

## 7 Circuit Diagrams

### 7.1 General

The connector pin assignment of control unit Thermo Top E and Z/C is shown in Fig. 701.

The circuit diagrams (Fig. 702 and 703) show the electrical circuit of the heater in combination with Timer and Teletstart T60.

The circuit diagram (Fig. 704) shows the electrical circuit of Thermo Top Z.

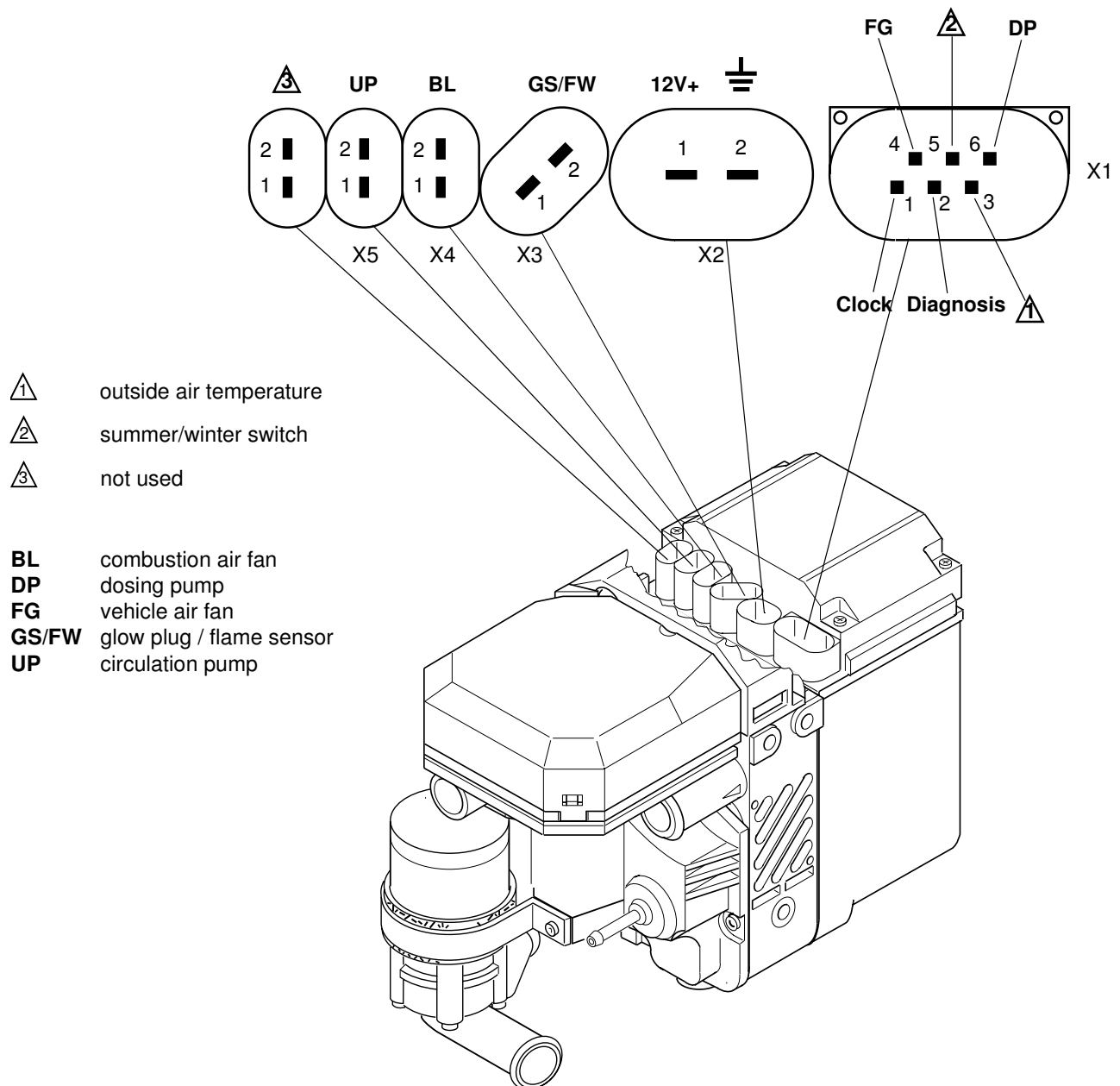
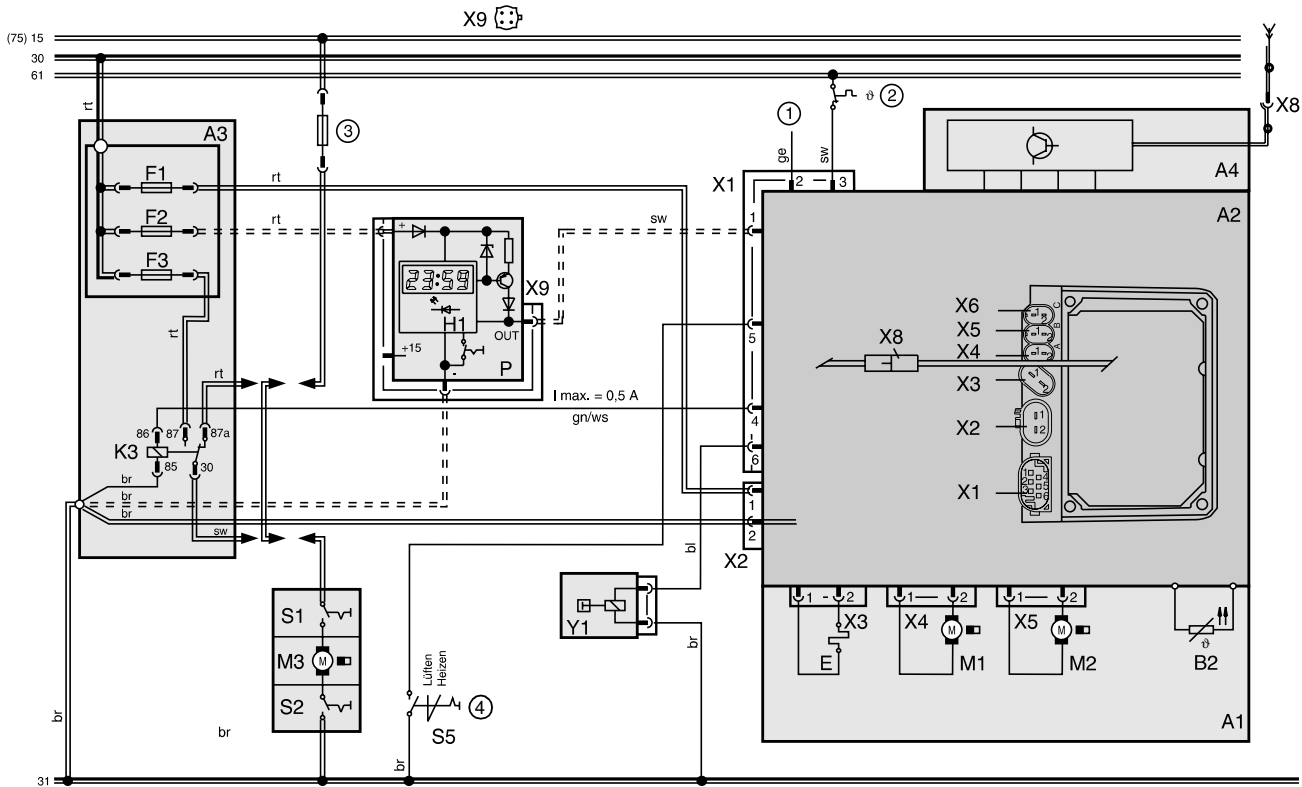


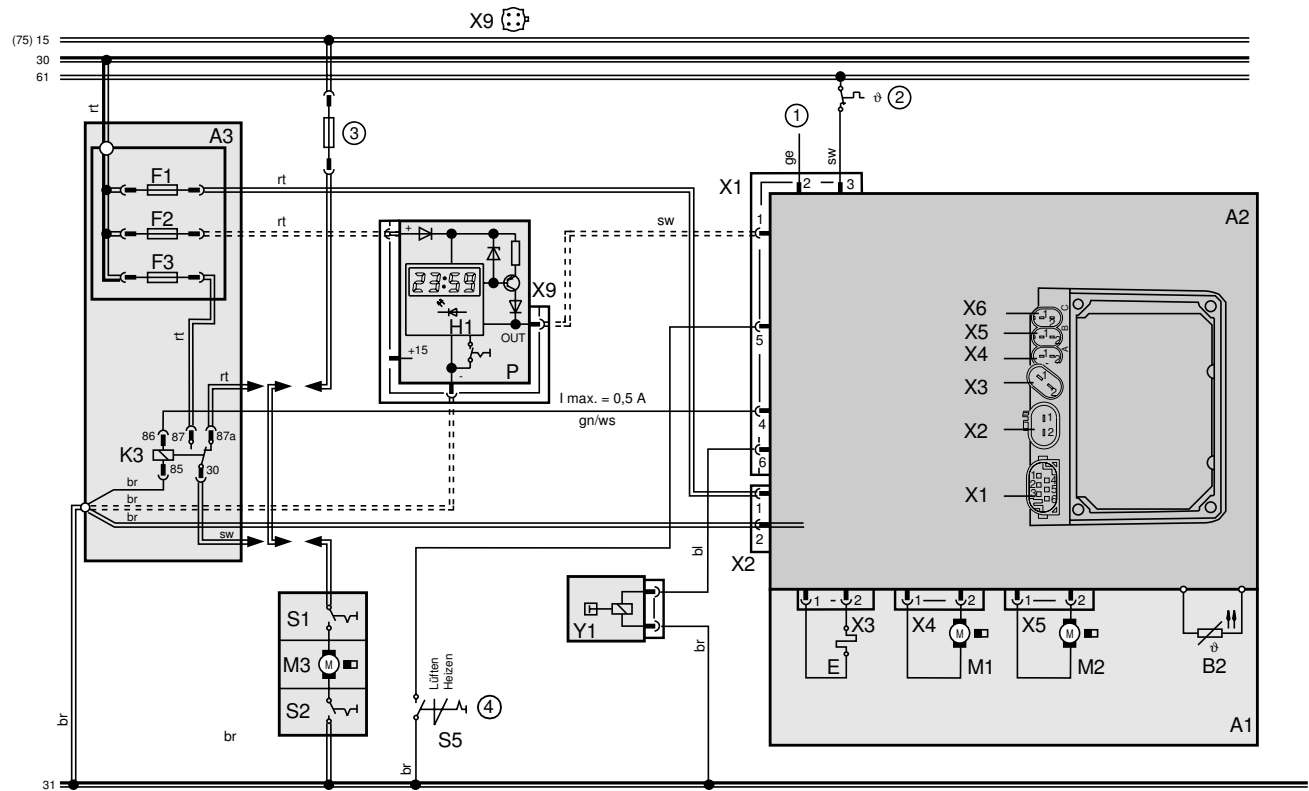
Fig. 701 Control Unit Connector Pin Assignment (Thermo Top E and C)



Item	Nomenclature	Remark
A1	Heater	Thermo Top E or Z/C
A2	Control unit	
A3	Connector box	
A4	Telestart receiver	T60
B2	Temperature sensor	
E	Glow plug / flame sensor	
F1	Fuse 15 A	Flat fuse SAE J 1284
F2	Fuse 1 A	Flat fuse SAE J 1284
F3	Fuse 25 A	Flat fuse SAE J 1284
H1	LED (in item P)	operating indicator light
K3	Relay (in item A3)	vehicle air fan
M1	Motor	combustion air fan
M2	Motor	circulation pump
M3	Motor	vehicle air fan
P	Timer, digital	for timer operation
S1	Switch for vehicle air fan	depending on vehicle S1 or S2
S2	Switch for vehicle air fan	depending on vehicle S1 or S2
S5	Switch	summer/winter switch
X1	Connection, 6-pole	
X2	Connection, 2-pole	water repellent
X3	Connection, 2-pole	water repellent
X4	Connection, 2-pole	water repellent
X5	Connection, 2-pole	water repellent
X6	Connection, 2-pole	water repellent
X8	Connection, 2-pole	HF, coaxial
X9	Connection, 4-pole	
Y1	Dosing pump	

Wire Gauges		
	< 7.5 m	7.5 - 15 m
⋯⋯⋯⋯	0,5 mm <sup>2</sup>	0,75 mm <sup>2</sup>
— — — —	0,75 mm <sup>2</sup>	1,5 mm <sup>2</sup>
— — — —	1,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>
— — — —	2,5 mm <sup>2</sup>	4,0 mm <sup>2</sup>
— — — —	4,0 mm <sup>2</sup>	6,0 mm <sup>2</sup>

Fig. 702 Automatic Switching Circuit for Thermo Top E and Z/C, 12 V Timer and Telestart T60



Item	Nomenclature	Remark
A1	Heater	Thermo Top E or Z/C
A2	Control unit	
A3	Connector box	
B2	Temperature sensor	
E	Glow plug / flame sensor	
F1	Fuse 20 A	Flat fuse SAE J 1284
F2	Fuse 1 A	Flat fuse SAE J 1284
F3	Fuse 25 A	Flat fuse SAE J 1284
H1	LED (in item P)	operating indicator light
K3	Relay (in item A3)	vehicle air fan
M1	Motor	combustion air fan
M2	Motor	circulation pump
M3	Motor	vehicle air fan
P	Timer, digital	for timer operation
S1	Switch for vehicle air fan	depending on vehicle S1 or S2
S2	Switch for vehicle air fan	depending on vehicle S1 or S2
S5	Switch	summer/winter switch
X1	Connection, 6-pole	
X2	Connection, 2-pole	water repellent
X3	Connection, 2-pole	water repellent
X4	Connection, 2-pole	water repellent
X5	Connection, 2-pole	water repellent
X6	Connection, 2-pole	water repellent
X9	Connection, 4-pole	
Y1	Dosing pump	

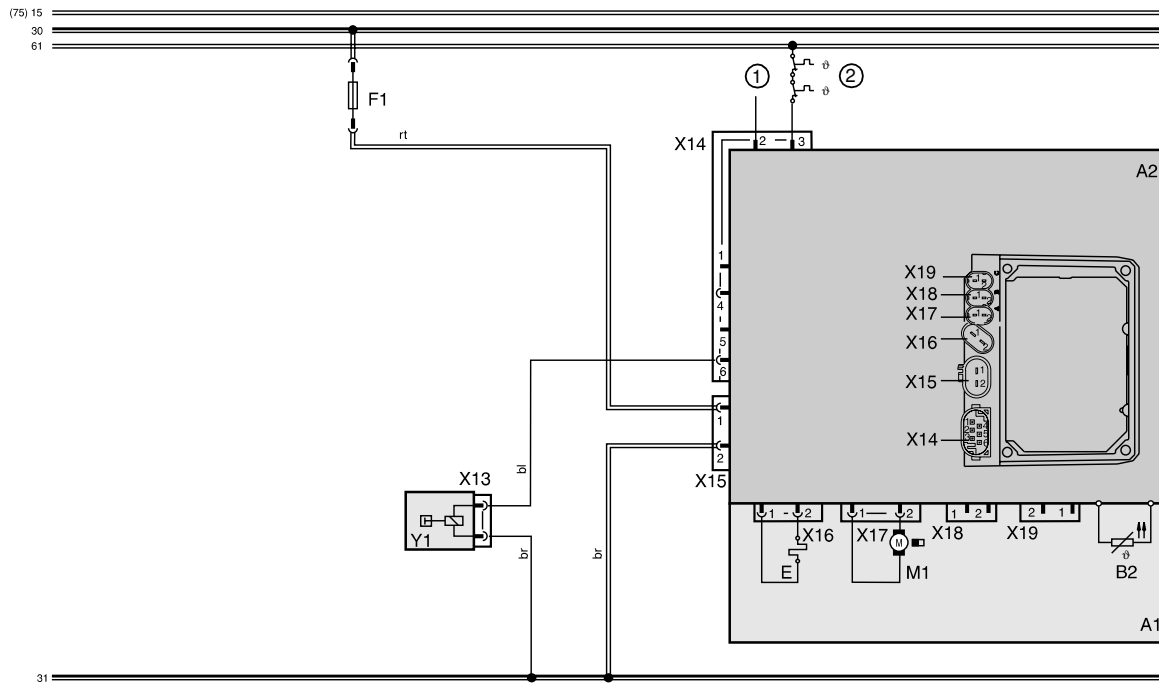
Wire Gauges		
	< 7.5 m	7.5 - 15 m
⋯⋯⋯⋯	0,5 mm <sup>2</sup>	0,75 mm <sup>2</sup>
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— — — —	4,0 mm <sup>2</sup>	6,0 mm <sup>2</sup>

Wire Colours	
bl	blue
br	brown
ge	yellow
gn	green
gr	grey
or	orange
rt	red
sw	black
vi	violet
ws	white

**Legend for circuit diagrams**

- ① Diagnosis
- ② Outside air temperature
- ③ Vehicle heating air fan fuse provided in vehicle
- ④ Option

Fig. 703 Automatic Switching Circuit for Thermo Top E and Z/C, 12 V Timer



Item	Nomenclature	Remark
A1	Heater	Thermo Top Z
A2	Control unit	
B2	Temperature sensor	
E	Glow plug / flame sensor	
F1	Fuse 20 A	Flat fuse SAE J 1284
M1	Motor	combustion air fan
X13	Connection 2-pole	
X14	Connection 6-pole	water repellent
X15	Connection 2-pole	water repellent
X16	Connection 2-pole	water repellent
X17	Connection 2-pole	water repellent
X18	Connection 2-pole	water repellent
X19	Connection 2-pole	water repellent
Y1	Dosing pump	

Wire Gauges		
	< 7.5 m	7.5 - 15 m
-----	0,5 mm <sup>2</sup>	0,75 mm <sup>2</sup>
====	0,75 mm <sup>2</sup>	1,5 mm <sup>2</sup>
=====	1,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>
=====	2,5 mm <sup>2</sup>	4,0 mm <sup>2</sup>
=====	4,0 mm <sup>2</sup>	6,0 mm <sup>2</sup>

Wire Colours	
bl	blue
br	brown
ge	yellow
gn	green
gr	grey
or	orange
rt	red
sw	black
vi	violet
ws	white

Legend for circuit diagrams

- ① Diagnosis
- ② Outside air temperature

Fig. 704 Automatic Switching Circuit for Thermo Top Z, 12 V