Wiring diagram

BATTERY

Battery connector

0V
OPEN
5V

PUSH BUTTON   5V VALVE   LED

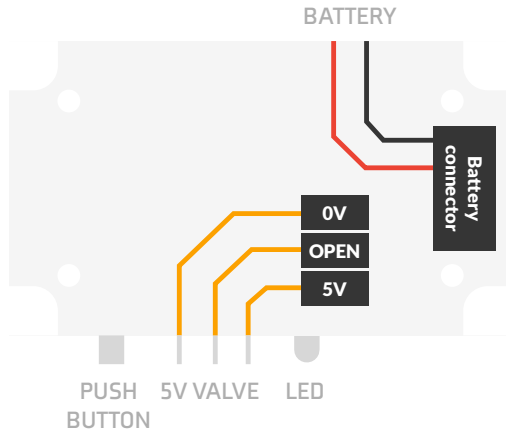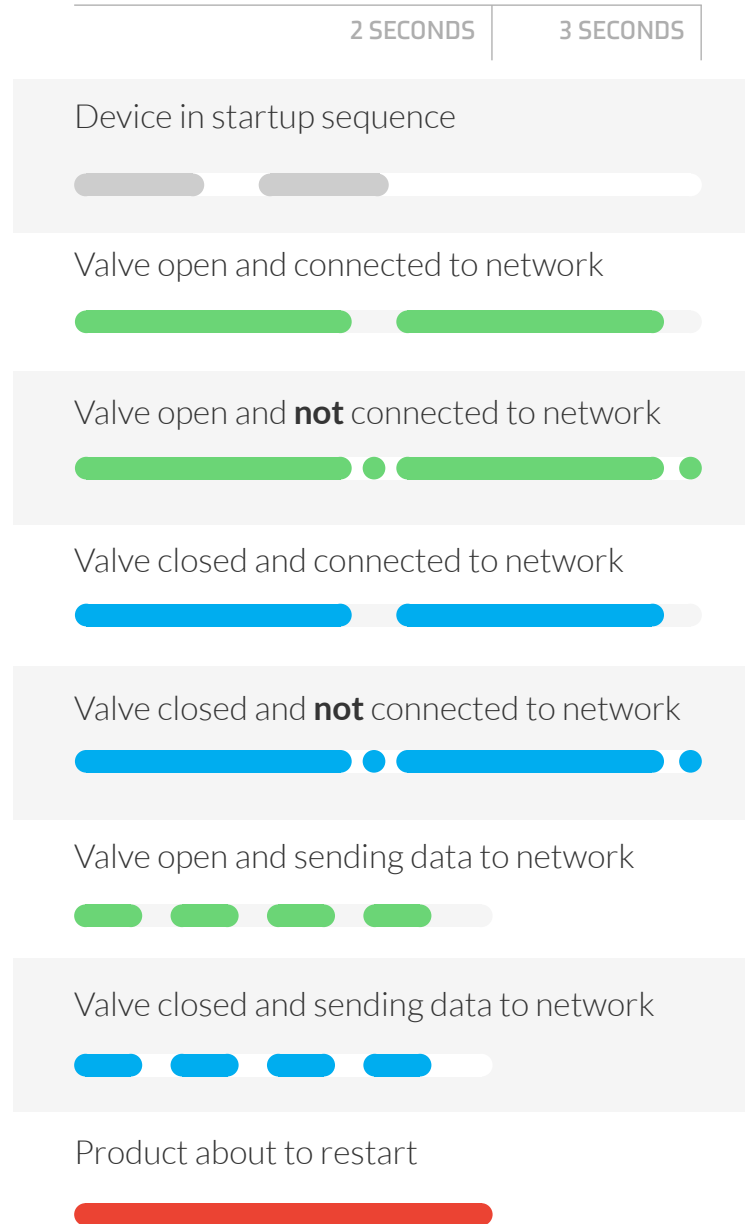### ⓘ IMPORTANT

— Ensure the valve is wired correctly in accordance with manufacturer specifications

— SmartValve deployments should be actively managed and serviced regularly for optimum performance

— The LoRaWAN Network should be suitably managed and monitored

Push button

The SmartValve push button can be used to manually override the valve.

BUTTON ACTION	HOLD FOR
Send message	1 second
Toggle valve	5 seconds
Restart	15 seconds

LED flash indicators

	2 SECONDS	3 SECONDS

Device in startup sequence

Valve open and connected to network

Valve open and **not** connected to network

Valve closed and connected to network

Valve closed and **not** connected to network

Valve open and sending data to network

Valve closed and sending data to network

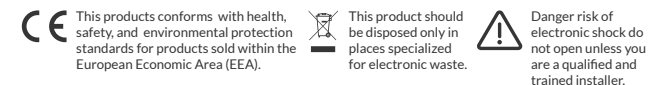Product about to restart

◆ cThings®

SmartValve

Installation guide

SmartValve Battery (2001000 & 2001001)

Our SmartValve Battery is a secure valve control unit that provides energy service providers with the ability to remotely manage and control the supply of energy to their customers.

The installation of the SmartValve Battery should only be carried out by a trained qualified engineer to the latest standards in the country of installation.

For more documents and datasheets visit https://cthings.io/documents-and-datasheets/

cthings.io/help

How to install

1 Install the valve to be controlled.

2 Unpack the cThings SmartValve Battery unit (henceforth the SmartValve).

3 Identify a suitable mounting position for the SmartValve no further than three meters from the valve. The SmartValve should be positioned above the valve in a location away from moisture or where condensation may occur.

ⓘ If the SmartValve has an integrated connector (2001001), connect the valve control cable to the integrated connector and continue to step 10 as the SmartValve does not need to be opened to connect the valve.

4 For SmartValves without the integrated connector, unscrew the four screws to remove the backplate.

5 Pass the valve control cable from the installed valve through the SmartValve gland.

6 Connect the valve control cable as shown in the wiring diagram overleaf. The maximum cable length should be no longer than three meters and the cable should have a cross-sectional area between 1.0 to 1.5 mm^2.

7 Connect the Battery Pack (2001050 or 2001051) to the battery terminal on the SmartValve circuit board by gently pressing them together

8 Reattach the backplate to the SmartValve using the four screws removed in step 4. Ensure the screws are well aligned, tightened securely and the enclosure is fully sealed.

9 Use a set of hand grips to tighten the gland so it cannot be undone by hand. Check that the gland is fully sealed.

10 The LED on the SmartValve should be flashing.

11 Fix the SmartValve to a vertical surface (such as a wall) with the gland facing downwards. The SmartValve should be fixed in place using screws.

12 Wait for the SmartValve to complete its start-up sequence. The startup sequence lasts for 30 seconds and is indicated by a flashing white LED.

13 Upon completion of the start-up process, the LED flash pattern will indicate the current status of the unit (refer to the SmartValve LED flash indicator overleaf).

14 The installation of the SmartValve is complete, the unit must now be setup. The SmartValve will now go to sleep to conserve battery.

How to setup

1 Scan the QR code using a mobile device or open it directly in cThings Cloud.

2 Update the Device Name of the SmartValve in cThings Cloud (for example Apartment 10).

3 Use a non-metallic pin to press the SmartValve button for five seconds. The valve will change its current position (open if closed, closed if open). Ensure the valve is in the open position. If necessary the valve position can be changed by pressing the push-button for another five seconds.

4 Check Connection Status in cThings Cloud is *Connected*. Also check the Smartvalve Last Connection is recent. If disconnected, the SmartValve may need to be repositioned or the LoRaWAN network coverage improved.

5 Check the Device Integrity in cThings Cloud is *OK*. If *Compromised* the tamper has been trigged and the SmartValve needs to be opened to investigate why.

ⓘ **WARNING**

If *Disconnected* or the Device Integrity is *Compromised* the SmartValve will not perform correctly and the battery life will be significantly reduced.