Worldwide Heating Systems

Rixens Enterprises, Inc.

Complete Comfort Control

WIFI DIAGNOSTIC for Eberspächer S3 Hydronic Furnaces 12V Diesel/Gasoline

PURPOSE:

The device provides live data for the running furnace, which shall assist during trouble shooting.
It displays fault codes, which can be erased when necessary.
A 'Fuel Pump Prime' function helps during installation and after empty fuel tanks.
Altitude adjustment of the air/fuel mixture is automatic, air pressure is displayed in hPa.
In the event the furnace fails and creates a fault code, the furnace will be automatically restarted

ACCESS:

To activate the Code Reader the 'System' and 'Hot Water' switches must be ON (MCS5), or 'Constant Heat' button must be activated (MCS6)
Any computer, tablet or smartphone should be able to look at the website the Code Reader generates.
Go to the WIFI setup of your device and select the access point named f.i."Rixen000000"
The default password is: 12341234
Once you made that Wifi connection, open a web browser and type the following URL into the address bar : **http://10.10.10.10**

MAIN PAGE:

Live data of the furnace:

Heater Status Will show 'Active' when a start signal has been applied to the heater.

Runtime: Shows the Hours:Minutes a start signal has been applied.

Fan-Glow-Fuel Are 3 values:
a. Combustion Fan Speed (rpm)
b. Glow Plug energy in Watts
c. Fuel pump frequency in Hz

Inlet temp Temperature of the Water/Glycol at the Input hose in degrees C or F

Outlet temp Temperature of the Water/Glycol at the Output hose in degrees C of F

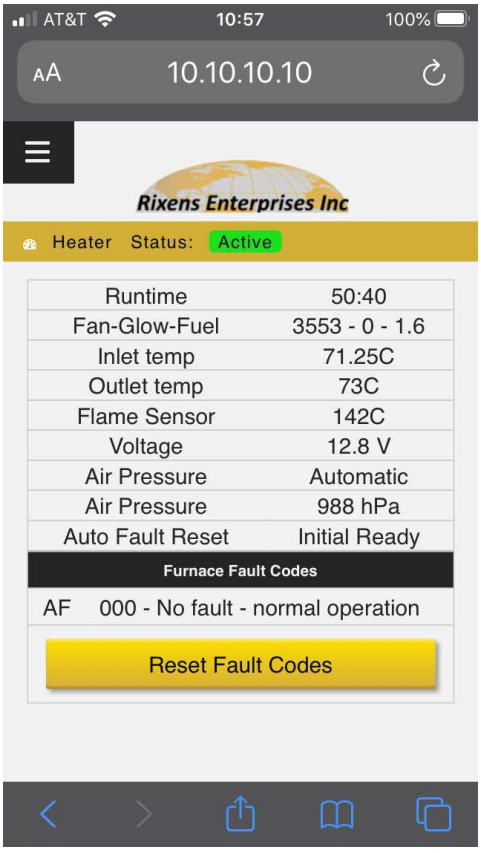
Flame Sensor Temperature value of the Flame sensor in degrees C or F

Voltage Voltage as measured by the furnace in V

Air pressure display 'Automatic' when altimeter active

Air pressure Air Pressure in hPa

Auto Fault Reset Displays the status of the restart function

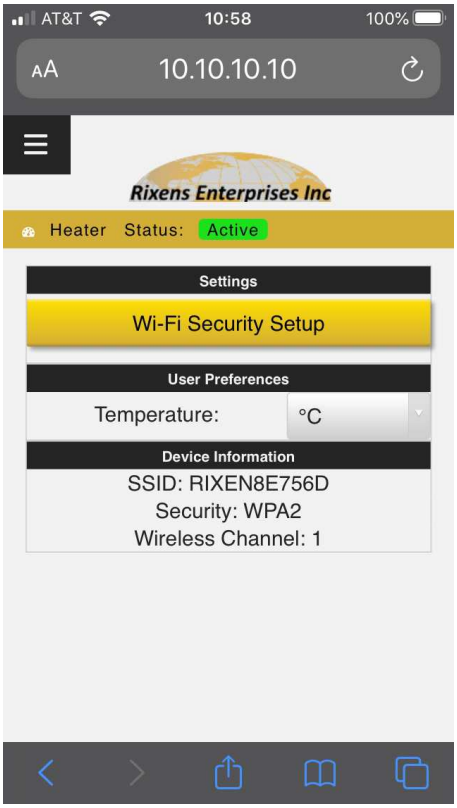


Furnace Fault Codes

Will show codes when present, normal operation is '000-No fault'
Reset button will erase all codes from the furnace ECU.

SETTINGS PAGE

Switch between the pages via this symbol



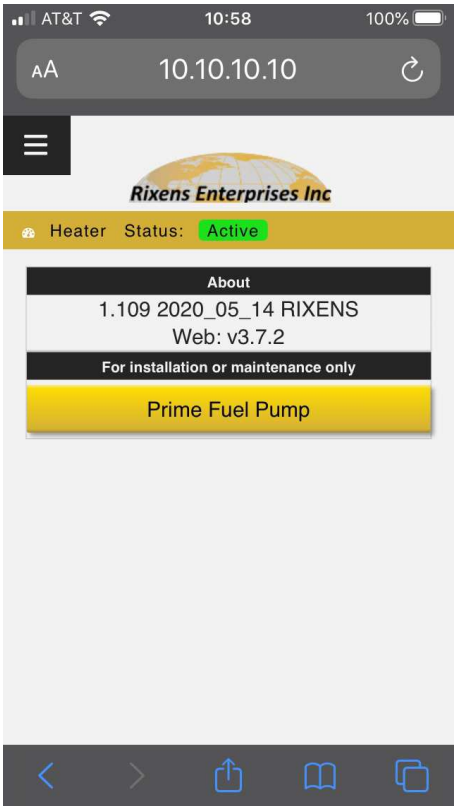
WI-FI Security Setup
Allows to change the name of the Wifi access point. (i.e. the name you see when selecting the Wifi network on your computer/tablet/ phone)

Temperature
Select either Celsius or Fahrenheit

Device Information
Displays the current WIFI settings

ABOUT PAGE

About
Shows software version numbers



Prime Fuel Pump
This is only useful for initial installation, or when the fuel line to the furnace sucked air (due to maintenance or an empty fuel tank) and the fuel line needs to be primed again.
When taping this button the fuel pump will activate for 5s.
If in doubt, please do NOT use this function unless directed to do so by a technician.

2.5 Fault code table

Fault code P000…	Error description	Cause ▪ Remedial action
P000100 **P000101** **P000102**	Water outlet sensor – Interruption – Short circuit – Short circuit after Ub+	▪ Check the water outlet sensor. – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 17, deviating values –> renew lead harness of heater.
P00010A	Cold air – timeout	The combustion chamber has not cooled sufficiently for a restart. ▪ Check whether hot combustion air is drawn in. If not –> check flame sensor, see Fault code P000120 and Fault code P000121.
P000110 **P000111** **P000112**	Water inlet sensor – Interruption – Short circuit – Short circuit after Ub+	▪ Check the water inlet sensor. – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable BU (chamber 5) and cable BU (chamber 6). – Measured values see page 17, deviating values –> renew lead harness of heater.
P000114	Possible risk of overheating (implausible signal) **Note!** Fault code P000114 is only displayed if ▪ the heater is in operation ▪ Temperature reached at water outlet sensor at least 80 °C.	Too large temperature difference between the water inlet and water outlet sensor. ▪ For remedial action, see Fault code P000115. ▪ Check the water inlet sensor. – Unplug connector XB4, measure resistance between cable BU (chamber 5) and cable BU (chamber 6). – Measured values see page 17, deviating values –> renew lead harness of heater.
P000115	Overheating – software threshold exceeded	Temperature at the water outlet sensor >125 °C. ▪ Check water circuit for leaks (heater controller in warm position) ▪ If non-return valve / thermostat in the water circuit, check the flow direction. ▪ Check water throughput rate. ▪ Vent water circuit. ▪ Check the water outlet sensor – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 17, deviating values –> renew lead harness of heater. ▪ Check water pump, see Fault code P000253 to Fault code P000258.
P000116	Overheating – hardware threshold exceeded	Temperature at the water outlet sensor >130 °C. ▪ For remedial action, see Fault code P000115. ▪ Check the water outlet sensor. – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 17, deviating values –> renew lead harness of heater.
P00011A	Operating lock-out – too many overheating events detected	The control box is locked due to too frequent consecutive overheating (Fault code P000114, Fault code P000115). ▪ For remedial action, see Fault code P000114, Fault code P000115. ▪ Unlock control box, see page 7.

Fault code P000…	Error description	Cause ▪ Remedial action
P000120 **P000121** **P000122**	Flame sensor – Interruption – Short circuit – Short-circuit to Ub+	▪ Check flame sensor. – Check cable for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable BN (chamber 7) and cable BN (chamber 8). – Measured values see page 17, deviating values –> renew lead harness of heater. ▪ Next display Fault code P000120, Fault code P000121 –> Renew control box, see repair step 1, see page 14.
P000125 **P000126** **P000127** **P000128** **P000129**	Flame cutout from start process Flame cutout within the control range 0% – 25% Flame cutout within the control range 25% – 50% Flame cutout within the control range 50% – 75% Flame cutout within the control range 75% – 100% **Note!** In case of flame cutout during the start phase or in normal operation the heater is restarted (max. 5 times). If the restart was successful, the fault code display is deleted.	▪ Check exhaust and combustion air system. ▪ Check fuel quantity and fuel supply, see page 21. ▪ Check flame sensor, see Fault code P000120 and Fault code P000121.
P00012A	Unsuccessful start procedure	▪ Check exhaust and combustion air system. ▪ Check fuel quantity and fuel supply, see page 21. ▪ Renew the fuel filter. ▪ Clean the fuel filter in the connection socket of the metering pump.
P00012B	Operation inhibit, too many unsuccessful start procedures	Following five unsuccessful start attempts the control box is locked. ▪ Unlock control box, see page 7. ▪ Check fuel quantity and fuel supply, see page 21.
P000143	Air pressure sensor – implausible signal	Heater in emergency mode. The air pressure is outside the characteristic curve for the altitude adjustment (P < 598 hPa or P > 1106 hPa). ▪ 12V: Check connection to the CAN BE. Delete error. ▪ 24V: Delete error. If the fault persists, replace the control box
P000150 **P000151** **P000152**	Circuit board temperature sensor – defective (voltage too high) – defective (voltage too low) – Overtemperature detected	▪ Replace control box, see repair step 1, Page 14
P000200 **P000201**	Metering pump interruption Metering pump – short circuit	▪ Check metering pump lead harness for continuity, short circuit and damage. – Lead harness ok –> renew the metering pump.
P000202	Metering pump – short circuit downstream of +Ub or transistor error	▪ Check cables for continuity, short circuit and damage. – Unplug the connector at the metering pump. ▪ Display Fault code P000200 metering pump defective –> renew metering pump.

Fault code P000…	Error description	Cause ▪ Remedial action
P0002a1	Water pump – Control / Diagnosis pin interruption	▪ Check lead harness of the water pump: – Unplug connector -XB3 at the heater – Unplug connector -XB8/2 at the water pump – Check water pump lead harness for continuity, short circuit and damage – If water pump lead harness ok –> renew the water pump
P000210 **P000211** **P000212**	Glow plug – interruption Glow plug – short circuit Glow plug – short circuit downstream of +Ub or transistor error **Caution!** **Damage to unit in case of overvoltage** Voltage > 9.5 V / 18 V irreparably damages the glow plug. → Test function with max. 9.5 V / 18 V. **Note** Note the short-circuit withstand capability of the power pack.	▪ Check glow plug. – Check cables for continuity, short circuit and damage. – Unplug connector -XB4, unclip cable WH (chamber 3) and cable WH (chamber 4). – Apply max. 9.5 V / 18 V voltage to the glow plug and after 25 sec measure the current intensity. – Measured value 9.5 A / 4.75 A (+1 / –1.5) the glow plug is ok – Deviating values –> renew the glow plug.
P000213	Glow plug – ignition energy too low	Glow plug energy input is too low. ▪ Check cables for continuity, short circuit and damage. ▪ Check glow plug, see Fault code P000210 to Fault code P000212.
P000220 **P000221** **P000222**	Electric motor – interruption Electric motor – short circuit Electric motor – short circuit downstream of +Ub or transistor error	▪ Visual inspection of electric motor / control unit (contacting). ▪ Check electric motor for dirt / corrosion, clean if necessary. ▪ Check blower wheel for blockage, remove blockage if necessary. ▪ Replace electric motor if necessary.
P000223 **P000224**	Electric motor – blocking Electric motor – current input too high	Impeller blocked (frozen, soiled, sluggish, ...). ▪ Remove blockage. – Check electric motor for smooth and easy running by turning the impeller manually. ▪ Next display Fault code P000223 / Fault code P000224 –> renew the blower, see repair step 7, Page 18.
P000250 **P000251**	Water pump – interruption Water pump – short circuit	▪ Check lead harness of the water pump: – Unplug connector -XB3 at the heater – Unplug connector -XB8/2 at the water pump. – Check cable for continuity, short circuit and damage. – Lead harness of the water pump ok –> renew the water pump.
P000252	Water pump - short circuit downstream of +Ub or transistor error	▪ Unplug connector -XB8/2 at the water pump. – Display Fault code P000250 Water pump defective –> renew water pump.
P000253	Water pump – blocking	▪ Water hoses laid free from kinks?
P000254	Water pump – overcurrent cutout	▪ Water pump / water circuit dirty?
P000255	Water pump – speed below minimum	▪ Water pump / water circuit dirty?
P000256	Water pump – dry running	▪ Check the coolant liquid level in the water circuit. ▪ Vent the water pump / water circuit.

Fault code P000…	Error description	Cause ▪ Remedial action
P000257	Water pump – overheating	Water pump ambient temperature too high. ▪ Position the water pump at an adequate distance from hot vehicle parts.
P000258	ADR water pump – Undervoltage / Overvoltage	▪ Check lead harness of the water pump: – Unplug connector -XB3 at the heater – Unplug connector -XB8/2 at the water pump. – Check cable for continuity, short circuit and damage. – Lead harness of the water pump ok –> renew the water pump.
P000259	ADR water pump / vehicle blower – Short circuit	▪ Check the cables to the water pump and to the vehicle blower for continuity, short circuit and damage. ▪ Check the coolant circuit. ▪ Check blower relay.
P000260	Universal output Interruption	▪ Check cable for continuity and damage. ▪ If necessary, check coding for universal outlet.
P000261	Vehicle blower – short circuit	▪ Check electric motor cover for damage and correct fit. – Electric motor cover ok –> renew blower relay -K1.
P000262	Universal output Short circuit downstream of Ub+ or transistor fault	▪ Check cable for continuity, short circuit and damage.
P000300	Overheating detection Metering pump hardware or cutout circuit defective	▪ Check the water outlet sensor. – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 17, deviating values –> renew lead harness of heater. ▪ Next display Fault code P000300 –> renew lead harness of the heater. ▪ Unlock control box, see page 7.
P000301 **P000302**	▪ Watchdog reset ▪ Too many watchdog resets	▪ Delete errors, the heater remains ready for operation. ▪ Replace control box, see repair step 1, Page 14
P000303	Operating lockout: Too frequent output stage errors	▪ Replace control box, see repair step 1, Page 14
P000304	Too many resets (loose contact)	▪ Replace control box, see repair step 1, Page 14
P000305	Control box not calibrated	▪ Replace control box, see repair step 1, Page 14
P000306	Second cutout circuit is defective	▪ Replace control box, see repair step 1, Page 14
P000307	CAN communication error control unit	▪ Delete error, if it occurs repeatedly check the CAN connection between heater and control unit
P00030A	CAN communication error	▪ Delete error, if it occurs repeatedly check the CAN connection between heater and control unit
P000310 **P000311**	Control box cutout due to overvoltage Heater cutout due to overvoltage **Note!** Heater is not functioning.	Overvoltage applied at the control box without interruption for at least 20 seconds. ▪ Unplug connector -XB1 at the heater. ▪ Start the vehicle engine. ▪ Measure voltage between cable RD (chamber 1) and cable BN (chamber 2). – Voltage >15 volt – Check alternator controller – Check the battery.

Fault code P000…	Error description	Cause ▪ Remedial action
P000312 **P000313**	Control box cutout due to undervoltage Heater cutout due to undervoltage **Note!** Heater is not functioning.	Undervoltage applied at the control box without interruption for at least 20 seconds. ▪ Unplug connector -XB1 at the heater. ▪ Start the vehicle engine. ▪ Measure voltage between cable RD (chamber 1) and cable BN (chamber 2). – Voltage < 10 volt – Check the fuses, the supply cables, the ground connections and the positive terminal post at the battery for voltage drop (corrosion).
P000315	Implausible air pressure information	▪ Check connection to the control unit. If fault persists, use EasyScan to test the control unit.
P000316	Insufficient heat dissipation via the coolant	Too many consecutive short heating mode operations. ▪ Check coolant circuit
P000330	Control box defective	▪ Replace control box, see repair step 1, Page 14
P000331	Control box defective	▪ Replace control box, see repair step 1, Page 14
P000332	Control box defective	▪ Replace control box, see repair step 1, Page 14
P000342	Invalid configuration	▪ 12V / 24V: Too many CAN components connected. Check the configuration. ▪ 24V ADR: Use one CAN control unit only, check the connection to the control unit if necessary.
P000394	ADR button – Short circuit	▪ Check the cable and button for continuity, short circuit, damage. Replace if necessary.
P000500	Fault memory entry ErrorState_GSC. Fault response: Heating or ventilation mode is continued.	▪ Withdrawal of the active request (fault remains active as long as heating or diagnosis request still exists). ▪ Delete fault memory.
P000A00	Communication is ended by the heater. EasyFan does not respond to the coded number of messages.	▪ Reset the fault by withdrawing the active request (fault remains active as long as heating or diagnosis request exists). ▪ Delete fault memory.
P000E01	Runtime limit exceeded	▪ Coded runtime end reached.