Technical Bulletin

Installation: multizone configurations via EMS modules

MODULES AND SYSTEM CONFIGURATIONS

There is now an option to use EMS modules for multiple heating and hot water circuits. Only the below configurations can be used.

Please note that this guidance is in relation to domestic appliances only. Commercial products remain separate. Providing the installation does not come under a commercial scenario, including annual run hours of under 1300, the guarantee on the boiler will be as standard. The guarantee will be subject to change if any aspects fall into a commercial scenario.

1. Combination boiler (Greenstar 8000 Style/Life, Greenstar CDi/Si compact only) Low Loss Header, 1-4 mixed and / or unmixed circuit(s). Example below shows for one unmixed & one mixed circuit:

Required Worcester Bosch products:
Greenstar 8000 Life / Style Combi *(≥FD 917)*
or
Greenstar Cdi/Si Compact ErP *(≥FD 660)*
Plus:
Sense II **7738111064**
Sense I **7738110054**
MM100 Module x 2 **7738110140**

Module wiring:
VC1 mixing valve for mixed circuits
PC1 pump
T0 Optional LLH sensor
TC1 mixed heating circuit temperature sensor
MC1 over heat protection for mixed circuit

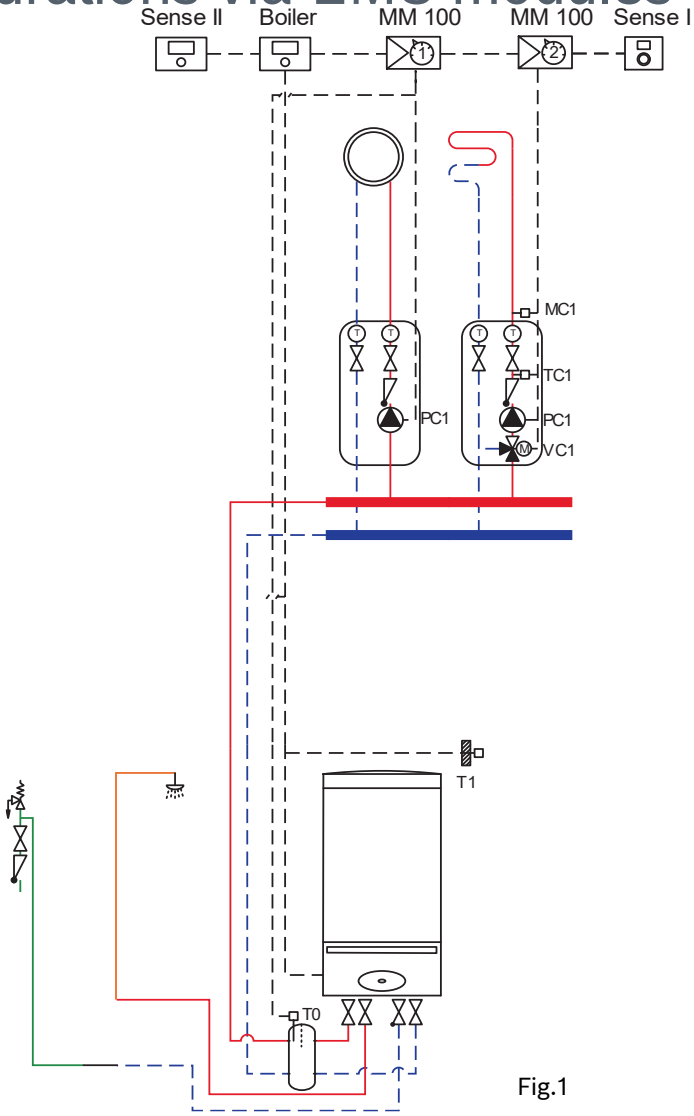

Fig.1

BUS EMS connection between boiler, modules and room sensors
Outdoor weather sensor wired to boiler *See Fig.11

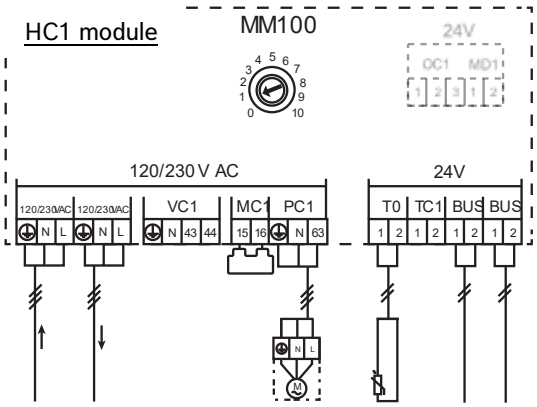

Fig.2

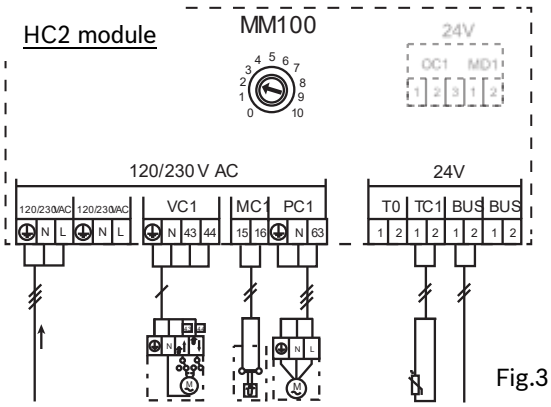

Fig.3

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2. System boiler (Greenstar 8000 style/Life system, Greenstar I system compact only) Low Loss Header, 1-4 mixed and/ or unmixed circuit(s). Example below shows for one unmixed & one mixed circuit:

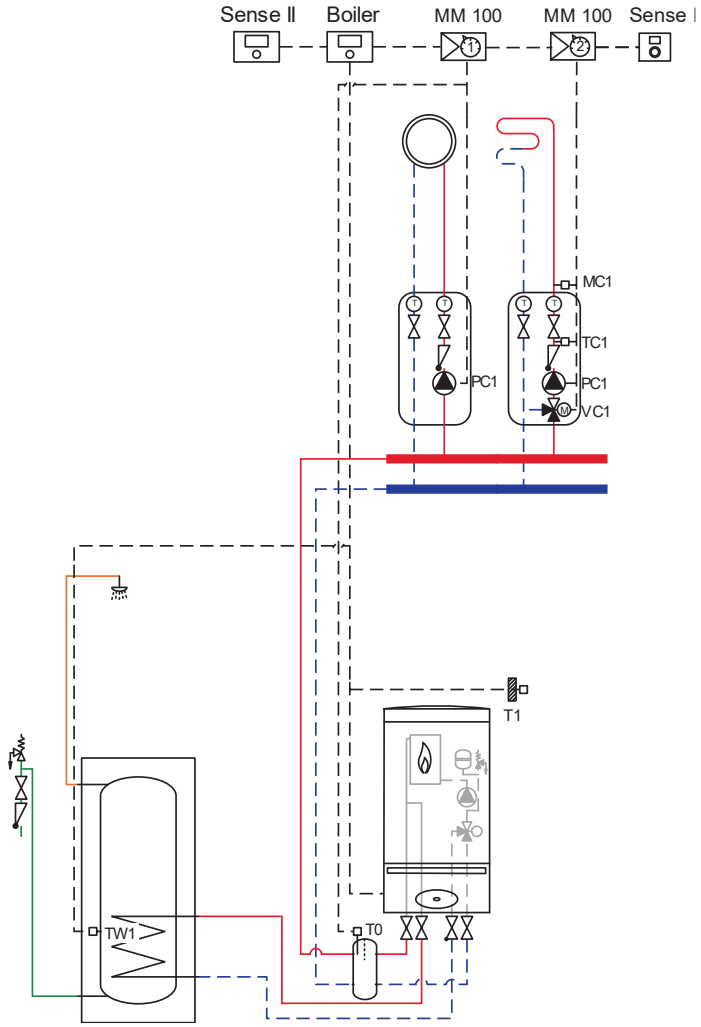

Fig.4

Required Worcester Bosch products:
Greenstar 8000 Life / Style System *(≥FD 237) with* 8000 Lifestyle Diverter Kit **7738112913**
or
Greenstar I System Compact ErP *(≥FD 660) with* Diverter Valve Kit I System 27 ErP**7733600220**
Plus:
Sense II **7738111064**
Sense I **7738110054**
MM100 Module x 2 **7738110140**

HC1 module

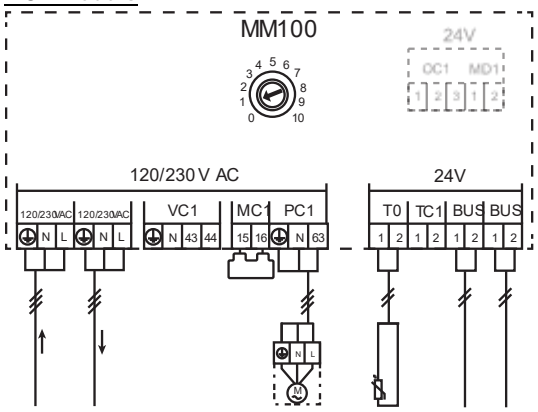

Fig.5

HC2 module

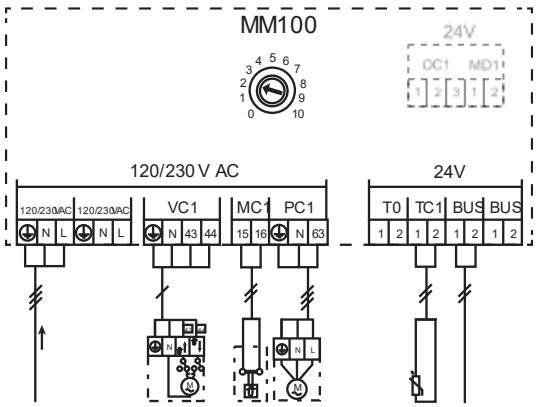

Fig.6

Module wiring:
VC1 mixing valve for mixed circuits
PC1 pump
T0 Optional LLH sensor
TC1 mixed heating circuit temperature sensor
MC1 over heat protection for mixed circuit
TW1 hot water sensor (to boiler)
BUS EMS connection between boiler, modules and room sensors
Outdoor weather sensor wired to boiler *See Fig.11

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3. Regular boiler (Greenstar 8000 Life Regular or Greenstar Ri Compact) Low Loss Header, 1 DHW circuit, 1-4 mixed and/ or unmixed circuit(s). Example below shows for one DHW circuit, one unmixed circuit & one mixed circuit:

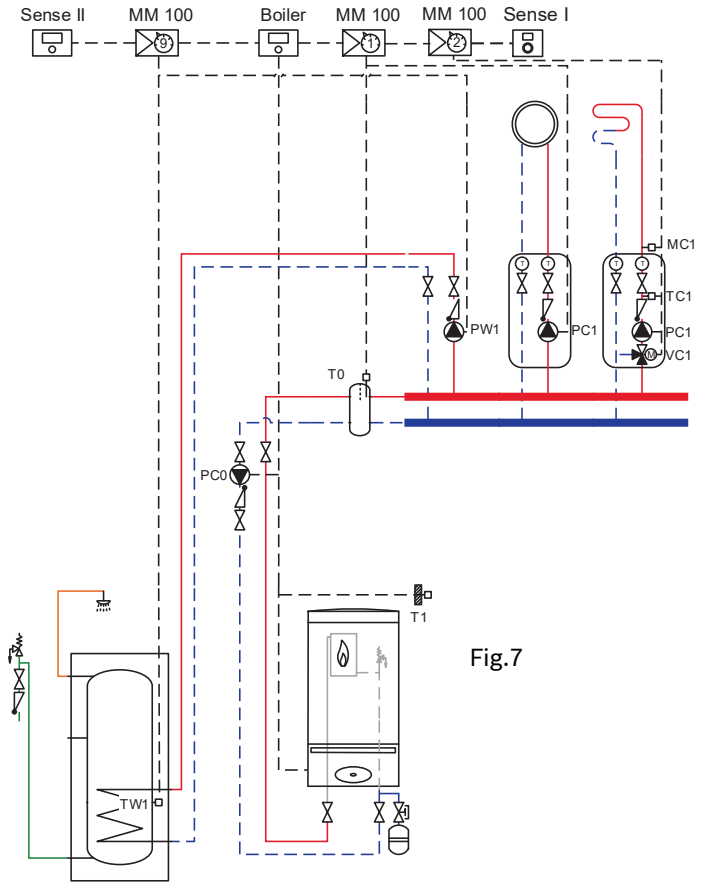

Fig.7

Required Worcester Bosch products:
Greenstar 8000 Life Regular *(≥FD 179)*
Or:
Greenstar Ri Compact *(≥FD 304)*
Plus:
Sense II (with OT sensor) **7738111064**
Sense I **7738110054**
MM100 Module x 3 **7738110140**

Module wiring:
VC1 Optional DHW secondary pump
PC1 pump
T0 Optional LLH sensor
TC1 mixed heating circuit temperature sensor or DHW sensor
MC1 over heat protection for mixed circuit
BUS EMS connection between boiler, modules and room sensors
PW1 DHW primary pump
TW1 Cylinder sensor

PC0 Pump wired directly back to boiler.
Outdoor weather sensor wired to boiler *See Fig.11

HC1 module – Unmixed circuit

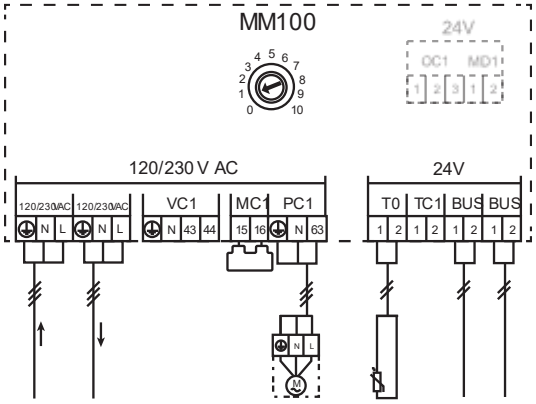

Fig.8

HC2 module – Mixed circuit

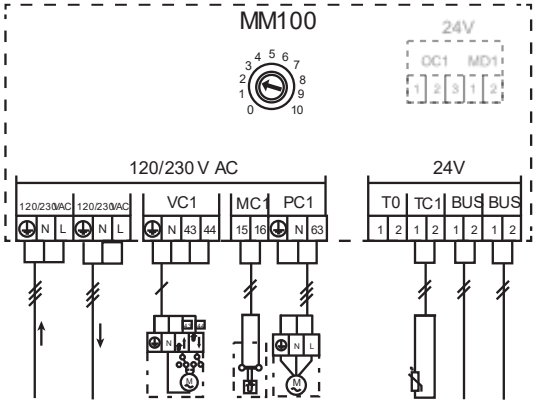

Fig.9

HC3 module – DHW circuit

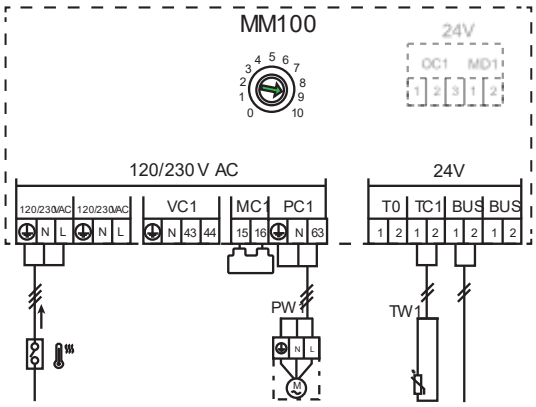

Fig.10

The 230vAC live into the module must go via the cylinder's high limit thermal cut out in order to stop both the DHW zone pump (PW1) and secondly to eliminate the boiler's status 201 DHW demand. This will give a module communication error on the sense II and comply with G3 regulations.

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Outdoor sensor wiring:

CDi / Si Compact:

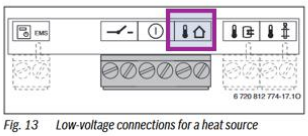

Fig. 13 Low-voltage connections for a heat source

Key to fig. 13	
EMS	EMS/EMS 2 BUS connection
	Room thermostat input with low voltage (NOT USED)
	External switching contact (NOT USED)
	Outside temperature sensor
	Temperature sensor for DHW cylinder (NOT USED with combi boilers)
	Flow temperature sensor on the low loss header (NOT USED)

8000 Life / Style:

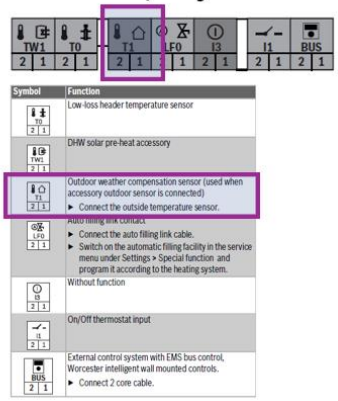

Fig.11

Providing the installation does not come under a commercial scenario, including annual run hours of under 1300, the guarantee on the boiler will be as standard. The guarantee will be subject to change if any aspects fall into a commercial scenario.

Note:

If all circuits require weather compensation, all circuits must be done via a mixed heating circuit. Where using a mixed circuit off the Low Loss Header it is recommended to choose the Control Type:

'Outdoor-temp.-compensated'

or

'Outside-temp.-with-low-end'

Where a heat curve can then be set based on a design flow temperature at a set average low outdoor temperature for the year. The second option allows a base and end point to be set manually in the heat curve.

If using an unmixed circuit off the Low Loss Header it is recommended to choose the Control Type:

'Room-temp.-compensated'.

For this heat circuit in order to avoid possible room temperature overshoot, (i.e. no heat demand but *still* pump demand, pulling in heat intended for another circuit from the header) the following will need to be done.

A Sense I will be required to provide room temperature reference for this zone and commissioned as type Fb controller and coded for the heat circuit it is controlling (e.g. HC1 for module coded 1).

When using the required Sense II, run the Commissioning Wizard followed by checking and adjusting the settings as necessary for Heating Circuit 1, repeat for Heating Circuit 2 etc. as necessary.

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