The Simple MMI is a user-friendly, OpenTherm™ communicating, remote user interface (or room control) for complete boiler control and comfort temperature regulation. Through a bi-directional data communication with the boiler, the Simple MMI allows the user setting up automatic regulation of Central Heating (CH) and Domestic Hot Water (DHW) temperatures in case of indoor or outdoor boiler installations.

Simple MMI is suitable for a wide range of applications such as:
- central heating only or combi boilers;
- domestic air heaters, roof-top air heaters and split unit air heaters;
- heat pumps appliances.

It can be used in existing or new appliances that already support an OpenTherm™ communication line connection or in combination with Honeywell boiler control electronics.

Simple MMI, used in combination with Honeywell boiler control electronics, completes a full-control offer and represents a ready-to-use solution for OEM (Original Equipment Manufacturer) customers.

### Table: Features and Benefits

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy and intuitive Ambient (CH) and Water (DHW) temperature control</td>
<td>Dial setting for an easy and intuitive Ambient Temperature adjustment and Domestic Hot Water Temperature adjustment. Boiler Modulation based on Ambient temperature</td>
</tr>
<tr>
<td>7Days Programmable</td>
<td>Pre-defined programs with up to 6 programmable switching points. Manual override function.</td>
</tr>
<tr>
<td>Graphic LCD</td>
<td>Graphic LCD display with numeric characters and graphic status icons (optional back-light)</td>
</tr>
<tr>
<td>Indications</td>
<td>Actual radiator and domestic water temperatures, outside temperature information, burner flame status and Boiler fault codes</td>
</tr>
<tr>
<td>Lock-out reset</td>
<td>Remote Boiler Lock-out reset in case of boiler errors (according with maximum reset attempts defined by boiler board).</td>
</tr>
<tr>
<td>Boiler functional parameters setting (service)</td>
<td>Hide menu with boiler functional parameters information and setting.</td>
</tr>
<tr>
<td>Communication</td>
<td>Communication with appliances via OpenTherm™ protocol.</td>
</tr>
<tr>
<td>RF Enabled</td>
<td>Using RF Module, a wireless network between Simple MMI and boiler can be easily set up, avoiding masonry and saving installation cost.</td>
</tr>
<tr>
<td>Open for customization</td>
<td>Customization capability and flexibility:</td>
</tr>
<tr>
<td></td>
<td>• decorative cover, OEM brand, buttons, shell shape and color;</td>
</tr>
<tr>
<td></td>
<td>• instruction manual;</td>
</tr>
<tr>
<td></td>
<td>• factory parameter settings;</td>
</tr>
<tr>
<td></td>
<td>• packing.</td>
</tr>
</tbody>
</table>

**Figure 1: Simple MMI**

---

**IMPORTANT:** The document does not represent and substitute any Engineering Technical specification. Information is given below for your convenience, for an entry-level description of the product platform.

For further details, please refer to your Honeywell ECC sales representative.

www.honeywell.com
Applications

The Simple MMI is intended as an OEM product. It applies to OpenTherm™ Boiler Applications. It is available in both wired and wireless versions as depicted in the following pictures. Wired and wireless configurations are equivalent in functionality and user interface approach.

Wired Version

Simple MMI is connected to the boiler electronic board through 2 low safety voltage non-polarized wires (as specified in OpenTherm™ protocol).

No additional power supply is needed.

RF Plug-in module for Wireless Version

RF Plug-in module is used to obtain wireless configuration. It also acts as batteries housing containing two AA batteries for Simple MMI power supply. RF Plug-in module is directly connected to the Simple MMI as shown in the following pictures.
Wireless Version

Simple MMI is empowered by the batteries located inside the RF plug-in module. An additional RF Bridge is connected to Boiler electronic board trough a 2 Low safety voltage non polarized wires (as specified in OpenTherm™ protocol).

RF Bridge does not require additional power supply.
General characteristics

The Simple MMI is - as the name suggests - a very simple remote room control (or user interface) for complete boiler control and comfort temperature regulation. Using this programmable communicating room control is possible to controls heating system having comfortable temperatures and energy saving through modulation.

The Simple MMI, using OpenTherm™ as bi-directional data communication protocol, allows the user to have a full remote control of the boiler and to get from boiler itself some useful indications.

Main functions available are:

- actual time display;
- actual day display
- actual room temperature or room temperature set point;
- set point adjustments;
- Seven days time program with 2-6 points with independent room temperature settings for each day;
- system output indications.

If needed, optional RF plug-in can be used to set up a wireless communication with the boiler. The Simple MMI can therefore be installed without disrupting room décor and there is no need to provide wired connection between the Simple MMI and boiler.

Simple MMI display utilizes number and smart icons to make easier and more intuitive standard utilization and boiler control programming.

Controls / Display layout

1. 1 to 6 # switching points (Outlined number indicates active period)
2. Room temperature
3. RF connection and low battery indicator
4. Days bar
5. Boiler mode button: OFF, ON or DHW only. Reset in case of Boiler Fault
6. Switching points and temperatures programming button
7. Automatic or manual programs button
8. Dial push button: info and boiler setting
9. CH and DHW symbols
10. Clock setting buttons
11. Manual mode and flame status icons
12. Time indication
13. LCD display
**OEM Customizations**

Both Wired and Wireless Simple MMIs are available with Standard Honeywell branded plastics, serigraphy and packaging.

In addition, in order to pursue OEM’s needs and obtain requested look & feel, Simple MMI allows different types of customizations. Honeywell customization options for OEMs include mechanical and software modifications, as well as custom packaging and user manuals allowing OEMs to:

- Improve their time to market;
- Reduce development costs/risks;
- Differentiate from competition.

Following a brief indication of mechanical and software customizations available for Simple MMI

**Mechanical Customizations**

- Decorative cover;
  Decorative cover customizations can really help to characterize Simple MMI. This can call to mind boiler look & feel or other OEM’s product families.

- Logo;
  OEM’s design or logo is “printed” on the Simple MMI decorative cover allowing being characteristic and brand recognizable.

- Serigraphy;
  Serigraphy customizations – text, position, color and font – can suit and follow also light software customizations (such as direct menu accesses).

- Body plastics shape, color and finishing;
  Together with decorative cover customizations, body plastics shape, color and finishing can help to fulfill OEM’s requirements.

- Keys color;
  Simple MMI silicone Keys allow maximum flexibility in customization.

- Packaging;
  In addition to branding the product itself and to mechanical customization, Honeywell can provide custom packaging with logos and insignia on the outside.

- User Manuals.
  Honeywell can also assist OEM with providing custom User Instruction Sheet for Installers and End users.

**Software Customizations**

- Direct menu accesses;
  Depending on appliance features, these customizations allow the OEM’s to choose which menu functions are one-touch accessible from the Simple MMI.

- Other software customizations;
  OEM can choose to show/hide menus or to change – within some technical limits – menus organization.

Mechanical and software customizations are strictly related to volumes. Even if a full customization program is guaranteed for the highest volumes, also light customizations could be implemented.
**System proposition**

Honeywell offers a comprehensive product portfolio for Residential, Commercial and Industrial (BBC) heating appliances.
Honeywell can help OEMs grow their business while improving margins, reducing costs and providing the ability to offer complete solutions to their customers.
Honeywell tests and validates its components as stand-alone entities but also as part of a system to form a complete solution, ensuring higher and proven performances, quality and reliability.
Honeywell provides products for each core part of a boiler appliance: Burner Safety & Logic control, gas control, hydraulic control and local & remote controls.

**Simple MMI and radiator controllers**

Radiator Controller (HR80) provides local room temperature control based upon set point information received from the Simple MMI and sends Load Demand signals based upon room conditions. Set points can be temporarily overridden using the adjustment dial.
Radiator Controller can be fitted onto Honeywell VT15, VT17, VT200 and many other manufacturers TRV bodies with a M30x1.5mm thread and a 12.9 - 10.5 mm valve closing point, adaptors may be available for manufacturers with non standard connections.

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**Example 1**

**Single-Zone application with radiator controllers**

The Simple MMI provides a central point from which to configure the system and set the time and temperature profiles simultaneously for all radiators under control.

The Simple MMI transmits the required temperature set point to the respective radiator controllers. Set points can be temporarily overridden – at each radiator controller – using the adjustment dial.

- 1 wireless Simple MMI (with 1 RF Bridge)
- 3 HR80 radiator controllers
- 1 Boiler electronic Board (OpenTherm compliant)
- 1 external temperature sensor
Simple MMI and zoning controller

Zoning controller: The function of a zoning controller is to control the supply temperature for different rooms using modulating room control.

Example 2  
Multi-zone application with zoning controller (3 zones/rooms)

The zoning controller controls the supply temperature, for different rooms. Using modulating Simple MMI, the user can program different desired temperatures and times for each room.

- 3 Simple MMIs: (2 wired and 1 wireless with RF Bridge)  
- 1 Zoning controller  
- 1 Boiler electronic Board (OpenTherm compliant)
**Installation**

The installation of both Wired and Wireless Simple MMIs is very safe and simple. Thanks to their low voltage power-supplies (OpenTherm™ cable or 2 AA batteries in case of wireless version), Simple MMIs can be installed by qualified HVAC contractors or plumbers without any electrical certification.

**Wired**

The Wired Simple MMI can be wired directly to the OpenTherm™ equipment (cable length up to 50m) using a polarity free bipolar cable as indicated in Technical Specifications paragraph. It can be easily wall mounted with screws.

**Wireless**

In a very basic retrofit installation of a central heating system, the RF Bridge can be wired directly to the equipment OpenTherm™ connection. The Wireless Simple MMI can then be placed anywhere in the building and is easily wall mounted with screws. With some systems, the wireless room control does not need to be mounted at all. It can be placed near bed, on a table, or in any other handy location.

---

**LOCATION**

The Simple MMI is the control element of the heating system and, therefore, MUST be located in a position with good air circulation, at average room temperature and on an inside wall, 1.5 meters above the floor level. Do not position the Simple MMI near sources of heat (radiators, hot air vents, TV or lights), near doors or windows, or in direct sunlight.

**MOUNTING**

The Simple MMI can be:
- mounted directly on the wall surface;
- Mounted on to an electrical wall box.
Other remote control solutions

Simple MMI: 1Day programmable – easy and intuitive

Remote Controls Honeywell portfolio also includes Simple MMI 1 Day.

This device is a 1day programmable remote control with similar functionalities as per Simple MMI 7Days.

Ambient Temperature adjustment and Domestic Hot Water Temperature adjustment are very easy and intuitive. Multi function Dial button helps user in boiler use and setting.

The Simple MMI is intended as an OEM product as well. It applies to OpenTherm™ Boiler Applications and it is also available in both wired and wireless versions.

Wired and wireless configurations are equivalent in functionality and user interface approach.
Remote MMI: 7Days programmable and text menus

Remote Controls Honeywell portfolio also includes Remote MMI. This advance device is a 7day programmable remote control with similar functionalities as per Simple MMI.

A dynamic text display on the large LCD gives enhanced feedback to the end-user and installer. Multi-languages text (15 characters text line) helps controls and functions management.

The Remote MMI is available in following languages:
- Deutsche
- Dutch
- French
- Italian
- Spanish
- English

The Remote MMI is intended as an OEM product as well. It applies to OpenTherm™ Boiler Applications and it is also available in both wired and wireless versions.

Wired and wireless configurations are equivalent in functionality and user interface approach.
**OpenTherm™ Overview**

**Characteristics...**
OpenTherm is a non-manufacturer-dependent system of communication between modulating heating appliances (central heating appliances and air heaters) and room controls. The system consists of a communication protocol and an interface specification. OpenTherm combines simple installation techniques with high functionality and future expansion possibilities.

OpenTherm is a standard protocol, this means that central heating appliances and controllers can operate together without problems. A compatibility test is always recommended in all cases to ensure robust communication performance.

Several proprietary solutions at this low-end have been developed, but offer no cross-compatibility with products from different manufacturers.

The trend in boiler technologies towards high-efficiency appliances with gas/air modulation and increased sophistication in control electronics has created a requirement for system communication between boilers and room controllers. Appliance manufacturers are bringing modulating central heating systems onto the market. These appliances offer better efficiency and reduced environmental effects, as well as increased comfort. Simple MMI remote control, using OpenTherm protocol, can be used to operate the appliance, to read appliance settings and other data like error and malfunction codes.

Products which use OpenTherm can be identified by the OpenTherm logo.

...& **Benefits**
The use of OpenTherm has great advantages for all the players: OEM, installer, consumer and of course environmental advantage.

<table>
<thead>
<tr>
<th>for OEM:</th>
<th>for installers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• supported by a growing number of manufacturers</td>
<td>• installation is as simple as that of on/off</td>
</tr>
<tr>
<td>• a larger market because of wide selection of products</td>
<td>● 2 wire low voltage connection</td>
</tr>
<tr>
<td>• freedom to build own functions</td>
<td>● no adjustments or tuning</td>
</tr>
<tr>
<td>• simple to implement</td>
<td>● testing by closing the connection</td>
</tr>
<tr>
<td>• support from the OpenTherm Association</td>
<td>● status of the boiler on the display</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>for consumers:</th>
<th>for the environment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• increased comfort</td>
<td>• less pollution</td>
</tr>
<tr>
<td>• lower costs</td>
<td>• no batteries required</td>
</tr>
<tr>
<td>• wider selection of products</td>
<td>• lower energy consumption</td>
</tr>
<tr>
<td>• remote control</td>
<td></td>
</tr>
<tr>
<td>• increased life span</td>
<td></td>
</tr>
<tr>
<td>• extra functions</td>
<td></td>
</tr>
<tr>
<td>• no batteries required</td>
<td></td>
</tr>
<tr>
<td>• ready for future expansion</td>
<td></td>
</tr>
</tbody>
</table>
Technical Specifications

**Mechanical characteristics**

- **Shell color**: White RAL 9003
- **Shell material**: ABS recycling
- **Shell wall-plate color**: Cool grey PANTONE 4C
- **Shell wall-plate material**: ABS recycling
- **Button MODE/RESET – PROG – AUTO/MAN – UP/DOWN color**: Cool grey PANTONE 4C
- **Button MODE/RESET – PROG – AUTO/MAN – UP/DOWN material**: Silicone
- **Button DIAL color**: White RAL 9003
- **Button DIAL material**: ABS recycling
- **Painting instructions**: Cool grey PANTONE 8C

**General data**

- **Room temperature sensor measurement range**: 0°C ÷ 45°C
- **Room temperature sensor accuracy**: Minimum +/- 0,5°C at 20°C - maximum +/-2,8 °C at 0 or 45°C
- **Room temperature sensor resolution**: 0,1°C minimum inside the specified measurement range
- **Room temperature selection range for timer function**: 10 ÷ 39°C
- **Temperature selection step**: 0,5°C
- **Back up capacitor’s charge time**: 1 hour
- **Data back up time (TIME and selected FUNCTIONAL MODE)**: minimum 5 hours

**Operation and shipping environment**

- **Operating temperature range**: 0 ÷ 40°C
- **Shipping and storage temperature range**: -20 ÷ 55°C
- **Relative humidity**: 10% ÷ 90% non condensing
- **Environmental protection**: IP 30 minimum

**Wired only**

- **Mechanical characteristics**
  - **Simple MMI dimensions**: 100 x 78 x 37 mm

**Electrical characteristics and connections (See OpenTherm™ specifications)**

- **Wires section range**: 0,15-0,75 mm²
- **Type**: Untwisted
- **Maximum length**: 50 m
- **Maximum resistance**: 2 * 5 Ohms
- **Polarity of connections**: Polarity free - interchangeable

**Wireless only**

- **Mechanical characteristics**
  - **Simple MMI dimensions + RF module**: 125 x 78 x 37 mm
  - **RF Bridge dimensions**: 82 x 87 x 29 mm

**Electrical characteristics and connections (See OpenTherm™ specifications)**

- **Batteries**: 2 x 1,5V (AA) alkaline cells
- **Battery life**: Minimum 2 years
- **Wires section range (applicable to RF Bridge)**: 0,15-0,75 mm²
- **Type**: Untwisted
- **Maximum length (applicable to RF Bridge)**: 50 m
- **Maximum resistance (applicable to RF Bridge)**: 2 * 5 Ohms
- **Polarity of connections (applicable to RF Bridge)**: Polarity free - interchangeable
**Wireless RF technology**

Honeywell RF products operate in well regulated RF band (868.0-868.8 MHz). In order to avoid RF communication jamming the duty cycle limit has been defined for this band. The RF devices operating in this band are not allowed to transmit messages for more than 1% of the cycle time. The duty cycle limit requires minimum airtime and to achieve this Honeywell uses single band, high rate data transmissions. The devices transmitting continuously can not operate in this band.

**Wireless RF performances**

RF communication range is 100 m in open field and, as indicated in the picture below, 30 m in typical residential building environment. This means that RF signal is able to pass through 3 standard* walls and 1 ceiling. Fallback to wired installation is available in any time using the same OpenTherm connection.

* Metal and reinforced concrete walls reduce the RF communication range. Honeywell suggest performing RF communication field test before the installation.
**Ordering Specification Number**

Tables 1 through 5 give ordering information for the Simple MMI Remote Control, Electronic Boiler controller, Board User Interfaces, accessories and correlated products.

### Table 1: Simple MMI 7Days Control

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR12002</td>
<td>Simple MMI Remote Control: 7-Day program, wired version</td>
<td></td>
</tr>
<tr>
<td>CRF12102</td>
<td>Simple MMI Remote Control: 7-Day program, wireless version</td>
<td></td>
</tr>
</tbody>
</table>

### Table 1: Simple MMI 1Day Control

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR12001</td>
<td>Simple MMI Remote Control: 1-Day program, wired version</td>
<td></td>
</tr>
<tr>
<td>CRF12101</td>
<td>Simple MMI Remote Control: 1-Day program, wireless version</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Remote MMI Control

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS number</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>CR11001</td>
<td>Remote MMI: 7-Days program, wired, language supported (IT, ES, EN)</td>
</tr>
<tr>
<td>CR11005</td>
<td>Remote MMI: 7-Days program, wired, language supported (D, NL, FR)</td>
</tr>
<tr>
<td>CRF1101</td>
<td>RF Remote MMI Set. Includes: Remote MMI (7-Days program, Wireless, language supported (IT, ES, EN) w/ RF module, plastic table top stand, RF Bridge for boiler.</td>
</tr>
<tr>
<td>CRF1105</td>
<td>RF Remote MMI Set. Includes: Remote MMI (7-Days program, Wireless, language supported (D, NL, FR) w/ RF module, plastic table top stand, RF Bridge for boiler.</td>
</tr>
</tbody>
</table>

Table 3: Radiator Controller

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR80</td>
<td>HR80 Radiator Controller RF provides local room temperature control based upon It can be fitted onto Honeywell VT15, VT117, VT200 and many other manufacturers TRV bodies.</td>
<td><img src="image" alt="HR80 Preview" /></td>
</tr>
</tbody>
</table>

Table 4: Boiler electronic Controllers – BMBC platform

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM10013</td>
<td>BMBC Top Premix Controller for the full control of premix condensing appliances.</td>
<td><img src="image" alt="SM10013 Preview" /></td>
</tr>
<tr>
<td>SM10007</td>
<td>BMBC Top Controller for the full control of atmospheric monothermic / bithermic appliances.</td>
<td><img src="image" alt="SM10007 Preview" /></td>
</tr>
</tbody>
</table>
Table 5: Boiler electronic Controllers – ESYS platform

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>S4965CM2076</td>
<td>ESYS Atmospheric controller for atmospheric instantaneous/storage combi- boilers. Note: the controller is meant to be used in conjunction with a Local User Interface from DSP49 series in order to enable OpenTherm™ communication.</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>+ DSP49G1053</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4965V2042</td>
<td>ESYS Premix controller for premix instantaneous/storage combi- boilers for 3-wires DC-Fan. Note: the controller is meant to be used in conjunction with a Local User Interface from DSP49 series in order to enable OpenTherm™ communication.</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>+ DSP49G1053</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4965V2115</td>
<td>ESYS Premix controller for premix instantaneous/storage combi- boilers for 4-wires DC-Fan. Note: the controller is meant to be used in conjunction with a Local User Interface from DSP49 series in order to enable OpenTherm™ communication.</td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>+ DSP49G1053</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Digital Ignition controller – BMBC platform

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM10015</td>
<td>BMBC Digital Ignition Controller. Includes: Burner Controller, Cold Air Fan support, Rectified and non-rectified gas valve support, Lock-out signaling</td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
</tbody>
</table>

Table 7: Zoning Controller

<table>
<thead>
<tr>
<th>OS number</th>
<th>Description</th>
<th>Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>SZ16501</td>
<td>Zoning controller controls the supply temperature for different rooms/zones using modulating room control.</td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
</tbody>
</table>

IMPORTANT: The above codes are given for your convenience to test the electronic solution. If you need further details or special configuration, please refer to your Honeywell ECC sales representative.