7 Day Timer with Diagnostics

Installation & Operating Instructions

Espar

Timer only
P/N 22 1000 30 36 00 (coolant heater 12/24 volt)
P/N 22 1000 30 40 00 (air heater 12/24 volt)

Timers with adaptor but no relay
P/N CA1 00 200 (coolant heater 12V)
P/N CA1 00 201 (coolant heater 24V)
P/N CA1 00 210 (air heater 12V)
P/N CA1 00 211 (air heater 24V)

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7 Day Timer Instructions

The 7 Day Timer has been designed to provide a simple means to control the operation of the heater system and to include diagnostics capability. This timer connects to the diagnostic circuit of the heater. The timer then displays any heater fault codes in three digit number form automatically. The timer allows for pre-selection of turn on time, up to 7 days in advance, as well as an option for run times up to 2 hours before automatically turning off. In addition, there is an on/off switch for manual operation. By default the timer is pre-set by Espar to operate for two hours. See reverse side for programming timer.

1 Mount bezel into dash and insert timer or use Espar's optional mounting bracket and secure to dash.

2 Use hardware supplied for connections.

3 Connect the switch harness to the connector at the heater and run harness to switch location. (Harness should be neatly routed and secured under dashboard).

4 Cut harness to length and terminate wires. Attach using connectors provided.

Mounting Bracket & Bezel
P/N 25 1482 70 01 00

Operating Instructions

1 Time set
2 Preheat time set
3 Heater "On"
4 Backward scan
5 Forward scan
6 Memory location
7 Time and day display
8 Air temperature display (optional)
9 Heater "On" symbol
10 Temperature set (air heater only)

Note: Upon connection to power the entire timer display will begin to flash. The heater will not function until the time is programmed.

Setting Time and Weekday

Push button once. 12:00 will begin to flash (this will occur upon initial hook up to power).
Using or set the present time of day (24 hour clock).
When the time stops flashing the time has been stored.
The weekday will now begin to flash.
Use or to set the present weekday.
When the weekday stops flashing the weekday has been stored

When the vehicle ignition is turned "on" the time display will appear. When the vehicle ignition is turned "off" the timer display will go off after 15 seconds.

continued on reverse side .....

Espar

Changing the Time or Day

Push and hold ◷ button until the time display begins to flash.
Continue to set the time as listed in setting time and weekday.

Using the Timer with the Vehicle Ignition "Off"

Push ♨ button.
♨ will appear on the display as well as the operation countdown timer.
The running time is factory set to a maximum of 120 minutes. This running time can be reset once or permanently as desired.

Adjusting Preheat Time Once

Press ♨ button.
The ♨ will appear in the display and the preselected run time will appear in the display (maximum time of 120 minutes).
Use the ◁ or ▷ to adjust the desired run time.

Adjusting the Heater Preheat Time Permanently
(Maximum Preheat Time of 120 minutes)

Push ◁ and hold (about 3 seconds) until the display lights up and flashes. Release button.
Use ◁ or ▷ to set the new fixed preheat time.
When the display goes off the new preheat time is set.

Note: At the end of a preheat cycle the timer will turn the heater off. The heater will complete a cool down cycle and turn itself off.

Using the Heater Manually with the Vehicle Accessory "On"

Push ♨ button.
The ♨ symbol will appear in the display next to the time of day.
The time of day will remain displayed during ignition on operation.
The heater will function continually as long as the vehicle ignition is "on".
When the vehicle ignition is turned "off" the heater will continue to operate for an addtional 15 minutes.
The run time can be altered by pressing the ◁ or ▷ buttons.
The heater can be turned off by pressing ♨ button.

Set Preheat Times into Memory

Press Ⓟ button until the desired memory location is shown in the display (Three memory locations are available).
Using the ◁ or ▷ buttons set the desired preheat start time of day.
When the time stops flashing the time of day is set.
Using the ◁ or ▷ buttons set the desired day of the week.
When the day of the week stops flashing the day is set.

To Use Preset Start Times

Press the Ⓟ button until the desired memory location appears in the display.
The heater will start at the day and time displayed.
The display will go off in 15 seconds. The memory location number will stay displayed (1, 2 or 3).
Note: When preset is chosen ♨ this symbol will flash red.

To Turn Heater "Off" - All Modes

Press the ♨ button once.
The heat signal to the heater will be turned "off".
The heater will do a normal cooldown and turn itself "off".

Note: When the vehicle ignition is turned "on" the time of day and day of the week will appear in the timer display. This will stay on as long as the vehicle ignition is "on".

Note: When the vehicle lights are turned "on" the timer backlight will come "on" also.

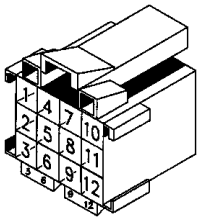
Note: This timer is equipped to display fault code numbers if the heater should shut down due to an operating fault. The fault code will show in the timer display next to the flashing heat wave symbol. This applies to all current model heaters when the blue diagnostic wire is connected.

Note: If the timer is purchased without the harness kit, the following heaters will need a load relay installed (D8LC, D7W, D12W, D24W and D30W), These heaters carry a load on the switch wire. (i.e. fuel metering pump or solenoid valve).

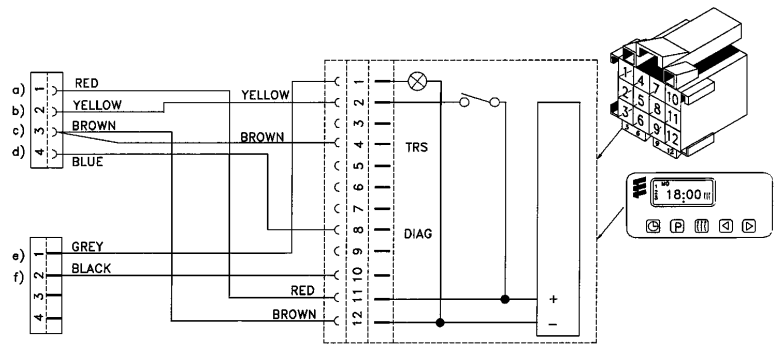
Note: An outside temperature sensor is available as an option

Wiring Connections at connector

Terminal 1	Power from vehicle dash lights
Terminal 2	Heater switch wire - yellow wire
Terminal 4	Connect to vehicle ground
Terminal 6	Temperature setting "+" **(air only)**
Terminal 8	Heater diagnostic lead - blue wire
Terminal 9	Temperature setting "-" **(air only)**
Terminal 10	To vehicle "ACC" accessory for continuous overnight use
Terminal 11	Positive power from heater - red "+"
Terminal 12	Ground lead from heater - brown "-"
Terminal 3,5,7	Left blank, not required

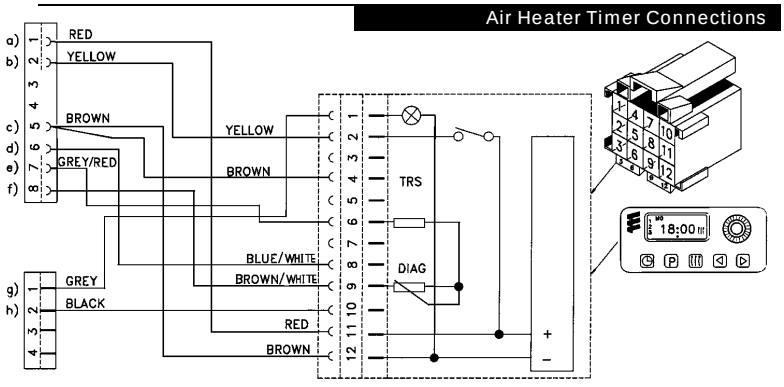


Coolant Heater Timer Connections



a) Power from battery"+"
b) Switch control to heater
c) Power from battery"-"
d) Diagnostics from heater
e) To vehicle dimmer switch for light display
f) To vehicle ignition accessories for continuous operation of heater

Air Heater Timer Connections



a) Power from battery "+"
b) Switch control to heater
c) Power from battery "-"
d) Diagnostics from heater
e) Temperature setting "+"
f) Temperature setting "-"
g) To vehicle dimmer switch for light display
h) To vehicle ignition accessories for continuous operation of heater

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