

## Beanbag Thermostat



This is a Z-Wave Plus enabled battery-powered portable controller designed for home heating system, it act as a room thermostat if used with Beanbag Receiver.

It is having OLED display to show the ambient and target (Set-point) temperature, these parameter and also reported over Z-Wave to associated nodes.

It can be operated in any Z-Wave network with other Z-Wave certified devices from other

manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

### ❖ Operational Modes

Device support **Normal** and **Advance** mode, by default device is in normal mode, mode can be switched by long press of **OK** button.

Advance mode is designed to perform device setup and network installation and configurations, refer table Advance Mode for more information.

### ❖ Inclusion / Exclusion

**Inclusion:-** Power up device (by pulling out battery strip), start Add node on Z-Wave controller and click Ok button when device display instructing to click OK button, this will start learn process in device.

**Exclusion:-** Start **Remove node** on Z-Wave controller, on thermostat enter in Advance mode, and then scroll to option "*Activate Learn mode*", then click OK button.

Thermostat will display learn outcome on completion of the process.

### ❖ Add / Remove

On thermostat in advance mode scroll to option "*Add device / Remove device*", then click OK button. On other Z-Wave device start learn process, thermostat will display outcome on completion of the process.

### ❖ Wakeup from Sleep

On thermostat, click OK button when device screen is off, or in advance mode scroll to option "*Enter listening mode*" then click OK button.

Advance Mode	Function Description												
Add device <sup>(1)</sup>	Include any Z-Wave device into its network												
Remove device <sup>(1)</sup>	Exclude any Z-Wave device from network												
Activate Learn mode <sup>(1)</sup>	Start Learn process for inclusion / Exclusion from other network												
Enter listening mode <sup>(1)</sup>	Listen mode for sending Wakeup Notification to wake up node if configured												
Broadcast device Information	Broadcast its Node Information Frame (NIF)												
Check signal strength <sup>(2)</sup>	RF signal strength test using power level CC with associated node in Group 2												
	<table border="1"> <thead> <tr> <th>Outcome</th> <th>Network Health</th> <th>Action on associated node</th> </tr> </thead> <tbody> <tr> <td>3 bars</td> <td>Good</td> <td>No action</td> </tr> <tr> <td>2 bars</td> <td>Acceptable</td> <td>May move node, or install repeater node in-between</td> </tr> <tr> <td>1 bar</td> <td>Insufficient</td> <td>Must move node, or install repeater node in-between</td> </tr> </tbody> </table>	Outcome	Network Health	Action on associated node	3 bars	Good	No action	2 bars	Acceptable	May move node, or install repeater node in-between	1 bar	Insufficient	Must move node, or install repeater node in-between
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Factory reset	Perform protocol reset, set thermostat configurations to factory default. <b>Note:</b> Please use this procedure only when the network primary controller is missing or otherwise inoperable.												
Associate Channel <sup>(1)</sup>	Associate node in group 2 by Classic / Multichannel association, using NIF / Multichannel capability report from other Z-Wave device (node).												
Remove channel association <sup>(2)</sup>	Remove associated node from association group 2												
View associated channel ID <sup>(2)</sup>	Display associated end point (Channel number ) in association group 2												
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Change fuel type <sup>(2)</sup>	Used to Set / Change boiler fuel type to configure TPI cycle.												
View fuel type <sup>(2)</sup>	View present boiler fuel type.												
Lock/unlock temperature set point	Disable / Enable set-point change using Up/Down buttons.												
Role transfer <sup>(1)</sup>	Shift primary role to the new controller in network												
Exit <sup>(3)</sup>	Exit from advance mode												

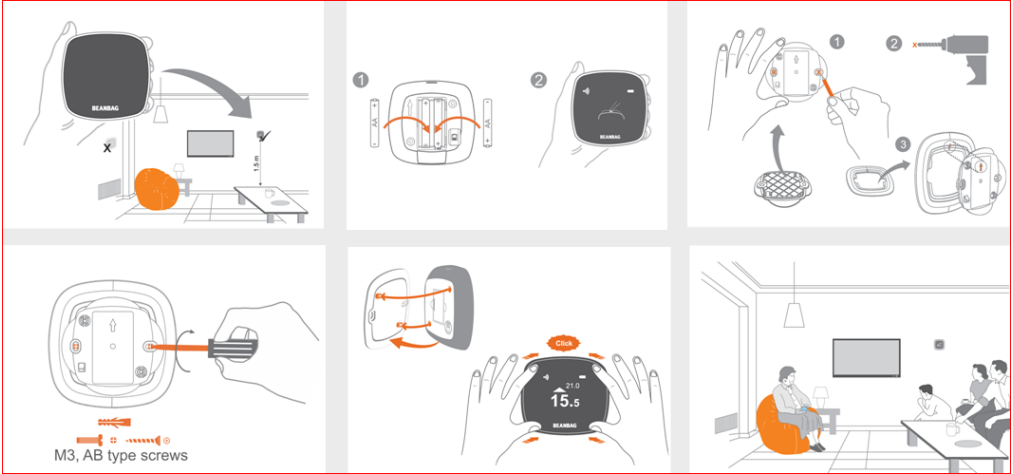
1. Maximum time out for activity is 55 seconds.
2. Operation applicable if node available in association group 2.

## SUPPORTED DEVICE AND COMMAND CLASSES

Z-Wave Device Classes	Implemented Device Class
Generic	Multilevel Sensor
Specific	Routing_Sensor_Multilevel
Basic	Portable Controller
Command Classes Supported	Description
Manufacturer Specific <sup>(v2)</sup>	Secure Controls (UK) Manufacturer ID, Device serial number
Version <sup>(v2)</sup>	Provides the version number of the firmware, hardware and supported Command Classes.
Device Locally reset <sup>(v1)</sup>	Used to inform lifeline node that the device has been factory reset, and is leaving the network.
Z-Wave Plus Info <sup>(v2)</sup>	Z-Wave Plus Version 1
	Role Type - ROLE_TYPE_CONTROLLER_PORTABLE_REPORTING

	Node Type - NODE_TYPE_ZWAVEPLUS_NODE							
	Installer Icon- ICON_TYPE_SPECIFIC_SENSOR_MULTILEVEL_AIR_TEMPERATURE							
	User Icon - ICON_TYPE_GENERIC_SENSOR_MULTILEVEL							
Wake Up (v2)	Wakeup interval step is 60 second. Minimum wakeup interval is 900 seconds Maximum wakeup interval is 10 days Default wakeup interval is 24 hours							
Association Group Info (v1)	Group	No. Of Nodes	AGI Group Name			AGI Profile Name		
	1	1	Lifeline			Profile MSB - AGL_PROFILE_GENERAL Profile LSB - AGL_GENERAL_LIFELINE		
	2	1	Sensor: Air temperature			SENSOR_MULTILEVEL_REPORT_TEMPERATURE		
Association (v2)	Support two groups each can have maximum one node							
	Group 1(Lifeline)				Low battery Alarm Report Multilevel Sensor Report Device Reset Locally			
	Group 2				Multilevel Sensor Report Set point Set			
Multi Channel Association (v2)	Device support single node with One endpoint to association group 2							
Configuration (v1)  (Any change from default configuration, will reduce the battery life, zero configuration means that feature is disabled)	<b>Parameter Type (sequential order)</b>	<b>No</b>	<b>Size Bytes</b>	<b>Units</b>	<b>Resolution</b>	<b>Min value</b>	<b>Max Value</b>	<b>Default value</b>
	Delta Temperature for Association Group 2	1	1	°C	0.1	0	100	10
	Temperature report Interval for association Group 2	2	1	minute	1	0	255	30
	Minimum Set Point temperature	3	1	°C	1	5	35	5
	Maximum Set Point temperature	4	1	°C	1	5	35	35
	Delta Temperature for lifeline Group	5	1	°C	0.1	0	100	0
	Temperature report Interval for lifeline group	6	1	minute	1	0	255	0
	Example: To configure Delta temperature to 2 °C. The value need to configured in device is $2/0.1 = 20$ .  <b>IMPORTANT:</b> Controllers may only allow configuring signed values. In order to set values in the range 128...255, the value sent in the application shall be equal to desired value minus 256. For example, to set Delta Temperature to 130, it may be needed to set a value $130-256=-126$ .							
Multilevel sensor (v5)	Measure room temperature to 0.1°C resolution. But report as per its configuration set.							
Power Level (v1)	For network maintenance functionality							
Firmware Update Meta Data (v3)	For providing Over-The-Air firmware upgrades							
Thermostat Set point (v3)	Used to directly read and control the current target temperature							

## Installation instruction



## LED illumination

LED type	LED colour	Pattern	Indication
Battery	White	1 sec on @ power up	Battery is healthy
Battery	Amber	1 sec on 60 sec off	Battery is low
Network	White	1 sec on 60 sec off	No network error
Network	Amber	1 sec on 60 sec off	Can't able to reach associated node

## Technical Specification

Mechanical			
Dimensions (LxWxD)	98 x 98.5 x 35mm	Mounting	Wall mounting to fit a single gang wall box
Weight	157gms	Enclosure material	Thermoplastic, flame retardant HB
Environmental			
Storage temperature	-20°C to 50°C	Operating temperature	0°C to 40°C
Environmental humidity range	0 to 95%	Atmospheric range	980 to 1035 hPa above mean sea level
Pollution degree	2	Ingress protection	IP30
Electrical			
Battery specs	2 x AA LR6 alkaline, 2700 mAh	Battery life	2 Years
Battery rating	1.5 V each		
Measurement			
Temperature accuracy	±0.5°C for 0°C to 21°C	Europe & UK	868 MHz
RF range	100m line of sight in open air		

