

## Hydronic D3W Z VW T4 installation instructions

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### Upgrading the Hydronic D 3 W Z to the auxiliary heating in the VW T4 TDI

Model '99 (from year 08/98) / 2.5 l capacity / 75 kW or 111  
kW with cockpit '99 (blue dashboard lighting)

Order no. - conversion kit

24 0168 00 00 00

slot

The Hydronic D 3 W Z is on the left side of the vehicle in the engine compartment built-in.

Please note !

These installation instructions are for the on the  
The vehicle described on the front page is valid  
with the exclusion of any liability claims.  
Depending on the version or modification status of  
the vehicle, there may be deviations from these  
installation instructions.  
The installer must check this before installation  
and, if necessary, take into account the deviations  
from these installation instructions. In addition to  
these installation instructions, the technical  
description and installation  
instructions and the operating instructions for the  
heater must be observed.

#### Notice

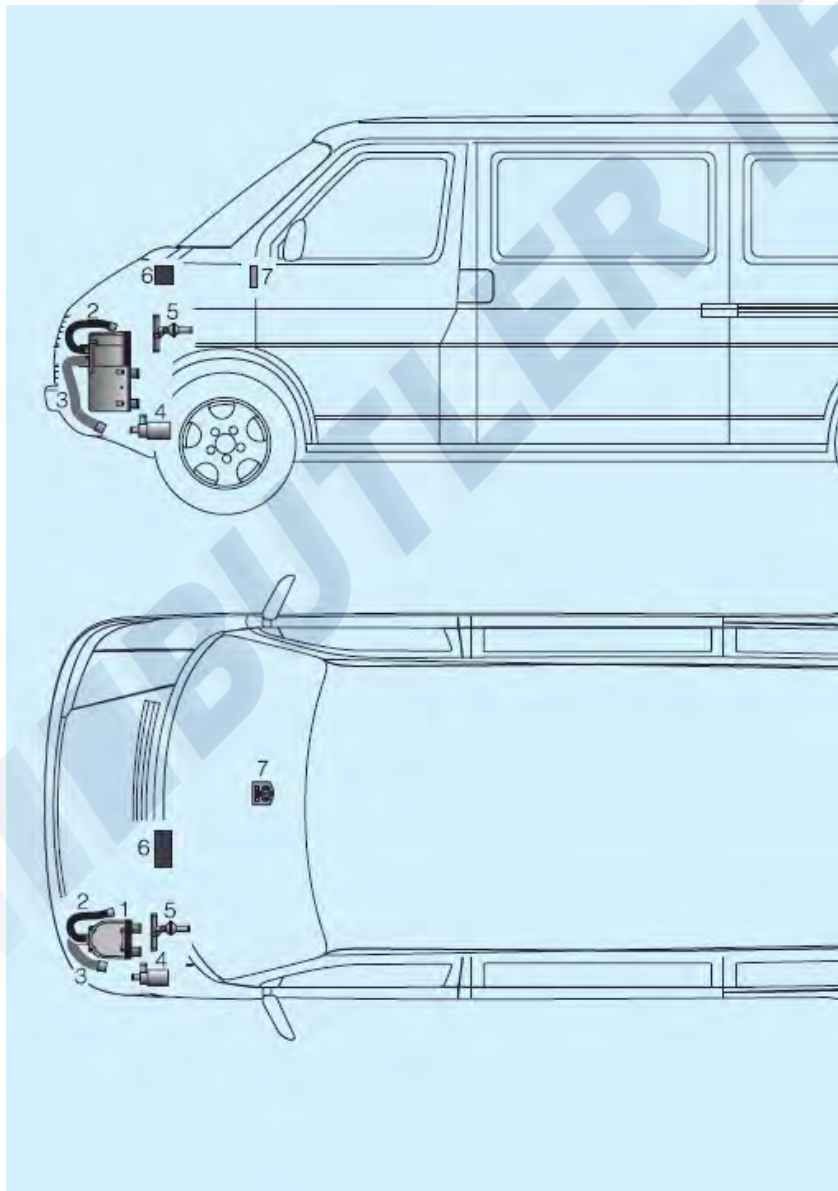
**The conversion kit can also be used  
universally, especially with  
the previous models of the above  
vehicle type.**

Parts installed in the vehicle:

- 1Hydronic D 3 W Z
- 2 exhaust pipe
- 3 combustion air pipe

Parts from the upgrade kit:

- 4 water pump
- 5 combination valve
- 6 auxiliary control unit
- 7 mini clock



**Parts required for installation**

order no.

**1 conversion kit, Hydronic D 3 W Z**

24 0168 00 00 00

1 water hose, Ø 20 mm

25 1917 80 00 01

1 clamp for Wp

152 00 101

1 combination valve

330 00 177

**the kit includes:**

**1 water pump**

330 00 011

1 T piece, Ø 20 mm

20 1673 80 11 00

**1 control unit**

22 1000 31 07 00

1 fasteners

24 0168 00 02 00

**1 mini clock**

22 1000 31 31 00

1 connecting parts

24 0168 00 01 00

**Before installation**

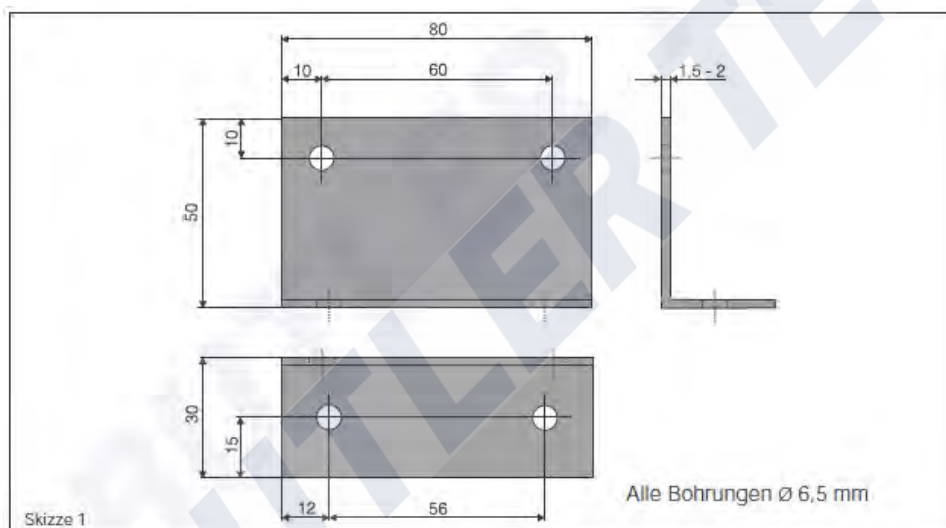
- Remove the cover over the battery compartment
- Disconnect the battery
- Remove the cover over the vehicle engine
- Remove the cover under the vehicle engine
- Make the angle bracket for the water pump (see sketch 1)
- From the water hose - as shown in sketch 2 - Cut out three pieces of tubing

**A notice:**

In vehicles with a Hydronic D 3 W Z, an air heater and with blue dashboard lighting, the subsequently upgraded Hydronic D 3 W Z can also be switched on with the timer installed in the dashboard - the mini clock as an additional control element is not required.

If the time switch with a blue display is required for retrofitting in the dashboard, it can be ordered from the VAG organization (VW Order No. 1 J0 963 343).

**Make the angle bracket for the water pump (see sketch 1)**



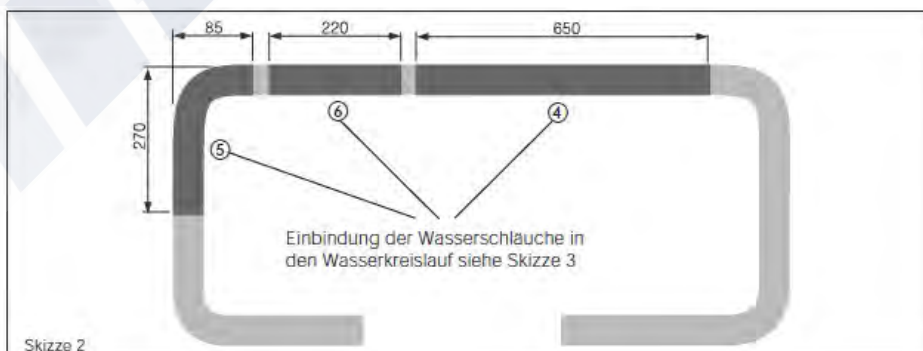
Skizze 1

Alle Bohrungen Ø 6,5 mm

sketch 1

All drillings 6.5mm

**Cut out three pieces of hose from the water hose (order no. 25 1917 80 00 01) (see sketch 2)**



Skizze 2

sketch 2

For the integration of the water hoses in the water circuit, see Sketch 3



Fasten the water pump to the left side member (see picture 1 and sketch 3)

Pre-assemble the water hose, 270 mm x 85 mm (item ) and the water hose, 220 mm long (item ) on the combination valve and secure with hose clamps. Place the self-made angle bracket on the side member and mark and drill the two fastening holes, Ø 5 mm. Pre-mount the water pump bracket on the angle bracket. Before installing the water pump, connect the water hoses coming from the combination valve (item and item ) to the water pump and secure them with hose clamps.

Insert the water pump into the water pump holder. Fasten the angle bracket with the water pump to the side member with 2 self-tapping screws, then fasten the water pump in the water pump bracket.



Image 1

Water pump angle bracket left side member

Hole for the exhaust pipe clamp

Water circuit with upgraded auxiliary heater water circuit VW T 4 / without air conditioning / with manual air conditioning

**Wasserkreislauf VW T 4 / ohne Klimaanlage / mit manueller Klimaanlage**

- ① T - Stück
- ② Kombiventil
- ③ Wasserpumpe
- ④ Wasserschlauch, 650 mm lang
- ⑤ Wasserschlauch, 270 mm x 85 mm
- ⑥ Wasserschlauch, 220 mm lang

1) Ab Modelljahr 2000 hat die manuelle Klimaanlage kein Absperrventil mehr. Die Temperatur wird bei diesen Fahrzeugen mit einer elektr. Regelklappe gesteuert.

T - Piece Combo Valve Water Pump  
Water Hose  
650mm long Water Hose 270mm x 85mm Water Hose 220mm long

1) As of model year 2000, the manual air conditioning no longer has a shut-off valve. The temperature will be at these Vehicles with an electric control valve controlled.

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**Wasserkreislauf VW T 4 / 111 kW / mit Climatronic**

- ① T - Stück
- ② Kombiventil
- ③ Wasserpumpe
- ④ Wasserschlauch, 650 mm lang
- ⑤ Wasserschlauch, 270 mm x 85 mm
- ⑥ Wasserschlauch, 220 mm lang

T - Piece Combo Valve Water Pump  
Water Hose  
650mm long Water Hose 270mm x 85mm Water Hose 220mm long

Skizze 3

sketch 3

**Water circuit VW T 4 / 111 kW / with Climatronic**

**Insert a T-piece into the water circuit  
(see picture 2)**

**Disconnect the water hose at the water outlet of the front heat exchanger and insert the T piece.**

**Please note!**

**On vehicles without air conditioning or with manual air conditioning, the T-piece after the shut-off valve insert into the water hose.**

**Insert the combination valve in the water circuit**

**The combination valve - as shown in Sketch 3 - is inserted in the water hose between the vehicle's own coolant circulating pump and the connection on the vehicle's engine.**

**The connection of the ball valve (from the combination valve) points vertically upwards.**

**The remaining connections (from the combination valve) point to the rear, against the direction of travel.**



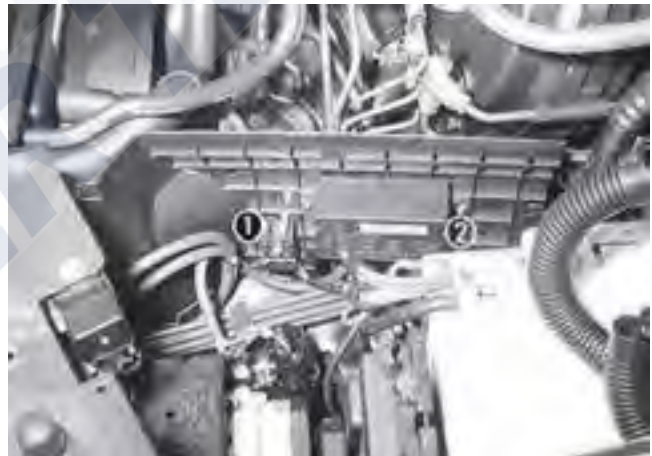
picture 2

T - piece - installed in a vehicle with Climatronic

**electrics**

**Mount control unit and fuse holder  
(see picture 3)**

**Remove the partition between the battery compartment and the engine compartment. Assemble the fuse holder and fasten it to the partition. Fasten the control unit to the partition wall. Disconnect the plug connection between the vehicle wiring harness and the auxiliary heater and connect the adapter cable from the control unit.**



picture 3

Fuse holder control unit

**Please note!**

- When laying the wiring harnesses, ensure that there is sufficient distance to hot vehicle parts.
- Fasten cable harnesses with cable ties at suitable points.

**Connect water pump**

**Lay the brown and black/white cables from the control unit to the water pump, cut them to length and attach the water pump connector - from the conversion kit.**

**Lay the wiring harness**

**Lay the "operation" cable harness and the "blower control" cable harness through an existing grommet in the engine bulkhead into the vehicle interior.**

**Please note!**

**When connecting the water pump, pay attention to the correct polarity, plus and minus are marked on the water pump.  
Black/white cable = plus Brown cable = minus**



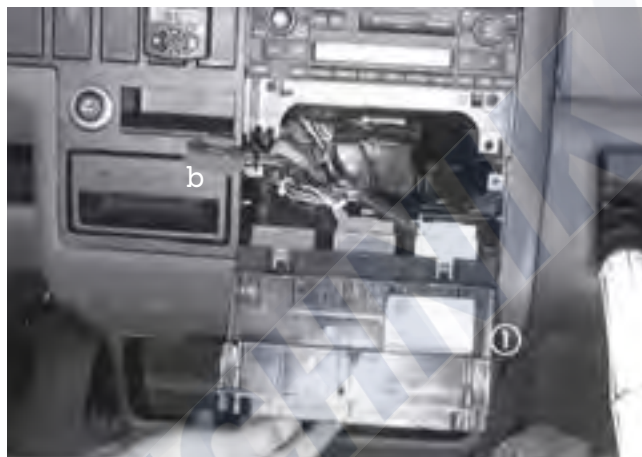
## Blower control (on vehicles with blue dashboard lighting)

Blower control in vehicles - model '99 (from 08/98) with Climatronic (see image 4 and sketch 4)

Remove the storage compartment above the Climatronic operating unit, reaching into the storage compartment on the left and right and pulling out. Remove the Climatronic operating unit by unscrewing the four screws, pulling out the operating unit and unplugging the red connector T28a.

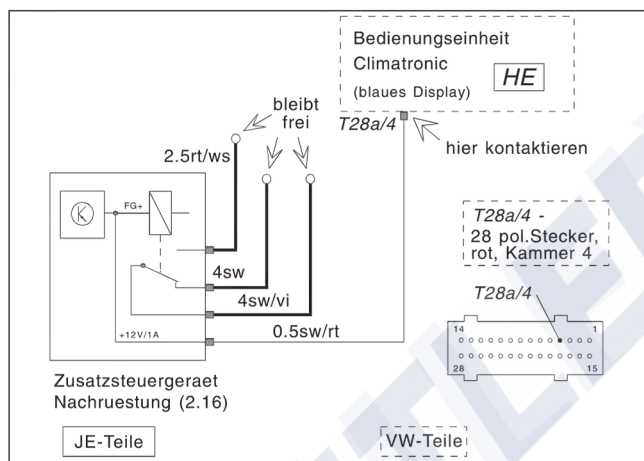
The blower is controlled at the red connector T28a by connecting cable 0.52 black/red to free chamber 4 (T28a/4).

Tie back and insulate cable 42 sw, cable 42 sw/vi and cable 2.52 rt/ws.



picture 4

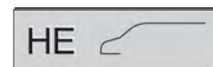
Control unit of the Climatronic red connector T28a



sketch 4

### Please note!

On vehicles with Climatronic, "HE" and a vehicle are shown in the display of the operating unit for hydronic "ON".

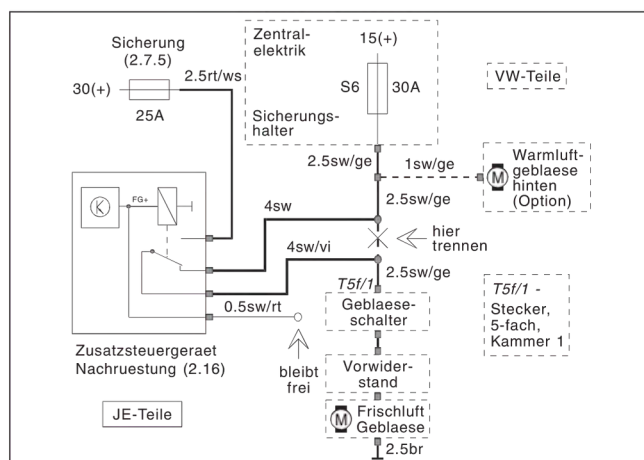


Blower control on vehicles - model '99 (from 08/98) with heating control (see sketch 5)

Remove bezel and blower switch. The cable 2.52 black/yellow in chamber 1 of Separate the 5-pin plug (T5f/1) and tie in the cables 42 sw and 42 sw/vi - as shown in Sketch 5.

Tie back and insulate cable 0.52 sw/rt.

Route the 2.52 red/white cable and fuse (2.7.5) to the battery and connect to the positive pole.

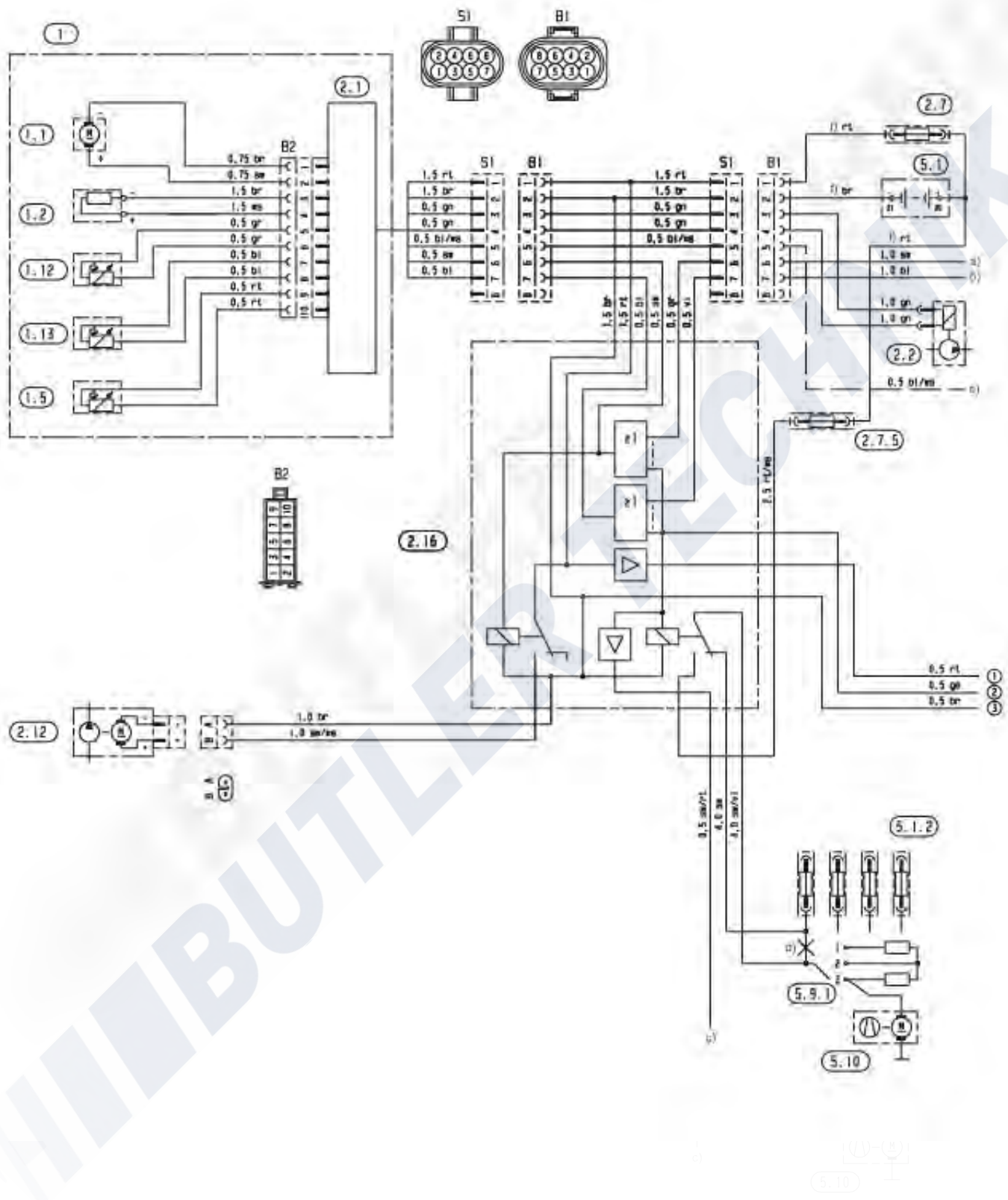


sketch 5

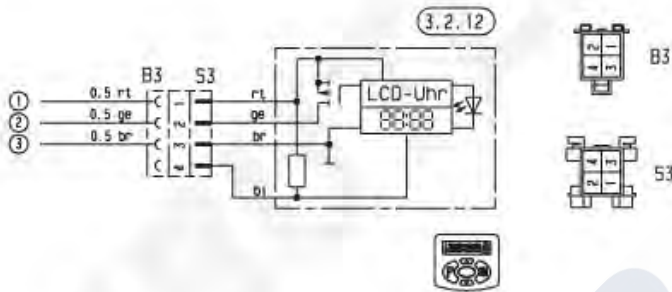




Wiring diagram - Hydronic D 3 W Z upgrade for auxiliary heating







parts list

1Hydronic D 3 W Z

1.1 burner motor

1.2 glow plug

1.5 Overheating Sensor

1.12 Flame sensor

1.13 Temperature Sensor

2.1 control unit

2.2 dosing pump

2.7 Main fuse 25 A

2.7.5 Fuse, vehicle fan 25 A

or alternatively 10 A at

climate control

2.12 water pump

2.16 Control unit, retrofit Additional heater --> auxiliary heater

3.2.12Mini - clock

5.1 Battery

5.1.2 Fuse strip in the vehicle

5.9.1 Vehicle fan switch

5.10 Vehicle Fan

- a) +15 or temperature switch D+ alternator
- b) actuation of automatic air conditioning and/or anti-theft alarm system
- c) Disconnect line Diagnosis connection
- d) Cross-section of battery lines: total
- e) length of plus and minus line • up to 5 m = cross-section 2.5 mm<sup>2</sup>
- f) • from 5 m - up to 8 m = cross-section 4 mm<sup>2</sup>

Insulate unused wire ends.

Plug and socket housing are shown from the cable entry side.

- rt= red blue
- bl= white
- ws= black
- sw= green
- gn= gray
- gr= yellow
- ge= violet
- vi=

**After assembly**

- **Connect the battery.**
- **Reassemble all removed parts.**
- **Check that all hose lines, pipe clamps and all electrical connections are secure.**
- **Bleed the cooling water system and check for leaks.**
- **Please also note the vehicle manufacturer's information on filling and venting the cooling water system.**
- **Secure all loose lines with cable ties.**
- **Observe official regulations and safety instructions in the technical description.**