

## 56401 Wireless Valve Actuator



Installer/User Manual

HeatLink Group, Inc.  
www.heatlink.com

Printed in Canada  
July 11, 2018

L656401 Wireless Valve Actuator Instructions

### Overview

The HeatLink® 56401 Wireless Valve Actuator is used to control flow to a radiator or baseboard heating, and must be paired with a 46801 wireless thermostat.

The HeatLink® Smart System can be configured with an internet connection (Online), or without (Offline). The free HeatLink® App must be downloaded to your Apple or Android device for use with your Online Smart System.



In order to use the app you must first create a profile. Follow the in app instructions to set up your profile.

*Apple, the Apple logo, iPhone, and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc., registered in the U.S. and other countries.*

*Google Play and the Google Play logo are trademarks of Google LLC.*

### Product Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

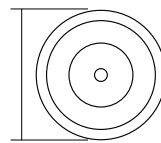
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

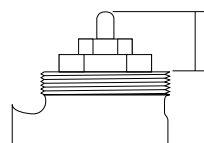
### Installation

Up to six wireless valve actuators can be paired with one 46801 Wireless Digital Thermostat for precise radiator control and optimal room comfort.

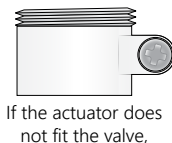
The wireless valve actuator is designed to be used on most thermostatic radiator valves - use the information below to determine if your valve is compatible before installation.



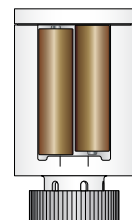
Thread diameter:  
1.18" (30mm)



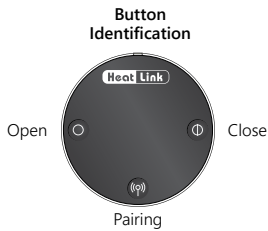
Pin length (open position): 0.51-0.62" (13-16mm)



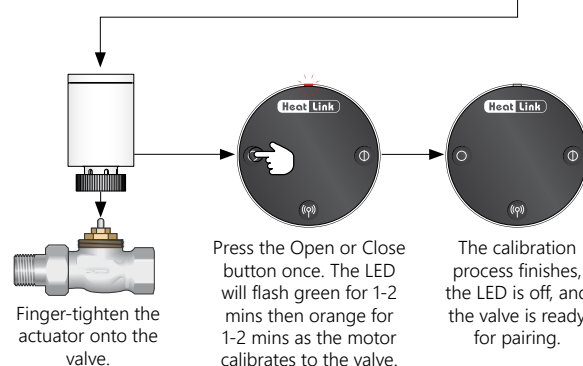
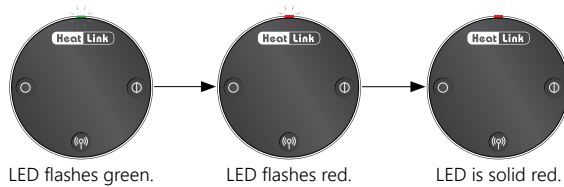
If the actuator does not fit the valve, use the included adapter ring.



Install the two included AA alkaline batteries into the wireless radiator valve.

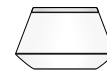


Wait 1-2 minutes for the start up process to complete.



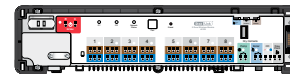
### System Components

Additional components may be necessary to operate your HeatLink® Smart System. For details on component operation and installation, see the individual user guides, or the L3715 Smart System Installation Manual.



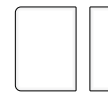
A 43301 Wireless Internet Gateway (sold separately) is needed for all HeatLink® Smart Systems to function.

The 43302 Wireless Relay can be configured as a Boiler Relay (RX1), or Standalone Relay (RX2) depending on your system configuration.



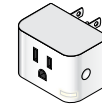
The 40328 StatLink® 8 Zone Wireless Module connects your wireless thermostats to the zone actuators, boiler, system pump, etc.

The HeatLink® 46801 Wireless Thermostat has an easy to use interface, and a sleek modern design. It can be configured to work with a variety of radiant heating systems.



The 43303 Door/Window Sensor requires an Online system to operate, and allows you monitor your home windows and doors, as well as set custom programs for system operation (using the app).

The 43304 Smart Plug requires an Online system to operate, and allows you to control the on/off function of lights and some electronics, and set custom programs for system operation (using the app).



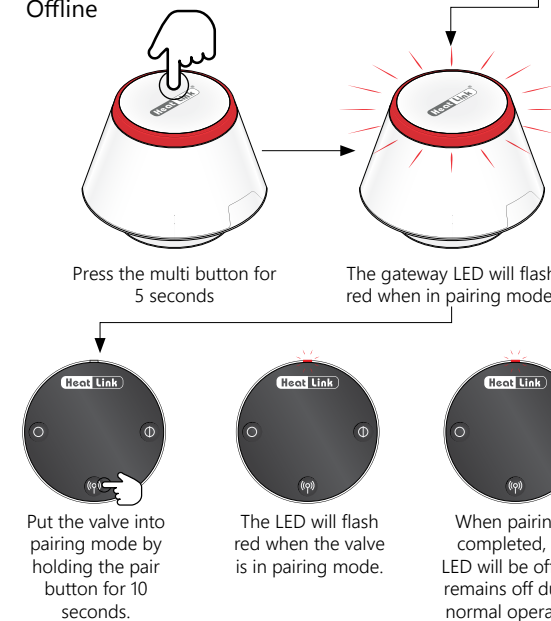
### Pair Mode

In order to add devices to your system, the Gateway must be put into Pair Mode. The steps are slightly different for Online and Offline systems - ensure that you follow the instructions below. For device specific pairing instructions, see the appropriate instruction sheet, or the L3715 Smart System Installation Manual, available on www.heatlink.com

#### Online



#### Offline



See the 46801 Wireless Thermostat instructions, or the L3715 Smart System Manual for complete valve pairing instructions.

### Error Codes on Thermostat

For the full list of thermostat error codes, see the L3715 Smart System Installation Manual.

Code	Meaning	Details
07	Lost link with Wireless Valve Actuator	The gateway may have lost power; if upon powering up the gateway the error code persists it means the thermostat couldn't create a connection with the wireless actuator valve. Put the system in ID mode to force a reconnection with the valve. Note that the valve will try to rejoin every 5 minutes for the first 30 minutes, then every 10 minutes for 1 hour, then every 30 minutes. If it is unable to reconnect, you may need to reset the valve and pair it again.
21	Wireless Valve Actuator lost connection with coordinator/gateway	If the gateway is offline, but an AC device, like the wireless module, relay or smart plug is online, the valve may communicate with the thermostat through these devices, but still cannot connect with the gateway.
22	Wireless Valve Actuator low battery, displayed on all connected thermostats.	
23	Invalid Wireless Valve Actuator	
25	Thermostat lost link with parent	One of the thermostats couldn't find any AC device (Gateway, Wireless Module, Relay or smart plug). Put the thermostat in ID mode to see if the other device flashes.
30	Wireless Valve Actuator gear issue	
31	Wireless Valve Actuator adaptation issue	

## Using the Wireless Valve Actuator

The HeatLink wireless valve actuator features a number of functions in order to operate correctly. Use the following to ensure proper valve function.

**Auto Lock** - The auto lock function is not available until after the valve has been paired. After pairing, the valve will lock all manual functions after five minutes without any button presses.



To unlock the buttons, press Pair & Close buttons for 3 seconds.

Manual open - Press the open button for 3 seconds. The LED flashes green once and the valve opens.

Manual close - Press the close button for 3 seconds. The LED flashes red once and the valve opens.

Restore factory defaults - Press the pairing, open, and close buttons for 10 seconds.

**Entering fail safe mode** - If the wireless valve actuator doesn't receive any command from the thermostat, it will enter Fail Safe mode. Then it will use its internal sensor and fixed setpoint of 15°C to control the temperature.



To manually enter fail safe mode, press the open & close buttons for 3 seconds.

To exit fail safe mode press the pairing button to put the unit in automatic mode.

Or, the open or close button for 3 seconds to open/close the valve.

**Protecting against Frost** - When you have manually closed the valve, the unit automatically enables frost protection. Frost protection starts only when the temperature in the room drops below the frost temperature setpoint. The unit does all this automatically when connected to a thermostat and you don't have to do anything.

**Detecting open windows** - If there is a rapid temperature drop in the room, as monitored by the unit's internal sensors, it assumes a window has been opened. This only works if the unit is paired to the thermostat, is in automatic mode, is **located in the room being served**, and the battery is not low. The unit does this automatically when connected to a thermostat. It works between 32°F (0°C) and 104°F (40°C).

**Protecting against Lime Scale** - Leaving a valve open for a long time could cause a build up of lime scale, however, the unit has a lime-scale protection feature to help prevent this. The valve motor automatically starts once a week if no valve movement has been detected within a 14-day period. Lime-scale protection will continue to operate in automatic, manual open, and manual close modes as long as needed.

**Auto Adaptation** - Once the batteries are inserted into the unit, the red light will appear. If no keys are pressed it will auto adapt to the valve.

## Technical Details

Model	56401 Wireless Valve Actuator
Type	Hydraulic radiator valve
Control	DC motor
Input	Three push buttons
LED indicator	Bi-color, red/green
Valve adaptation	Automatic
Power source	2x AA alkaline batteries
Battery life	14 months (low battery indication)
Control method	Modulating
Communication	2.4GHz Zigbee wireless
Operating temp.	0°C to +45°C / 32°F to 113°F
Storage temperature	-20°C to +60°C / -4°F to 140°F
Operating humidity	5 - 95% RH
Protection	IP30
Size	H 3.48" (88.6mm) x W 2" (51mm)

## Adaptive Learning Mode

When used with the Wireless Actuator, the HeatLink® Wireless Digital Thermostat can be put into Adaptive Learning Mode, allowing for minor adjustments within the first few days after installation to ensure that you get the best in comfort and efficiency from your HeatLink® devices.

During the Adaptive Learning Mode start up period of a few days, your boiler will occasionally be on for short periods outside of the heating schedule - this is normal, and will return to your programmed activity once the learning mode has completed.

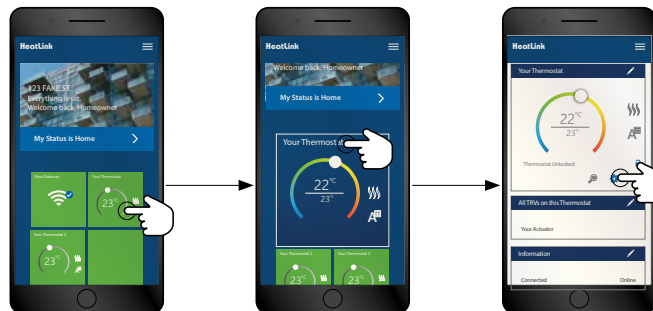
During this period CAL appears on your thermostat.

Systems *without* the Wireless Relay (RX1 mode) will be put into Adaptive Learning Mode automatically.

Systems *with* the Wireless Relay (RX1 mode) installed will use the standard On/Off mode.

You can change the control method using the app, or manually (see below).

If you have an Online system you can use the app to access and change the Radiator Control options.



Select the thermostat you wish to change the settings for.

Click on the thermostat name to go to the details screen.

Click the gear icon to go to the edit screen.



Scroll down to the password field and enter 49

Select the desired Radiator Control option.

Scroll down and press Save.

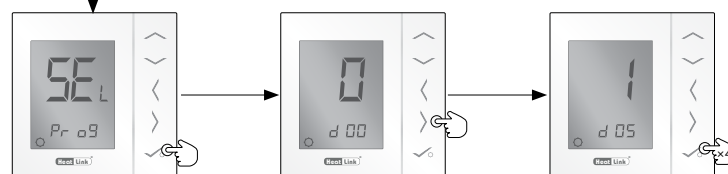
To change the control method manually in an Offline system, follow the steps below.



Press buttons for 3 seconds to enter menu.

Use Up arrow to select menu number 49.

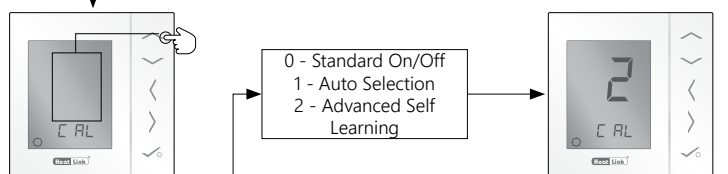
Press ✓ to select.



Press ✓ to select.

Use the Right arrow to select menu d05

Press ✓ 4 times to reach the selection screen.



Use the Up/Down arrows to select your option.

Press ✓ to accept and return to the main screen.

## Wireless Valve Actuator LED Indications

Event	Definition	LED	Valve
Power switched on, or after reset	Software version indicator	A sequence of red and green LEDs flashing	
Unit adapting to valve		Red flashes then goes steady. Green flashes (or red flashes on failure to adapt) Green steady. Orange flash (or red flash on failure to adapt).	
Ready to Adapt to Valve		Solid red. To fix press open or close button to retry calibration.	
Unit has not joined network or has not paired to thermostat	Auto mode	Green and red flash alternately after a short press on open or close button	25% open
	Manual open	Green flashes twice after short press on open or close button	Fully open
	Manual close	Red flashes twice after short press on open or close button	Fully closed
Unit paired to thermostat in auto mode		No LED	
Leaving network		Orange LED for 1 second	
Identifying the network		Green flashes for up to 10 minutes	
	Auto mode	Green and red flash alternately after short press on open or close button	
Wireless link to thermostat lost	Manual open	Green flashes twice after short press on open or close button	Fully open
	Manual close	Red flashes twice after short press on open or close button	Fully closed
	Auto mode	Green flashes once after short press on open or close button	1 to 100% open
	Auto mode	Red flashes once after short press on open or close button	Fully closed
Normal operation	Manual open	Green flashes twice after short press on open or close button	Fully open
	Manual close	Red flashes twice after short press on open or close button	Fully closed
	Window open mode active	Orange flashes twice every 10 seconds	Fully open
Battery low		Red flashes three times every 10 seconds (less if the battery is very low)	25% open
Error installing		Green and red flash alternately	