



## 6 Circuit diagram

### Heater wiring

The heater is to be connected up electrically according to the EMC directives.



#### Caution!

#### Safety instructions for wiring the heater!

EMC can be affected if the heater is not connected up correctly. For this reason, comply with the following instructions:

- Ensure that the insulation of electrical cables is not damaged. Avoid: chafing, kinking, jamming or exposure to heat.
- In waterproof connectors, seal any connector chambers not in use with filler plugs to ensure they are dirt-proof and water-proof.
- Electrical connections and ground connections must be free of corrosion and firmly connected.
- Lubricate connections and ground connections outside the heater interior with contact grease.

#### Please note!

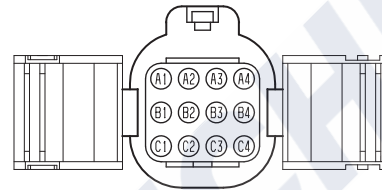
Comply with the following when wiring the heater and the control unit:

- Electrical leads, switch and control gear must be positioned in the vehicle so that they can function perfectly under normal operating conditions without impairment (e.g. due to heat exposure, moisture, etc.).
- The following cable cross sections are to be used between the battery and heater.  
This ensures that the max. allowable voltage drop in the cables does not exceed 0.5 V for 12 V or 1 V for 24 V rated voltage.  
Cable cross-sections for a cable length (plus cable + minus cable) of:  
– up to 5 m = cable cross-section 4 mm<sup>2</sup>  
– from 5 m up to 8 m = cable cross-section 6 mm<sup>2</sup>  
Connection of the cables (plus cable and minus cable) to connector B2 requires a reduction in the cable cross-section to 2.5 mm<sup>2</sup>.
- If the positive cable is to be connected to the fuse box (e.g. terminal 30), the vehicle's cable from the battery to the fuse box must also be included in the calculation for the total cable length and re-dimensioned if necessary.
- Insulate unused cable ends.

### Notes on rewiring the 12-pin cable harness connector

If, when replacing the Hydronic M with the Hydronic M-II, the cable harness installed in the vehicle is retained and continues to be used, it is necessary to remove the 12-pin connector using the AMP release tool (AMP Order No. 1-1579007-4) and to rewire it according to the following table.

#### 12-pin cable harness connector



Connector is shown from the lead entry side.

Connection	Cable harness Hydronic M Cross-section Cable colour	Rewiring 12-pin connector	
		Hydronic M PIN	Hydronic M-II PIN
Metering pump	1.5 <sup>2</sup> gn	C4 →	A1
Terminal 31	4 <sup>2</sup> br	C3 →	A2*
Terminal 30	4 <sup>2</sup> rt	C2 →	A3*
Plus signal to the battery power switch	1.5 <sup>2</sup> ws/rt	C1 →	A4
Plus signal to the relay solenoid valve	–	B4 →	B1
Diagnosis	1 <sup>2</sup> bl	B3 →	B4
Plus signal from the ADR auxiliary drive	1 <sup>2</sup> vi	B2 →	B3
Third party control Water pump	–	B1 →	remains unused**
Blower relay	1 <sup>2</sup> rt/ge	A4 →	C1
Plus signal (D+) to the heater – in ADR mode	1 <sup>2</sup> vi/gn	A3 →	C2
Temperature drop	–	A2 →	C3
Heater ON	1 <sup>2</sup> ge	A1 →	C4

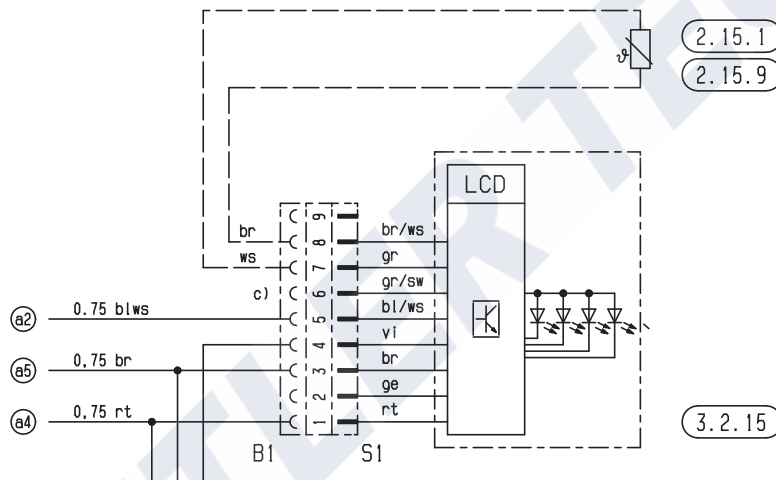
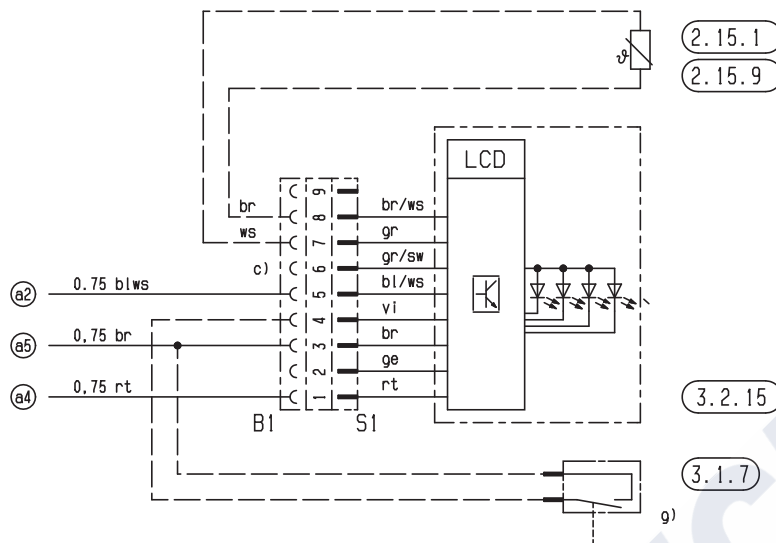
\* Connection of the cables to connector B2 requires a reduction in the cable cross-section to 2.5 mm<sup>2</sup>.

\*\* Third party control of the water pump is not provided for in the Hydronic M-II.



# 6 Circuit diagram

Circuit diagram for EasyStart T control unit



**Cable colours**

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

