

Technical Bulletin

Product Information: Basic Weather Compensation. Greenstar Compact Combi & System appliances.

Weather Dependant Compensation:

The Basic Weather Compensation accessory 7-716-192-764 is now compatible with all Greenstar CDi Compact Combis, Si Compact Combis & i System Compact appliances with internal diverter valve which were manufactured from 1st November 2016 (FD 659) onwards.

The following guidance should be referenced until the appliance installation manuals are updated to include this information.

The outdoor sensor must be connected to the appliance as shown below in Fig. 1. Please reference the appliance installation manual for guidance on making low voltage connections.

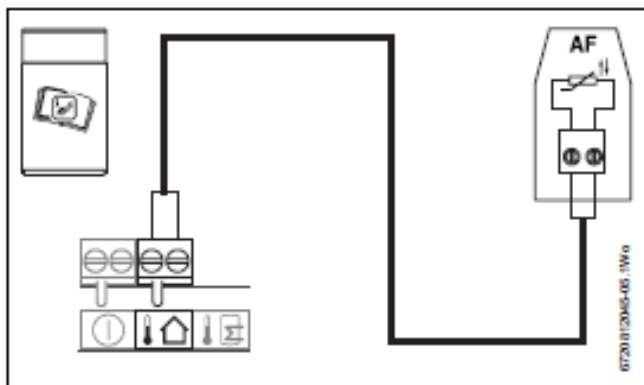


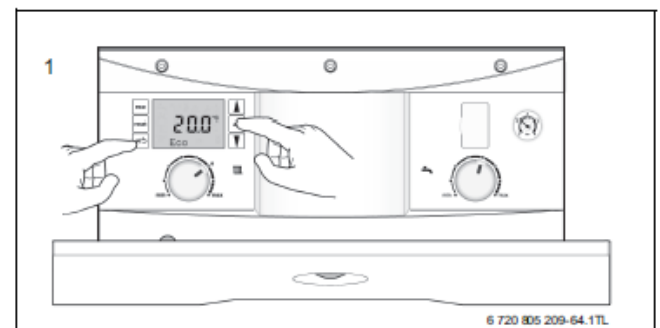


Fig. 1) Boiler terminal connections

Once the outdoor sensor has been connected to the appliance, the basic weather compensation function will have to be switched on in appliance Menu 1.

Selecting Service Menus

1. Press and hold the  and  buttons together for 1 second, the display will show Menu 1.
 - Double up or down arrows indicate that the menu can only be scrolled up or down, an up and down arrow combination indicates positions in the menu where options can be scrolled either up or down.



Menu 1 system parameters

Initially Menu 1 will be displayed.

1.W1	Weather Compensation Functionality	Enable.
1.W2	Weather Compensation Functionality	Point A (@-10°C)
1.W3	Weather Compensation Functionality	Point B(@+20°C)






- To modify the setting, select the desired menu option and press the  button, the option will flash.
- Adjust the parameter using the   arrow buttons and press the  button to confirm.
 - A  will display for 3 seconds to confirm the update of the new value.

Fig. 2) Installation manual extract

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5.11 Weather compensation

The appliance will modulate the CH flow temperature based on the outside temperature when an outdoor sensor is connected to the outdoor sensor connection on the control board and the weather compensation is active.

This is designed for use with a system that has thermostatic radiator valves and a room thermostat.

The appliance will operate at lower temperatures when there is a lower heat load because the building is losing less heat due to higher external temperatures. This means that the appliance is running more efficiently as it is operating for longer at condensing temperatures.

The weather compensation curve can be adjusted to tune the flow temperature to suit the particular installation.

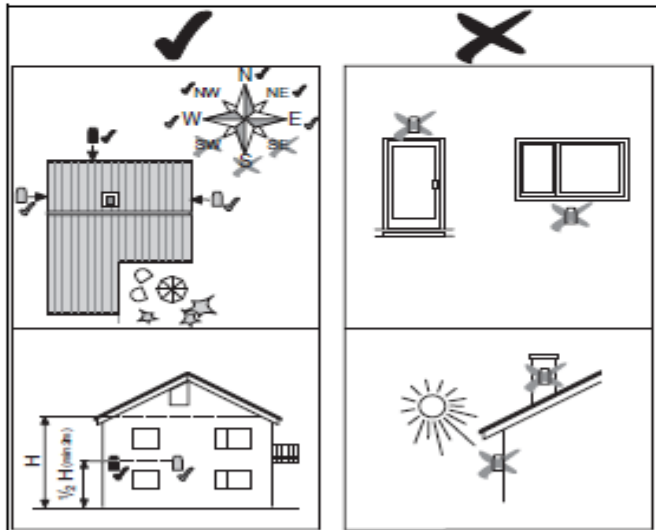
The appliance is supplied with the weather compensation deactivated.

Weather compensation activation:

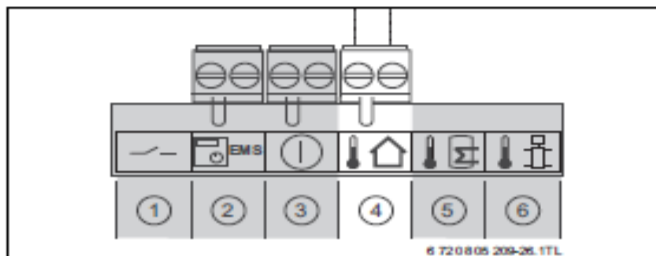
The weather compensation is activated via menu 1 of the text display.

- ▶ Select Menu 1 via ▲▼ scroll buttons.
- ▶ Press OK button.
- ▶ Select W1 via ▲▼ scroll buttons.
- ▶ Press OK button.
- ▶ Set W1 to 1 via ▲ scroll button.
- ▶ Press OK button.

The weather compensation is now active and the appliance will check for the presence of an outdoor sensor and deactivate the CH flow temperature modulation if a sensor is not detected. When weather compensation is activated but an outdoor sensor is not fitted/detected, the warning triangle and H29 will be displayed on the LCD display.



Weather compensation sensor optimum siting indicated by a black tick.



The sensor is wired directly into the control box via terminal 4 in the low voltage terminal strip.

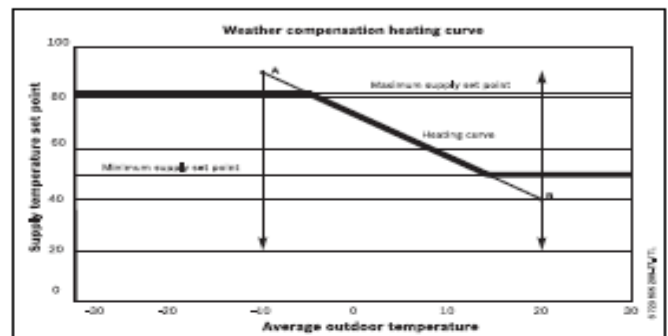
Fig. 3) Installation manual extract

The heating curve

The CH flow temperature has an upper limit of 82°C (this can be capped via the CH control knob setting) and a lower limit of 50°C, (it is recommended that the CH knob is set to 82°C for the weather compensation to operate most effectively).

The default settings for the curve are point A = 90°C and point B = 40°C, this gives a 80°C flow at -4°C outdoor temperature and a 50°C flow at 14°C outdoor temperature which should be suitable for typical systems.

Point A is the projected value for the flow temperature at -10°C outdoor temperature and point B is the projected value for the flow temperature at +20°C outdoor temperature, (these values dictate the angle of the slope only they are not CH flow temperature limits).



Adjusting the heating curve

- ▶ The weather compensation curve can be adjusted via the text display by adjusting the projected flow temperature at -10°C (point A), Menu 1 W2 (pA), and 20°C (point B), W3 (pB), enabling the slope as well as the position of the curve to be adjusted to suit the installation.
- ▶ Point A and B can be set between 90 and 20°C but point A must always be greater than point B.

Outdoor sensor error

- ▶ If during weather compensation the outdoor sensor is open circuit or closed circuit the CH flow temperature modulation is deactivated and the CH flow temperature set to the CH control knob setting, a warning triangle and H29 are displayed on the LCD.
- ▶ The appliance will monitor the outdoor sensor input and if the sensor returns to normal then the flow temperature modulation will be reactivated and the LCD warning triangle and H29 are turned Off, (there may be a 10 second delay).

Average outdoor temperature

- ▶ To stop rapid fluctuations the outdoor temperature used for CH flow temperature modulation is an average value taken over a ten minute period.
- ▶ When an outdoor sensor is first detected the sensor value is taken to be the outdoor temperature, subsequent to this the outdoor temperature will be adjusted every 10 minutes using an average outdoor temperature value from the previous 10 minute period.

Frost-protection

i System frost protection is not available via the external sensor on Greenstar Compact appliances.

Appliance frost protection will remain active.

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Symbol [3] will be displayed once the outdoor weather sensor is connected and switched on in Menu 1, W1.

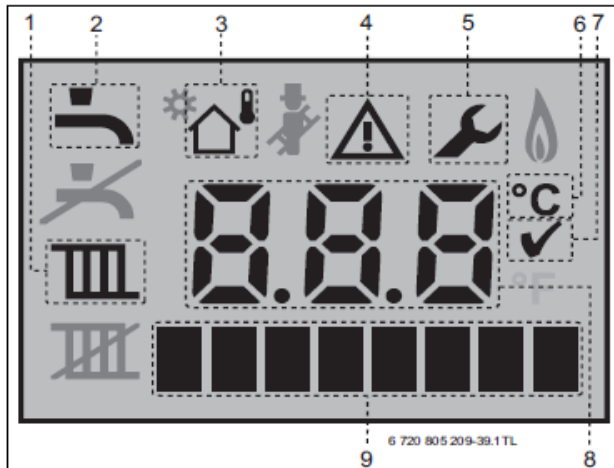


Fig. 61

- [1] **Central heating symbol**
Displays this symbol during CH demand.
- [2] **Hot water symbol**
Displays this symbol during DHW demand (DHW flow rate > 2 litres per minute) and tank reheat.
- [3] **Weather Compensation active symbol**
Displays this symbol only if a Weather Compensation sensor has been fitted to the appliance and is active.
- [4] **Alert symbol**
Displays with the boiler status code and diagnostic code during a fault condition.
- [5] **Service mode symbol**
Displays when in the service menu.

Fig. 4) Installation manual extract

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