SPARSHOLT PARISH COUNCIL

Guidance on Making Use of our Thermal Imaging Camera

(a Parish Climate Action Initiative)

Sparsholt Parish Council has acquired a Thermal Imaging Camera which can be loaned for up to 48 hours by parishioners. Borrowing the camera, and using it alongside your own smart-phone, will allow you to check inside and outside your home to see if there are areas of heat going out of your home or draughts/colder air entering. This will help you to decide if there are further actions that you can take to improve the energy efficiency of your home – and save on your energy bills.

Here are some tips for making the best use of the camera:

What will you need before using it

The camera is a FLIR ONE® Edge Pro. You will need to download the FLIR app on to your smart phone. This will allow you to see the images generated from the camera directly and immediately on to your phone screen. You can also take pictures to remind you of where the areas of cold gain or heat loss are located.

The FLIR camera is new technology and works with both Android and iPhones. You will need to ensure that you have access to a phone with up-to-date operating systems (e.g. iOS 14 or newer for Apple devices, or Android 11 or higher for Android-based devices) and Bluetooth connectivity. Further information about compatibility is available from the manufacturer .

When to use it

The best time to use the camera is at night, in the winter months and with your heating on. It shows you more if the temperature outside is at least 10°C cooler than inside and if there is no rain or strong winds.

How to start

Before use

The thermal imaging camera is contained in a strong box **A** which includes instructions in a small leaflet **B** and a charging cable **C**. The level of charge of the camera is indicated by the three illuminated bars, once the device is switched on. Three bars shows the maximum charge, though it should operate at all levels. **Please recharge the device to three bars before returning it.**

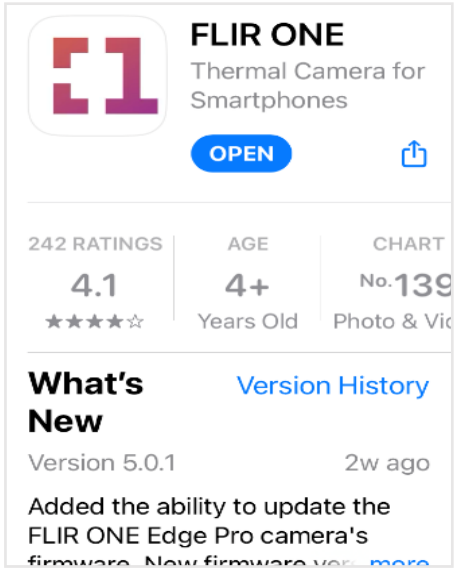
A

B

C

Quick start guide

1. Install the FLIR ONE app, developed by FLIR Systems, from your preferred app store e.g. Apple Play Store and Google Play Store. The App will look something like the screen shot below.



2. Using the Camera: You can attach the FLIR ONE Edge Pro camera to the back of your mobile device by pulling out the extending arm until the camera is clamped around the device like **A** below, or you can use the FLIR ONE Edge Pro camera fairly close to your mobile device (**B**), say if you want to raise the camera higher, whilst still watching the image on your mobile or tablet at eye level. The two devices should remain connected, by Wi-Fi/Bluetooth, provided they are not too far apart.

Warning Note: To prevent damage to the equipment, avoid extending the camera arm to its end position.

A

B

3. To turn on the FLIR ONE Edge Pro camera, press and hold the On/Off button found immediately below the illuminated bars until the LEDs start flashing. This indicates that the camera is booting up. It takes about 20 seconds for the camera to start.

4. **Start the FLIR ONE app on your mobile device** which will look similar on your phone (or Tablet) as the screen shot below as it asks if you want to connect and then starts scanning to find the camera.

5. The FLIR ONE app will guide you to set up the app according to your preferences and to connect (pair) the camera with your mobile device. If you want to take a photo record as you proceed, just press the white photo button on the screen of your mobile, as you would normally do.

6. To turn off the FLIR ONE Edge Pro camera, press and hold the On/Off button until the LEDs turn off. Please don't forget to recharge the device prior to returning it following a period of loan.

Check out the app's Home Screen to access your saved gallery and get the latest tips.

Interpreting the images

Outside your House: On the whole, the camera should show-up cold blue colours. This means that although your house is warm inside, the heat is not leaking out. So if you see white or bright yellow colours outside, these will indicate areas where you are losing your heat.

Inside your House: if you use the camera inside, you should be less happy to see dark blue colours as these show either that cold air coming in as a draft or that the surface is cold and that heat will be lost by direct radiation.

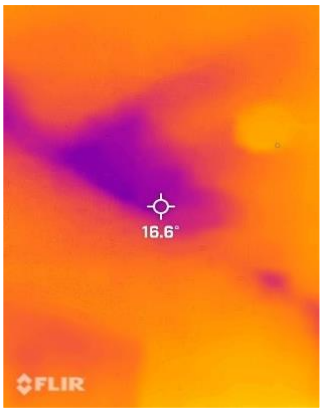
Be aware that not all "cold" spots are bad. Some may be important for your safety e.g. ventilation bricks.

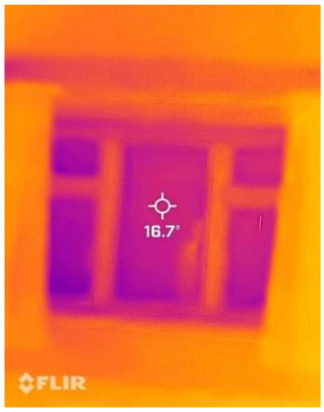
An organisation named Cambridge Carbon Footprint runs a similar scheme to ours and has created some useful advice about how to use the camera. Although the model used is not the same (so ignore the advice about how to operate their camera), there are some useful examples about what the images can show – e.g. cold air entering through light fittings or loosely fitting doors.

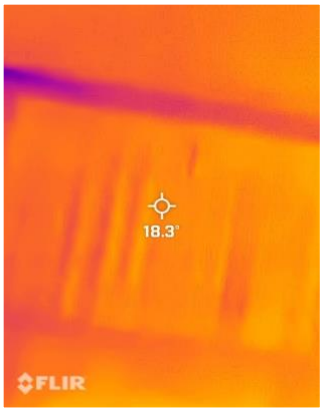
Octopus Energy also ran a camera loan scheme (now closed) and there is some useful information about using the camera and what might be needed afterwards, including some simple measures that can be undertaken relatively cheaply.

Image **A** below is of a front door, photographed from the inside, where the edges and glass show cold/draft. Image **B** is of an upper floor bedroom ceiling where the blue patch indicates that the loft insulation is thinner than the remainder of the ceiling, allowing heat to escape. Image **C** is an external image showing heat loss from a single glazed window (top right).

A **B** **C**







Images to the left show the difference when curtains are open and closed.

What next?

Some of the problems that are revealed by the camera may be easy to fix e.g. by draughtproofing. Others may need you to seek professional help e.g. cavity wall insulation. It's important that you take care in choosing the right professionals when making alterations and improvements to your home. Consider recommendations from friends or visiting trusted trader websites. From time to time, the Parish Council may host events to provide information on a range of topics such as loft insulation or DIY draft exclusion.

Tips for reducing your energy bills:

In the meantime, there are some simple things that might make a difference to your energy bills:

- “use heat reflective aluminium foil behind the radiator to reduce heat loss
- use thick curtains, with a thermal lining, to reduce heat loss through the windows (but let the sunlight in during the day to use as much natural – and free – heat)
- stop heat being lost up the chimney when not in use by using a chimney balloon or woollen chimney insulator (www.chimneysheep.co.uk); but remember to remove them before starting any fires
- watch out for mini-draughts, such as letterboxes or cat flaps – it’s worthwhile putting an extra barrier there in the form of a "brush"
- use draught excluders along the base of doors
- cover bare floors, which account for as much as 10% of heat loss if they’re not insulated
- Insulate your house with loft insulation and ensure the loft hatch is also insulated”.

[Source: South Somerset District Council]

At the end!

Once you have finished with the camera:

➔ Please recharge the device to three bars.
➔ Please complete the short survey available from the website.
➔ Please return the camera in the same condition and packaging to the host as arranged.
➔ Do let your fellow parishioners know about the scheme.

With thanks to Littleton and Harestock Parish Council for permission to copy and amend their original version of this guide.