Eberspächer

Eberspächer (UK) Ltd.
Headlands Business Park
Salisbury Road, Ringwood
Hampshire, BH24 3PB.

Tel: +44 (0) 1425 480151
Fax: +44 (0) 1425 480152
Website: www.eberspächer.com • email: enquiries@eberspächer.com

P F JONES
GARY (TECH GUY)
0161 8724755
(TRADE SALES)
DEPT

Eberspächer

AIRTRONIC D2

and

AIRTRONIC D4

Operating Instructions and Service book

Part Nº: 20339 Issue C

MPD November 2002

Uncontrolled Copy

This publication was correct at the time of going to print.
However, Eberspächer (UK) Ltd. have a policy of continuous improvement and reserve the right to amend any specifications without prior notice.

CONTENTS

Technical data

Heater		***AIRTRONIC* D2**				***AIRTRONIC* D4**			
Heating medium		Air							
Heat flow settings		Step				Step			
		Power	High	Medium	Low	Power	High	Medium	Low
Heat flow (watt)		2200	1800	1200	850	4000	3000	2000	1000
Hot-air throughput without counter pressure (kg/h)		105	87	60	42	185	150	110	65
Fuel consumption (l/h)		0.28	0.23	0.15	0.10	0.51	0.38	0.25	0.13
Electrical input (watt)	During operation 12 V and 24 V	34	23	12	8	40	24	13	7
	When starting 12 V and 24 V	≤ 100				≤ 100			
	Constant ventilation mode	4 to 5				4 to 5			
Rated voltage		12 V or 24 V							
Operating range Lower voltage limit An under-voltage protecting device in the controller turns off the heater at approx. 10 V and 20 V		10.5 V and 21 V Response time – under-voltage protection: 20 seconds							
Upper voltage limit An over-voltage protecting device in the controller turns off the heater at approx. 15 V and 28 V		16 V and 32 V Response time – over-voltage protection: 20 seconds							
Fuel For "Fuel quality" and "Fuel at low temperatures" see Operating Instructions		Commercial diesel fuel (acc. to DIN EN 590)							
Permissible ambient temperature	Operation	-40 °C to +70 °C							
	Storage	-40 °C to +85 °C							
Degree of radio interference suppression		3 for UKW 4 for KW 5 for MW / LW							
Weight		approx. 2.7 kg				approx. 4.5 kg			

All technical data ± 10 %

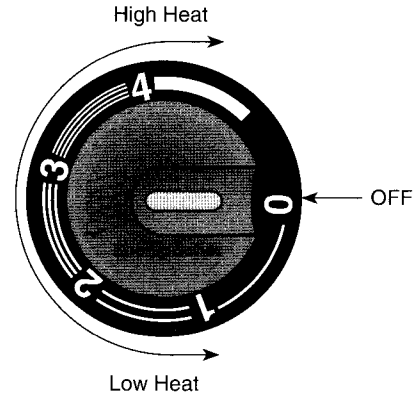
ATTENTION !

Data specified has to be complied with, and the minimum/ maximum values may not be exceeded. This may lead to malfunctions of the Airtronic.

Noise emission inside the vehicle

The highest sound pressure level is < 56 dB (A), measured in the operating setting "2", inconformity with 3. GSGV and DIN 45 635 – Part 1.

Operating Instructions for Rheostat Control Switch



To Start Heating

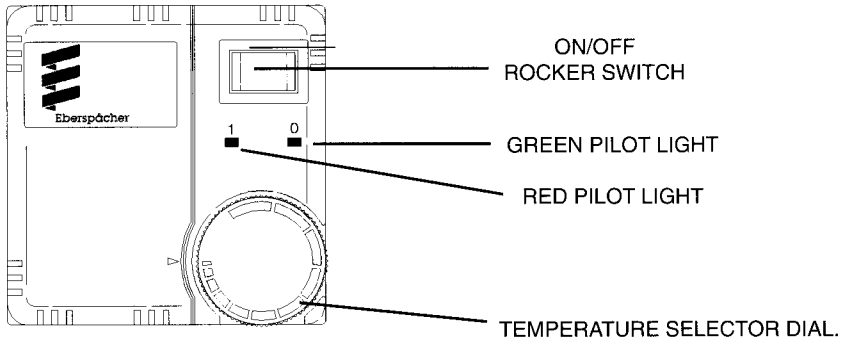
Turn rotary knob clockwise to RED field. The dial is numbered from 0-4. Number 1 is low heat and number 4 is high heat setting. The green pilot light in the centre of the switch will illuminate, blower motor will start and hot air will be delivered in approximately 120 seconds from switch on.

To Stop Heating

Turn rotary knob anti-clockwise to '0' position.

The green pilot light in the centre of the switch will go out. Blower motor will continue to run for approximately 240 seconds and automatically switch off.

Operating Instructions For Modulator Control (301 Series)



To Start Heating

Press rocker switch to the left position for "ON".

The red pilot light (power on) and green pilot light will illuminate. Turn rotary knob clockwise to align with long segments on dial (high heat setting). Blower motor will start and hot air will be delivered in approximately 120 seconds from switch on.

To Stop Heating

Press rocker switch to the right position for "OFF".

The red and green pilot lights will go out.
Blower motor will continue to run for approximately 240 seconds and automatically switch off.

Adjusting Temperature Using Rheostat or Modulator Control

Select desired comfort heat level by turning the rheostat (see page 5) between number 1 & 4 or modulator knob (see page 6) to align between long segments for high heat and short segments for low heat level. To adjust temperature control for Timer Modulator Alarm see operating instructions shown for appropriate controller. You may have to experiment to achieve the desired heat comfort level as each vehicle will have different rates of heat loss through the roof, windows etc.

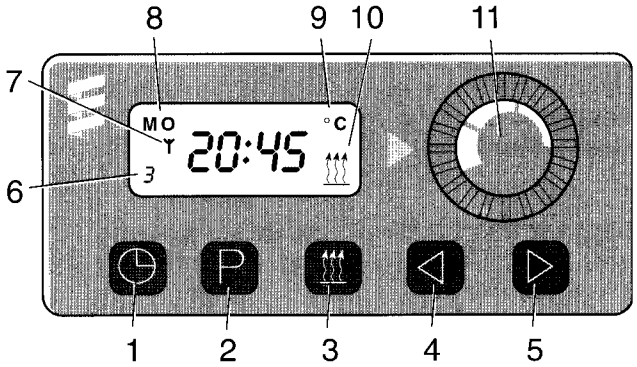
A temperature sensor is fitted inside the heater, which, in conjunction with the operating temperature control unit, controls the heat output between Power, High, Medium, Low or off depending on the air temperature and/or control settings.

If the temperature of the air in the cab is less than approximately + 10°C the heater will automatically maintain maximum heat output. Above 10°C the heater will automatically regulate across all heat levels.

The heater will maintain a temperature of within approximately 4°C of the desired heat comfort level by regulating between Power, High, Medium or Low heat output.

Should the temperature rise above the desired heat comfort level by 2°C or more, it will then switch itself off. However, the blower fan will still continue to run at an extremely low fan speed (constant ventilation mode) until the air temperature drops down by approximately 4°C. The heater will then restart to maintain once again the desired heat comfort level.

Operating Instructions for 7 Day Timer with Temperature Controller and Fault Diagnostic Display
(Part number: 22 1000 30 40 00)



1 Clock Time
2 Preselection
3 Heating
4 Back
5 Forward
6 Memory display
7 Symbol for radio remote control (optional)
8 Time and weekday display
9 Temperature display (optional)
10 Operating display
11 Temperature controller

After connection of the power supply the display will show all the signals flashing –the timer must now be set.
The heater cannot be switched on in this condition.

Setting up timer

Press ◷ key briefly: 12:00 flashes on the display. Set the clock time with ◁ or ▷. The time is stored after a short delay or the key is pressed. Then the weekday flashes.

Set the current day with ◁ or ▷. The day is stored after a short delay or the ◷ key is pressed again.

To adjust the current time or change day, follow the same procedure.

Heating Operation

To switch on heater press ♨. The heater remains in continuous operation.

To switch off heater press ♨, automatic delay in shut off for cooling down.

Pre-selected heating start up time

Press P several times until the required memory number (1,2 or 3) appears flashing on the display.

Press ◁ or ▷ key briefly and release, then set pre-selected time using ◁ or ▷ keys.

As soon as the flashing stops then the weekday starts flashing. Set the weekday using the ◁ or ▷ keys. The pre-selected time and weekday are stored as soon as the time display reverts back to the current time. The memory number indicates what memory is activated. Only one memory can be activated at a time.

Changing Pre-selected heating duration

The heater operates for 120 minutes from pre-selected start up time: This is factory set. Should you wish to change the duration, press the ◁ key and hold it down for approx. 3 seconds until display changes to heating duration.

Adjust using the ◁ or ▷ keys until desired duration is selected.

After a short delay the display returns to current time and the duration is set.

Clearing Preselect Memory

Press P several times until no memory numbers are displayed.

Displaying Preselect Memory

Press P. The activated pre-selected time and pre-selected day are displayed for approximately 5 seconds.

Operation - Temperature Controller

The desired room temperature can be set using the temperature controller (integrated into the controller clock). The heating device adjusts itself automatically within the preset temperature range.

Temperature range:

Left limit stop: Lowest temperature approx. 10°C
Right limit stop: Highest temperature approx. 30°C

Please Note

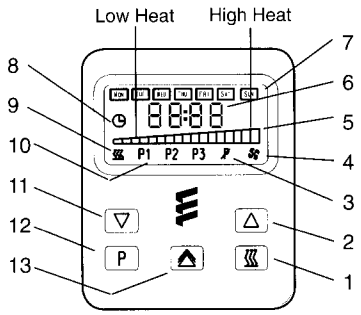
Voltage drops and brief disconnection from the battery do not effect the timer, but if the display is flashing then a reset is necessary.
Radio remote control operation is possible with the appropriate accessory.
If a fault occurs when the heater is switched on then the operating display flashes ♨ and the fault code number is displayed. (Workshop Repair).

In the event of malfunction, we recommend:

Switch off and back on again (not more than twice)
Check the main fuse
Check air ducts for blockage
Call in at an authorised service centre.

The heater must not be operated in a garage.
Always switch off the heater when filling the fuel tank.

Operating Instructions for Timer Modulator (701 Series)



1. Instant Heat ON/OFF key
2. Adjustment Up key
3. Disengaged pre-set symbol
4. Ventilation symbol
5. Temperature ramp.
6. Current Time, Preset Time and Heating Time.
7. Day selected indicator box.
8. Clock symbol.
9. Heater operation symbol.
10. Preset Programme symbols.
11. Adjustment Down key.
12. Programme key.
13. Set/Programme key.

Introduction

Your Timer/Modulator offers manual and programmable control along with temperature adjustment of your heater. When the heater is switched on by the Timer/Modulator in a programmed mode it will only run for the duration time that you have selected e.g Heater on at 0700, duration selected 1 hour, so heater will be switched off automatically at 0800.

Clock Settings:-

Timers without battery back-up.

When power is initially supplied to the unit, all the display segments will flash. Pressing the key will display the ◴ symbol and using the △ and ▽ keys the correct time can be set. Continue to set days as described in paragraph below.

Clock Settings:-

Timers with battery back-up,

(and to re-adjust time setting on all models)

When power is initially supplied to the unit, press and hold the key. The ◴ symbol only will start to flash and using the △ and ▽ keys the correct time can be set. Continue to set days as described in the following paragraph.

To set days (all models)

Press the key again and the day box will flash. use the △ and ▽ keys to select the required day.

A further press of the key will set the time, and day, and the ◴ symbol will remain static.

Please note this adjustment is not possible when the heater is in operation.

Switching on the Heater (Manually)

Press the key and the ⦚ symbol will appear on the display. The heater will commence its startup cycle.
The display will change to show a default one hour heating countdown time.
This can be extended up to eight hours or to continuous (shown as C-: -- on display) by repeatedly pressing the key while the heater is in operation.

Switching off the Heater (Manually)

The heater may be switched off at any time by pressing the key the cooling down cycle will be initiated.

Adjusting the Temperature

Pressing the △ and ▽ keys will alter the 20 segment temperature ramp shown on the display. This level may be adjusted at any time and will remain in the timer memory when the heater is not in operation.

Setting Programme Times

Press the key and the P1 symbol will begin to flash. Pressing the P key will toggle the display between a time display and "OFF". With P1 flashing in the time display mode the desired programme time can be set using the △ and ▽ keys.

Once the desired time has been selected and if no keys are depressed for 8 seconds the display will revert to the clock mode. During this 8 second period pressing the key will select P2 which can be used to select another programme time or be set to "OFF" if not required.

A further pressing of the key will select the P3 symbol which can be set or turned off in the same manner.

Setting Programme Days

Having set programme times P1 or P2 or P3 or all three, press the key, all the 'P' symbols will start flashing and a box will appear around one of the days. Toggle the P key to select "ON" if you require the selected day to be programmed, or "OFF" if you do not wish it to be selected.
To move onto the following day press the key once again and select "ON" or "OFF" as before. Repeat this procedure for all seven days and to store these settings in the Timer / Modulator memory wait for 8 seconds and the display will revert to the clock mode.

Setting Programme Duration

To set the desired duration, press and hold the P key and whilst holding repeatedly press the key to select the desired time in increments of 10 min, 30min 1 hour, 1.30 min, 2 hour to 8 hours.
NOTE: Continuous operation is not selectable in this programme mode.
Once stored the preset duration time cannot be adjusted during heater "ON" operation.

Switching on the Heater

(Programmed)

To activate your selected program settings to switch the heater on, toggle the P key to show the P1,P2,P3 (depending on what you have programmed) or symbol P to turn off all settings.
NOTE: If all presets and days have been selected to "OFF" pressing the P key will have no effect.

Ventilation

To activate ventilation mode, press and hold ▽ key until the ✣ symbol appears on the display. To stop ventilation, press the △ key, when the ✣ flashes, press the △ key to return to normal time display.

NOTE: The ventilation countdown time of 1 hour is not adjustable.

Method of Operation Airtronic D2/D4

Function:

Switching on

The pilot lamp in the operating control lights up when the heater is switched on. The glow pin is switched on and the fan will start running at a low speed.

Please note!
If there is any residual heat within the heat exchanger from a previous heating operation, the fan only (cold blowing) will run until the residual heat has been dissipated.

Start

Airtronic D2
Fuel starts to be delivered after approx 60 seconds.

The fuel-air mixture in the combustion chamber ignites . Once the combi-sensor (flame sensor) has detected the flame, the glow pin is switched off after 60 seconds.

After another 120 seconds the Airtronic has reached the control stage POWER (maximum fuel quantity and maximum fan speed).

Airtronic D4
Fuel starts to be delivered after approx 60 seconds.

The fuel-air mixture in the combustion chamber ignites. Once the combi-sensor (flame sensor) has detected the flame, the glow pin is switched off after 80 seconds. The Airtronic is in the control mode.

Temperature selection with the operating controls

The desired temperature is pre-selected with the operating controls. Depending on the temperature selected, on the size of the room to be heated, and on the prevailing outdoor temperature. This value may range between +10°C and +30°C. The control switch setting to be selected is an experimental value.

Control in heating mode

In heating mode the room temperature and the temperature of the heating air is continuously measured.
Control commences if the temperature exceeds the temperature pre-selected on the control element.
4 control levels have been provided so that the heat flow supplied by the heater can be accurately adapted to the heating requirements. Each control setting has its own fan speed and fuel quantity. If the adjusted temperature is ever exceeded at the lowest control level then the Airtronic is adjusted to the 'OFF' control level and the fan will continue to run for approx. 240 seconds to allow the heater to cool down. Afterwards the fan will continue to run at the slowest speed (re-circulation mode) or will be switched off (fresh air mode) until a renewed start of the heater.

Fan only mode ventilation (Optional)

To start the Airtronic in fan mode, the changeover switch 'heating/ventilating' needs to be actuated first before the heater is switched on.

Switching off

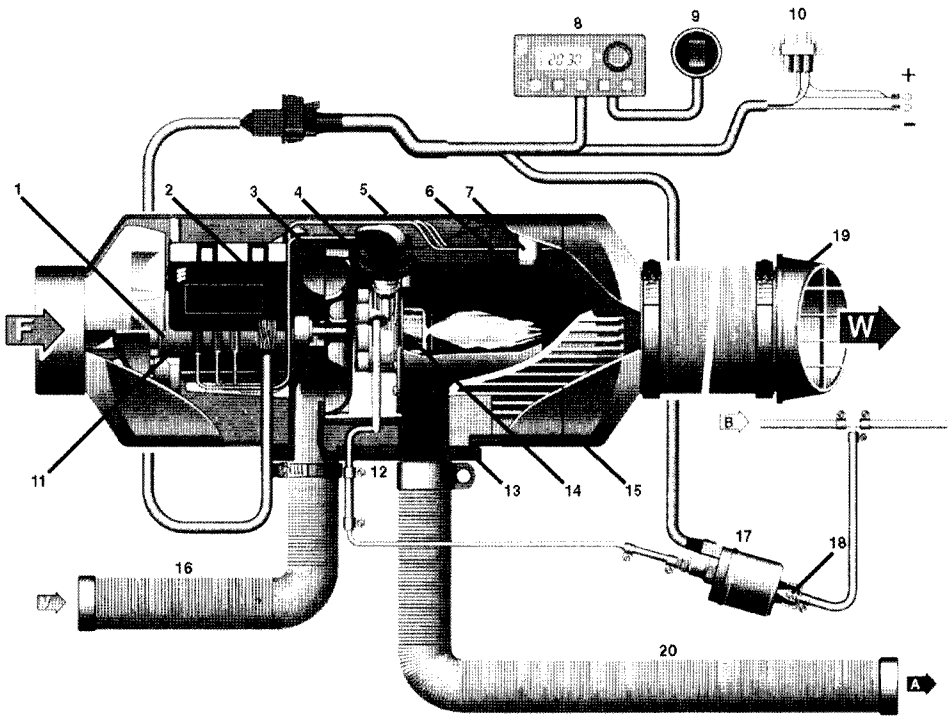
As soon as the Airtronic is switched off the pilot lamps go out and fuel pump is switched off. The fan will continue to run for approx 240 seconds to cool down the heater.
For cleaning, the glow pin is switched ON for 40 seconds while the fan is still running.

Heating operation at high altitudes

Up to 1500m:
Unrestricted heating operation is possible.

Above 1500 m:
Heating operation is in principle possible for short periods when crossing a mountain pass or during a brief stop at high altitude.
In case of extended stays (e.g winter camping) the fuel supply has to be adapted to the high altitude conditions. Please consult the responsible regional sales agency.

Sectional Drawing Airtronic D2/D4



1	Intake-air impeller			
2	Control unit			
3	Combustion air impeller			
4	Glow pin			
5	Cover			
6	Heal exchanger			
7	Combi flame sensor/ overheating sensor			
8	Module clock			
9	Change-over switch heating/ventilation optional			
10	Fuse carrier with main fuse and switch fuse.			
11	Electric motor			
12	Fuel connection			
13	Flange seal			
14	Combustion chamber			
15	Outlet hood D2 = Ø 60/75 mm D4 = Ø 75/90 mm			
16	Combustion air hose			
17	Fuel metering pump			
18	Filter built into the fuel pump			
19	Hot air outlet.			
20	Flexible exhaust tube			
		F	=	fresh air
		W	=	hot air
		A	=	exhaust gas
		B	=	fuel
		V	=	combustion air

Controls and Safety Devices

If the Airtronic does not ignite within 90 seconds after the fuel pump has started, then the start is repeated in the manner described. A malfunction cut-off is effected if after a further 90 seconds of fuel pumping the Airtronic once again fails to ignite, i.e. fuel pump switches off and the blower motor continues to run for approx. 240 seconds.

If the flame extinguishes by itself during operation, a renewed start is carried out first. If the Airtronic fails to ignite within 90 seconds after fuel pumping has started again or if it does ignite but then extinguishes itself within the next 15 minutes, a malfunction cut-off is effected, i.e. fuel pump switches off and the blower motor continues to run for approx. 240 seconds.

It is possible to override a malfunction cut-off by briefly switching the heater off and on again. **Do not repeat this more than twice in succession.**

In the case of over-heating, the combi-sensor will respond, the fuel supply will be interrupted and a malfunction cut-off will be effected.
Once the cause of overheating has been eliminated, the Airtronic can be restarted by briefly switching it off and on again.

If the upper or lower voltage limit is reached, a malfunction cut-off is effected after 20 seconds.

The Airtronic will not start if the glow pin or blower motor is defective or if the electrical line to the fuel pump is interrupted.

In the case of defective temperature-sensor or interruption in the electric wire, the Airtronic does not start and the malfunction shutdown then takes place.

The speed of the fan motor is continuously monitored. If the fan motor does not start or if the speed deviates by more than 10%, a malfunction cut-off is effected after 30 seconds.

When switching off the Airtronic, the glow pin is switched on for 40 seconds while the fan motor is running to clean it of any combustion residues.

In the event of malfunction, check the following points:

If the Airtronic does not start when it is switched on:

Switch off the Airtronic and then switch it back on again, but no more than twice in succession.

If the Airtronic still does not start, then check:

Is there fuel in the tank?

Have any fuses blown?
Airtronic 12 V - main fuse 20 A
Airtronic 24 V - main fuse 10 A
Airtronic 12/24 V - control fuse 5 A

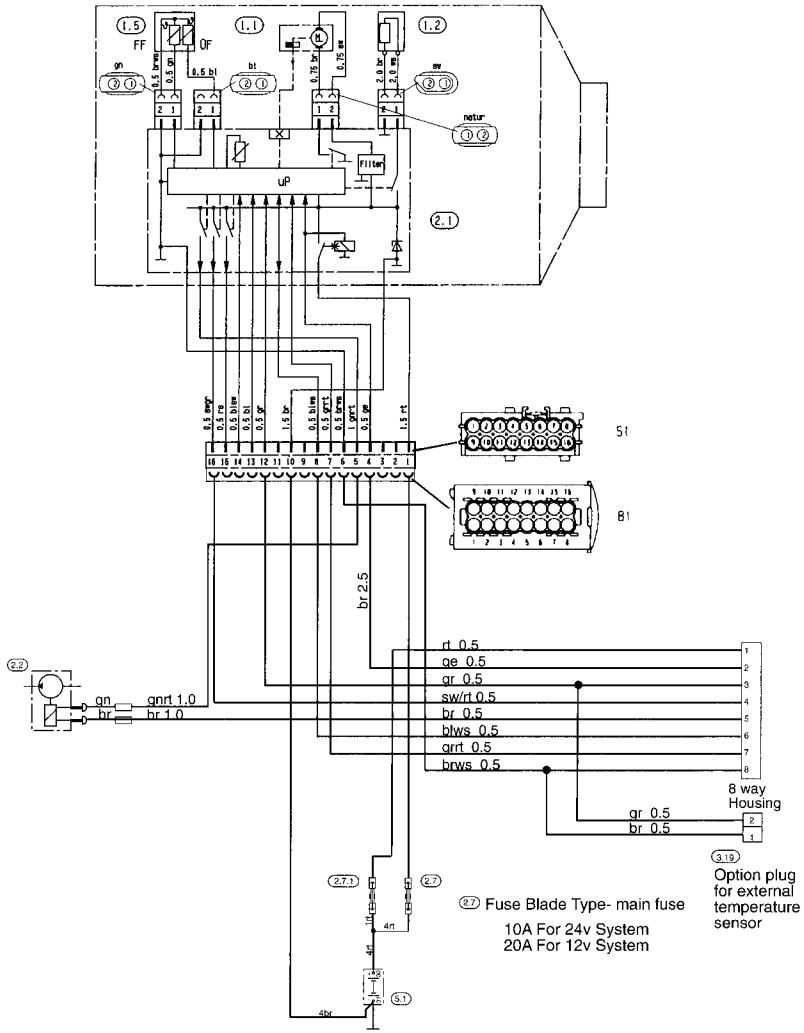
Are all electric wires and connections OK?

Are the heating-air duct, combustion air hose or the exhaust-gas tube blocked?

If the Airtronic unintentionally remains in 'ventilating' mode after it is switched on, the control element has to be checked for a short circuit.

If these points are OK, then proceed with a diagnosis test using the JE diagnosis unit or the 7 day timer with fault code display.

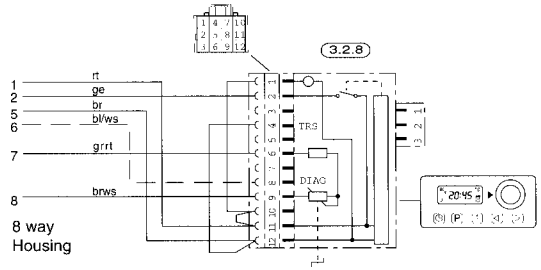
Circuit Diagram - Airtronic D2/D4
Heaters supplied with short optional loom

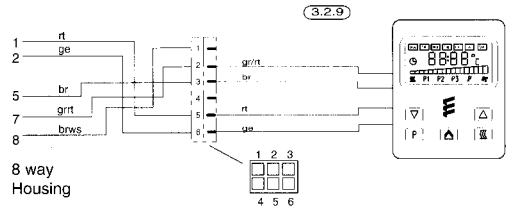


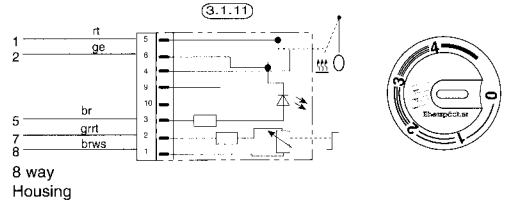
Parts List

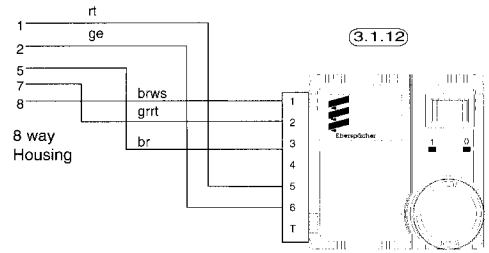
1.1	Blower Motor
1.2	Glow Pin
1.5	Combi flame sensor/overheating sensor
2.1	Electronic Control Unit (ECU)
2.2	Fuel Metering Pump
5.1	Battery
2.7	Main fuse 20A- 12v, 10A- 24v
2.7.1	Switch Fuse 5A
2.15.1	External Temperature Sensor (Optional)
3.1.11	Rheostat switch (Optional)
3.1.12	Modulator switch (Optional - 301 series)
3.2.8	DIN timer 7 day with temperature control (Optional)
3.1.9	Ventilation change over switch (Optional)
3.2.9	Timer / Modulator 7 day, (701 series.)

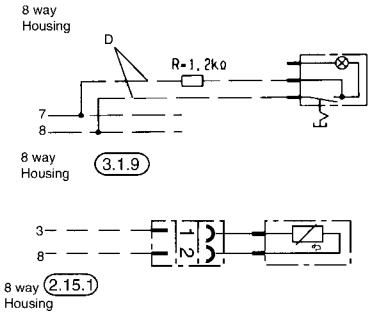
Wiring Diagram for Control Switches









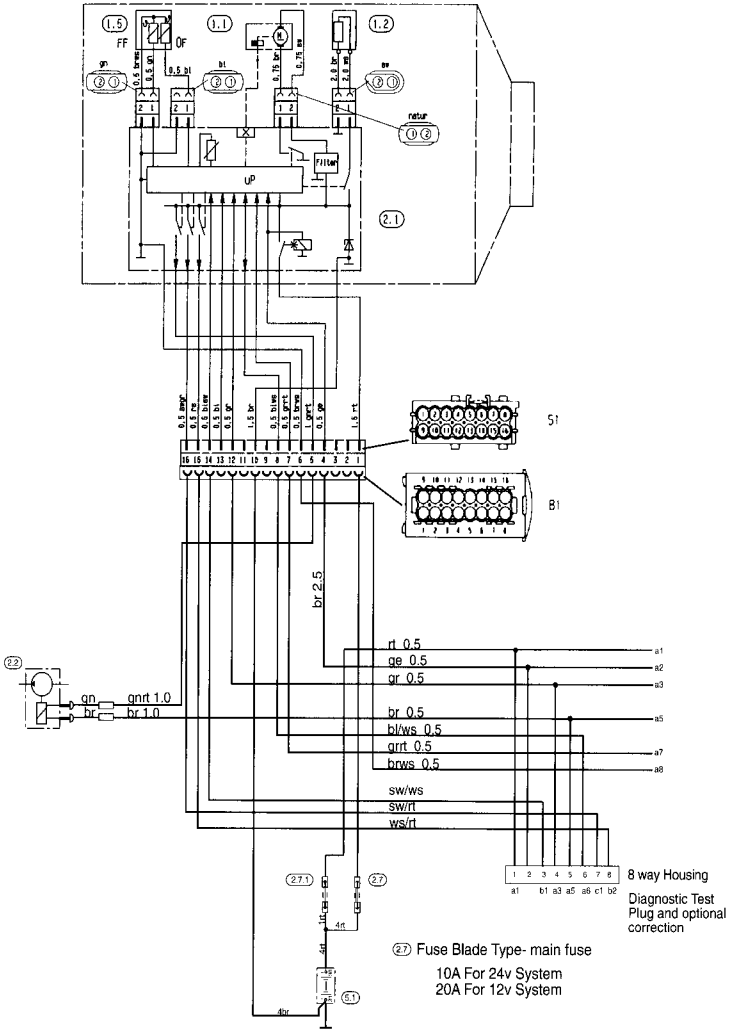


Wiring Colour Codes

rt - red	gn - green
br - brown	ge - yellow
ws - white	gr - grey
sw - black	bl - blue

a1	Supply to positive terminal 30
a2	Switch on signal S+
a3	External temperature sensor (Optional)
a4	Fresh air blower integrated in vehicle blower control (Optional)
a5	Supply to negative terminal 31
a6	Fault diagnostic signal
a7	Nominal temperature rheostat signal
a8	Sensor reference signal
j)	Connection for temperature display (Optional)

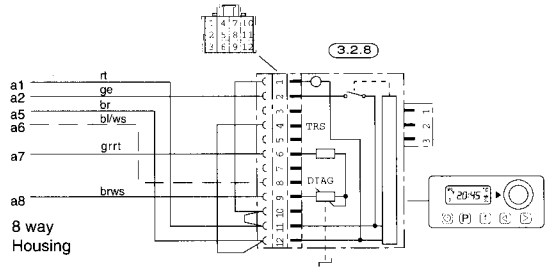
Circuit Diagram - Airtronic D2/D4
Heaters supplied with long optional loom

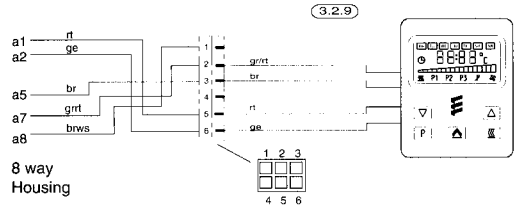


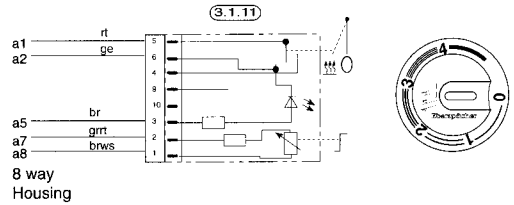
Parts List

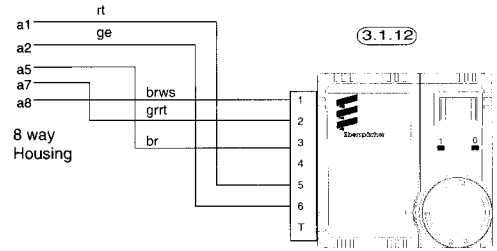
1.1	Blower Motor
1.2	Glow Pin
1.5	Combi flame sensor/overheating sensor
2.1	Electronic Control Unit (ECU)
2.2	Fuel Metering Pump
5.1	Battery
2.7	Main fuse 20A- 12v, 10A- 24v
2.7.1	Switch Fuse 5A
2.15.1	External Temperature Sensor (Optional)
3.1.11	Rheostat switch (Optional)
3.1.12	Modulator switch (Optional)
3.2.8	DIN timer 7 day with temperature control (Optional)
3.1.9	Ventilation change over switch (Optional)
3.2.9	Timer / Modulator 7 day, 701 series.

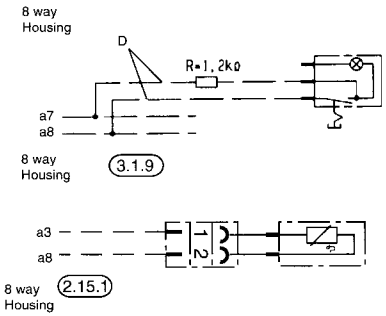
Wiring Diagram for Control Switches











Wiring Colour Codes

rt - red	gn - green
br - brown	ge - yellow
ws - white	gr - grey
sw - black	bl - blue

a1	Supply to positive terminal 30
a2	Switch on signal S+
a3	External temperature sensor (Optional)
a5	Supply to negative terminal 31
a6	Fault diagnostic signal
a7	Nominal temperature rheost at signal
a8	Sensor reference signal
b1	Ignition + positive for TRS (ADR/Pet Reg) heaters only (Optional)
b2	Timer disconnect for TRS ADR/Pet Reg heater only.
c1	Optional fresh air blower integrated in vehicle blower control

Fuel at Low Temperatures
Supply from Separate Fuel Tank Only

The heater works on commercially available diesel fuel (to DIN EN590 specification). Adoption of the fuel to normal winter temperatures is automatically allowed for by the oil refineries (winter diesel). Difficulty could only arise in the event of an extreme drop in temperature (as it would also for the engine - see the vehicle instruction manual).

To avoid such a possibility, if the heater is supplied from a separate fuel tank, the following rules should be followed. At temperature above freezing (0°C or 32°F), any type of diesel fuel or light fuel oil may be used. At temperatures below freezing, fuel oils will require the appropriate additives.

If no special cold weather diesel fuel is available for low temperatures, mix kerosene, paraffin or gasoline according to the adjacent table. A separate tank is available from the Eberspächer dealer.

For use with Separate Fuel Tank Only

Temperature		Winter diesel oil	Additive
From	0°C to -15°C**	100%	-
From	-15°C to -25°C	50%	50% kerosene or petrol
From	-25°C to -40°C	-	100% kerosene*

* or special winter diesel oils
** or in accordance with fuel manufacturer's specifications

The fuel line and the fuel pump must be filled with new fuel by operation for 15 minutes.

Fuel Supply

Danger of fire and explosion!
Poisonous fumes!

Caution when handling fuel before filling up, and when working on the fuel supply switch off the vehicles engine and the Airtronic heater.

Operation with Bio-diesel

Airtronic D2

Airtronic D2 is not certified for use with bio-diesel. A mixture of bio-diesel up to a maximum of 10% is acceptable.

Airtronic D4

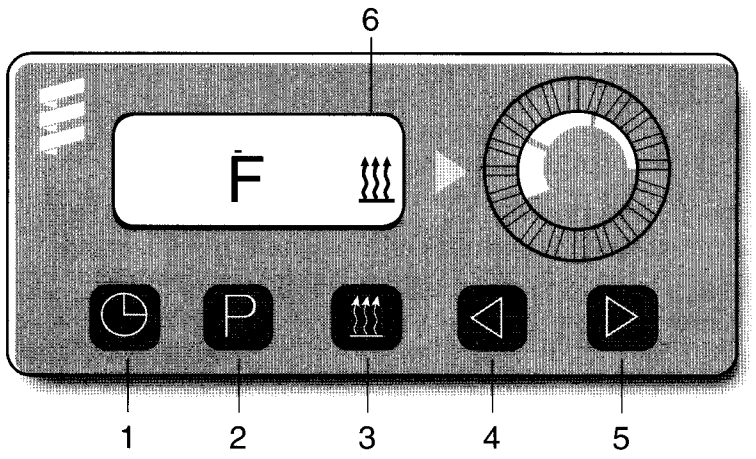
Airtronic D4 is certified for operation with bio-diesel (PME) as per DIN V51606 in free-flowing state when installed in normal horizontal position (exhaust pipe downward): bio-diesel is not permitted for any other installation positions.

When using 100% bio-diesel during the winter period the heater should be operated once or twice with pure diesel fuel for about one hour.

For continuous operation using bio-diesel, a 50/50 mix of diesel/bio-diesel is recommended.

Fault diagnosis using the 7 day timer with temperature control (optional)

Timer module display (GB) Part. No. 22 1000 30 40 00



1	Clock time	2	Preset
3	Heating	4	Backwards
5	Forwards	6	Display with fault indication

If the control unit detects a fault when the heater is switched on or while the heater is in operation, the timer module indicates this by means of an F and as a 2-figure number within 15 sec.

Reading on display, e.g. **F64** (Current fault) and flashing heating symbol.

How to enquire for fault memory in the heater control unit using the timer module.

The electronic control unit can store up to 5 faults which can be read out and displayed on the timer module. The current fault is written to memory location F1. Preceding faults are written to memory locations F2 – F5.

Fault memory enquiry

Press the key - the heater is switched on - then press the key, hold it down and press the P key within 2 seconds. The current error is now displayed by AF, i.e. AF 64.

The stored errors (i.e. F 64) can be called up using the and keys.

Lock out of the heater control unit can be caused by:-

Overheat

The hardware limit for the overheat has been exceeded. Code 17 is shown. If switched on again code 15 is displayed. The control unit is locked out.

Cancelling the control unit lock out, and/or Erasing the fault memory

NOTE: This can only be operated providing that the electrical connection from ignition to the timer module (12-pin connector) terminal 10 is connected.

To cancel control unit lock out

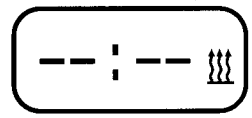
Turn on the ignition.
Press key - the current fault is displayed (i.e. F15 / F50)
- then press the key, hold it down and press the P key within 2 seconds.

The timer module is now in the "Enquire fault memory" program.

Now proceed as follows:

Turn off the ignition.
Press keys and P simultaneously, switch on the ignition and wait until the following reading appears on the display.

Reading on display after switching ignition "ON".
Display flashing, heating symbol not flashing.



The control unit lock out is cancelled after 3 seconds, then the heater will start up. Providing there are no further faults with the heater.

Reading on display after heater has started.
Display: No current fault,
heating now operational.

NOTE: For diagnostic wiring connections (ie: blue/white wire) see pages 16 to 19.

Recommended Service Schedule Airtronic D2/D4

		Every Month	Every 6 Months	Every Year (each September)
1.	Remove glow pin and inspect for carbon build up. Clean and/or replace.			●
2.	Replace fuel screen in glow pin port with special tool supplied with new screen.			●
3.	Check for blocked or damaged ducting and rectify or replace as required.		●	●
4.	Inspect intake and outlet grilles for blockages; also inspect intake fan blades for any restriction.	●	●	●
5.	Check electrical connections, including main fuse holders, for corrosion.		●	●
6.	Check for blocked or damaged exhaust tube.		●	●
7.	Check for blocked or damaged combustion air tube.		●	●
8.	Test fire heater and check for correct operation	●	●	●
9.	Check exhaust colour as a guide for carbon build up.		●	●
10.	Check heater delayed shut down time, (approximately 240 seconds after switching off).		●	●
11.	Check all fuel lines and connections for security and abutments; also ensure there are no fuel leaks.		●	●
12.	Remove fuel metering pump filter and replace.			●
13.	Remove all dirt and corrosion from fuel metering pump.		●	●
14.	Check fuel metering pump for correct delivery of fuel as shown in the Airtronic **D2/D4 Troubleshooting and repair manual.** (Service station only).			●

Important: Please note the heat exchanger must be replaced after 10 years of service.

Note: It is advisable that the 6 month/annual service is carried out by an approved Eberspächer Agent.

Safety instructions concerning the installation and repair of the Airtronic

Danger of burns and Injury!

Before commencing any work on the Airtronic, disconnect the vehicle battery.

The Airtronic may only be started up if the top cover and the hood have been mounted in accordance with the regulations and if the air duct on the suction and heating air side has also been carried out in accordance with the regulations.

During operation the top cover must not be opened and hot parts must not be touched.

Important instructions for the Installation and repair of the Airtronic

When installing, servicing, and mounting or repairing the heater, only original spare parts must be used.
Changes to the Airtronic or to components relevant to the heating are not approved by Eberspächer. This includes air and exhaust systems.
Only the control elements provided and / or approved by Eberspächer, either on their own or in a given combination, may be used to operate the Airtronic. The use of other control elements may lead to malfunctions of the heater / heating.

Operation.

Non-compliance with the statutory, safety and / or function specifications may lead to the lapse of the General Design Certification (ABG) of the Airtronic and also to the exclusion of guarantee and liability on the part of the company J. Eberspächer GmbH & Co.

Important Information

Caution

- Switch off heater before refuelling.
- Do not cover heater in such a way as to block inlet or outlet air ducts.
- Never operate the heater in confined spaces (i.e. garages).
- Every combustion process generates exhaust gas, which has toxic constituents Because of this and high temperatures generated, the exhaust pipe must comply with the installation instruction.
- Failure to comply with the instruction or operation of the heater in confined spaces (i.e. garages) harbours the risk of poisoning.
- The heater may only be used for the purpose specified by the manufacturer and in compliance with the operating instructions supplied with every heater.
- Operating the heater is not permitted when inflammable vapours or dust can build up, e.g. near fuel, coal or sawdust stores, grain silos, granaries etc.
- Switch off heater and wait for blower fan to stop before isolating batteries.
- When the heater or the heating system is damaged, an authorised workshop must be called in to repair the damage using genuine spare parts.
- When carrying out electric welding work on the vehicle, disconnect the positive terminal from the battery and earth it in order to protect the control unit.
- Do not place aerosol cans, gas canisters, alcohol, inflammable liquids or inflammable materials in front of the heater or hot air outlets.
- Prior to entering flood or standing water, please switch off heater and wait 240 seconds for heater to stop.

Notes