

Datasheet Infinity Radiator Thermostat

INF-203-Z-01

Infinity Radiator Thermostat is a wireless (Z-Wave) thermostat head that allows for effective room temperature management, compatible with the Grenton Smart Home system. To use the module in the Grenton Smart Home system, it must be added to the Grenton CLU Z-Wave central unit. Once added to the system, the module provides information on the percentage of valve opening and the current ambient temperature.



1. Parameters - ZWAVE THERMOSTAT

Features:	
Mode	Thermostat mode (0 - auto, 1 - manual, Z - off)
Temperature	Air temperature measured by thermostat
PointValue	Temperature value in auto mode
ValvePosition	Thermostat valve opening (0% - closed, 100% - open)
Methods:	
SetMode	Sets thermostat mode
SetPointValue	Sets temperature value in auto mode
SetValvePosition	Sets valve opening in manual mode
OpenValve	Sets thermostat in manual mode and fully opens valve
CloseValve	Sets thermostat in manual mode and fully closes valve
GetData	Gets actual thermostat data
Events:	
OnTemperatureChange	Event occurring when air temperature changes
OnPointValueChange	Event occurring when PointValue changes
OnValvePositionChange	Event occurring when valve opening changes
OnValveOpen	Event occurring when valve is fully opened
OnValveClose	Event occurring when valve is fully closed
OnModeChange	Event occurring when thermostat mode changes
OnAutoMode	Event occurring when thermostat mode changes to auto
OnManualMode	Event occurring when thermostat mode changes to manual
OnOffMode	Event occurring when thermostat mode changes to off mode
OnUserAction	Event occurs while user interaction

2. Parameters - ZWAVE BATTERY

Features:	
BatteryLevel	Z-Wave module battery level (in %)
WarningLevel	Z-Wave module battery level below which the warning event is occurring
Methods:	
SetWarningLevel	Sets Z-Wave battery level below which the warning event is occurring
Events:	
OnBatteryLevelChange	Event occurring after Z-Wave module battery level change
OnLowBattery	Event occurring after Z-Wave module battery level drop below the WarningLevel
OnBatteryGood	Event occurring when the Z-Wave module battery level increase above the WarningLevel

3. Parameters - ZWAVE WAKEUP

Features:	
Interval	Z-Wave module awakening period from sleep mode
LastWakeUp	Time from the last Z-Wave module awakening
Methods:	
SetInterval	Sets Z-Wave module awakening time from sleep mode
Events:	
OnWakeUp	Event occurring after detecting Z-Wave module waking up from sleep mode

4. Parameters - ZWAVE CONFIG

Features:	
Register	Register (parameter) number
Value	Register (parameter) value
ModuleID	Module's number (node) in the Z-Wave network
Banned	Returns information about communication with module: 0 - communication with the module is not blocked, 1 - blocked communication with the module (module banned)
FailCount	The number of failed communication attempts with the Z-Wave module
Repeaters	Number of devices intermediating communication between the CLUZ and a given module
RepeatersList	List of devices (ModuleID) intermediating in communication between CLUZ and the module
Methods:	
Set	Sets the value of the register (parameter)
Get	Gets the value of a given configuration register (parameter): 0 - DataType UINT - the incoming response is unsigned (only positive value), 1 - DataType INT - the incoming response is signed (positive or negative)
SetDefault	Sets the default value for register (parameter)
RemoveBan	Removes the blockade of communication with the Z-Wave module
ClearFailCount	Cleans the number of failed communication attempts
UpdateNeighbours	Triggers the action of updating and rebuilding the Z-Wave network (number of neighbouring modules, method of communication with CLUZ) for a given module
Events:	
OnBanned	Occurs when Z-Wave device is banned

5. Technical Data

Power	2x AA
Standby current	30µA
Operating current	20mA
Temperature setting range	5-30°C
Temperature setting accuracy	0.5°C
Measured temperature range	0-50°C
Operating humidity	up to 85% non-condensing
Radio frequency	868.4MHz EU
Range	Up to 45m indoors (depending on the building structure), up to 80m outdoors
Size (L x W x H)	54 x 54 x 94mm

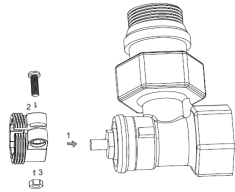
6. Installation Steps

NOTE: Add the module to the Z-Wave network before its installation. The module should be in its intended installation location while being added to the Z-Wave network.

- If the module cannot be placed directly on the valve, use the appropriate adapter.

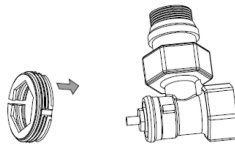
Adapter Danfoss

After fixing the valve connector, tighten the screw.



Adapter Caleffi

Put the adapter directly on the valve.



Adapter Giacomini

Install a short sleeve onto the thermostat head stem and place the adapter directly on the valve.



- Remove the cover (press the button on the cover and slide it upwards), then remove and insert the batteries to reset the module.
- Wait until the display stops flashing "LA".
- Install the module on the valve.
- Press the rotary knob (upper part of the module), after which the "LA" will start flashing again.
- Installation complete - the temperature will appear on the display.

7. Module Inclusion

To add the device to the Z-Wave network:

- Make sure the module is turned on.
- Set your Z-Wave controller into inclusion mode.
- While in the "OF" state ¹ press the rotary knob (upper part of the module) 3 times, after which "-.-" will appear on the display.
- "PA" will appear on the display to indicate the completion of the adding process, and the network range icon will be displayed. Otherwise, repeat the procedure.

If you are connecting this unit to a Z-Wave Controller that utilizes the S2 security protocol, you may be asked to enter the first 5 digits of Device Specific Key (DSK). You can find it on the inside of the casing along with the Z-Wave QR code. The device supports SmartStart function. SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR code located on the inside of the casing. Remove the batteries for a few seconds to reset the device. Once the device is powered on again, it should be visible in the Z-Wave network. Ensure that your Z-Wave controller is also equipped with the SmartStart function.

8. Module Exclusion

To remove the device from the Z-Wave network:

- Make sure the module is turned on.
- Set your Z-Wave controller into exclusion mode.
- While in the "OF" state, press the rotary knob (upper part of the module) 3 times, after which "-.-" will appear on the display.
- On completion of the removal process, "OF" will appear on the display, and the network range icon will disappear. Otherwise, repeat the procedure.

9. Factory Reset

To restore factory configuration:

- While in the "OF" state, press and hold the rotary knob (upper part of the module) for at least 5 seconds.
- Release the button - "OF" on the display will start flashing.
- After a successful reset, "OF" will be displayed for 2 seconds, after which it will disappear.

10. Parameter Configuration

1. Open Window Detect Function

Setting '1' enables the open window detect function. When the ambient temperature drops by 6°C within 4 minutes, the module will automatically close the valve, and "OP" will appear on the display. When the temperature rises by 2°C, the module will return to normal operation.

Parameter	Size	Settings	Default
1	1 Byte	0,1	0

2. Anti-Freezing Function

Setting '1' enables the anti-freezing function. The valve will open when the temperature drops below 5°C and close when it rises to 8°C.

Parameter	Size	Settings	Default
2	1 Byte	0,1	0

3. Measured Temperature Offset

Setting the measured temperature correction in the range from -6°C to +6°C.

Parameter	Size	Settings	Default
3	1 Byte	-6.6	0

4. Set Away Home Mode

Setting '1' enables the away mode. The target temperature is automatically set to 16°C.

Parameter	Size	Settings	Default
4	1 Byte	0,1	0

¹For a set temperature <5°C, the display will show "OF", for a set temperature >30°C, the display will show "On"

5. Anti-Scale Function

Setting '1' enables the anti-scale function. If the valve has not been opened for at least 2 weeks, the module will open it for 30 seconds every 2 weeks, and "AS" will appear on the display.

Parameter	Size	Settings	Default
5	1 Byte	0,1	0

6. Valve Opening Level Report Treshold

Setting the valve opening reporting threshold. [0] - Disable, [1-99] - Opening level.

Parameter	Size	Settings	Default
6	1 Byte	0.100	1

7. Temperature Auto Report Interval Time

Setting the temperature reporting interval in seconds. Setting '0' disables reporting.

Parameter	Size	Settings	Default
7	4 Bytes	0.2678400	0

8. Temperature Change Report Threshold

Setting the temperature difference value for change reporting. Difference = [Value] x 0.1 degree.

Parameter	Size	Settings	Default
8	1 Byte	0.100	5

9. Battery Auto Report Interval Time

Setting the battery status reporting interval in seconds. Setting '0' disables reporting.

Parameter	Size	Settings	Default
9	4 Bytes	0.2678400	0

10. Battery Change Report Treshold

Setting the battery level difference value for change reporting, expressed as a %. Setting '0' disables reporting.

Parameter	Size	Settings	Default
10	1 Byte	0.100	5

11. Enable Child Lock

Setting '1' enables the child lock function.

Parameter	Size	Settings	Default
11	1 Bytes	0,1	0

12. Enable or Disable External Temperature Sensor

Setting '1' enables the use of an external temperature sensor. Parameters 13 and 14 are considered for this setting.

Parameter	Size	Settings	Default
12	1 Byte	0,1	0

13. External Temperature Value

This parameter allows the value from the external temperature sensor to be used.

Parameter	Size	Settings	Default
13	2 Bytes	-500.500	0

14. External Temperature Value Timeout

Setting a timeout after which, if the temperature value is not read from the external temperature sensor, the module will use the temperature value from its own sensor. The value is expressed in minutes. 0 - no timeout.

Parameter	Size	Settings	Default
14	2 Bytes	0.300	30

11. CE Marking

The manufacturer declares that the device is in full compliance with the requirements of EU legislation that includes the directives of a new approach appropriate for this equipment. In particular, Grenton Sp. z o. o. declares that the device fulfills the requirements on safety, specified by law, and that it conforms

to the national regulations that implement the appropriate directives; The Directive on the electromagnetic compatibility (EMC - 2014/30/UE) and the Directive on the limitation of the use of specific substances in electrical and electronic equipment (RoHS II - 2011/65/UE).



12. Warranty

The warranty is available at: www.infibity.com/warranty

13. Manufacturer Contact Details

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