |
| diagnostic system | | | | | | | | | |
| Fault — | | | | Н | | _ | | and cuts out automatically | |
| rault — | | | | | Н | | | vitched off by safety thermal cutout or temperature p | orobe |
| Cause | | | | | | Н | | er smokes during starting and delayed shutoff | |
| ı | | | | | | | - | Heater causes mechanical noises or motor speed to | low |
| | | | | | | | | Check | Remedy |
| Safety thermal cutout switch has triggered | 0 | | | | 0 | | | Check switch off heater, check water flow' D24W=2000l/h, D30W=2500l/h Max. temperature difference between water inlet and water outlet at heater approx. 10°C | Bleed water circulation system,check for proper flow; Check safety thermal cutout fuse |
| Safety thermal cutout switch faulty | 0 | | | | | | | Visual check/continuity check | Replace safety thermal cutout switch |
| Temperature probe faulty | 0 | 0 | | | | | | Visual Check/continuity check 20°C=2000, 65°C=2700 | Replace temperature probe |
| Control unit faulty | 0 | 0 | | | | | | No positive applied to electric motor, if so no positive applied to solenoid valve | Replace control unit |
| Electric motor faulty | 0 | | 0 | | | | 0 | Is positive applied to electric motor? If so | Replace electric motor |
| Ignition spark generator faulty | | 0 | | | | | | Is positive applied to ignition spark generator? No positive applied to ignition spark generator? | If so-replace ignition spark generator Replace control unit |
| Mixing head coked | | 0 | 0 | | | | | Visual check | Clean mixing head |
| Ignition electrodes faulty | | 0 | | | | | | Visual check; check electrode gap | Replace electrodes and adjust gap |
| Lack of fuel | | 0 | | 0 | | | | Visual check of fuel lines and connections | Repair fuel lines and connections |
| Fuel pump sluggish, faulty | | 0 | | | | | 0 | Visual check/functional check fuel return line constricted | Replace fuel pump, repair fuel line |
| Fuel nozzle clogged, bad (sometimes excess fuel | | 0 | 0 | | | | | Visual check | Replace atomizer nozzle |
| Solenoid valve does not open | | 0 | | | | | | Functional test | Replace fuel pump |
| Too much fuel being pumped | | | 0 | | | | | Fuel line constricted, measure fuel quantity | Repair fuel return line; adjust fuel quanti |
| Too little combustion air | | | 0 | | | | 0 | Measure CO ₂ (24V: approx. 10.5%); Measure motor speed (3000-3650rpm; power consumption approx.140W); Air intake or exhaust pipe blocked, fan gap too wide | Adjust combustion air, replace electric motor, remove blockage, adjust fan gap |
| Gaskets on flame monitor, ignition electrodes, burner and heat exchanger leaking | | | 0 | | | | | Visual check | Tighten nuts and bolts, replace gaskets if necessary, press down lock washers of ignition electrodes |
| Photoresistive cell faulty | | | 0 | | | | | Visual check/functional check (bright <30k , dark > 100k) | Clean flame probe, replace if necessary |
| Water pump faulty, too little water being pumped | | | | 0 | | | | Temperature difference water inlet and water outlet at heater > 10°C, water circulation system closed | Replace water pump, check water circulation system valves |
| Ball bearing of electric motor faulty | | | | | 0 | | | | Replace electric motor |
| Combustion air impeller catching | 0 | | 0 | | | | 0 | | Adjust gap between combustion air and burner casing |
| Solenoid valve not tight | | | | | | 0 | | Functional test | Replace fuel pump |
| Coupling half faulty | | | | | | 0 | | Visual check | Replace coupling half |