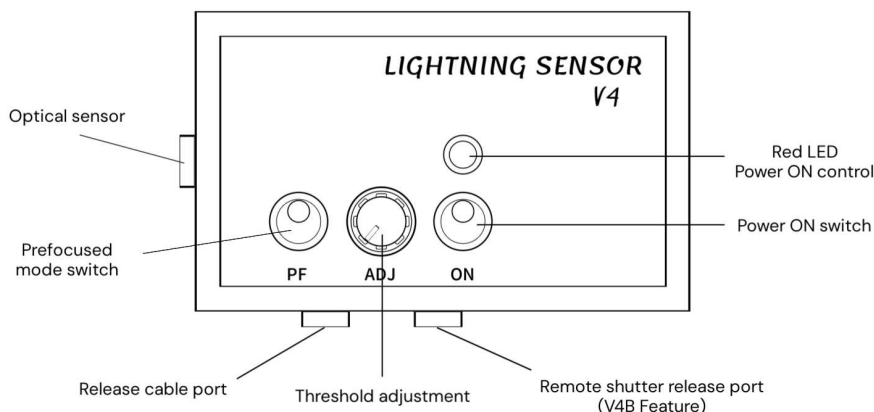


# Optical Lightning Trigger LIGHTNING SENSOR v4+™ Radio HAM Electronic Exclusivity

## USER MANUAL



Thank you for your purchase of the Lightning Sensor v4.  
This high performance trigger has been optimized for full daytime, back light, twilight, and night-time detection.

**⚠ Chasing thunderstorms and photographing lightning flashes is a high-risk activity. It is the responsibility of anyone practicing this activity to take all the necessary precautions to ensure its safety, the one of people accompanying them, as well as the employed equipment. Radio HAM Electronic declines all responsibility in the event of an accident during the practice of this activity or for any damage caused by the use of the Lightning Sensor v4. In no case the responsibility of Radio HAM Electronic can get involved.**

### POWER SUPPLY :

Power supply must be done with a 9V standard alkaline battery, 6LR6 model (Duracell Pro battery supplied).

**⚠ Before connecting the battery, always check that both switches (ON and PF) are turned OFF (tilted inwards) to avoid accidental inverted polarity/bodily statics damage (Not covered by the warranty).**

The battery door is located in the back side, under the case. Press with the thumb and slide back to open.

Do NOT use rechargeable 9V battery, as their real 8.4V voltage is insufficient for optimal sensing operation.

### COUPLING THE CAMERA :

Fix the Lightning Sensor v4 to the flash mount of your camera. It comes with an ISO518 shoe compatible with Canon, Nikon, Pentax, Fuji, etc. Old Sony cameras need an optional adapter (Sony>>ISO518, not supplied).

Insert the release cable plug into the Remote port of the camera. Make sure your camera is turned OFF during this step.

### OPERATING GUIDE :

- Check your camera is turned OFF
- Check your Lightning Sensor v4 is turned OFF (Power switch tilted inward to the red LED side)
- Check the PF switch is OFF (tilted inward)
- Insert the Lightning Sensor v4 into the flash mount of your camera. Tighten the blocking ring moderately
- Connect the supplied release cable to your Lightning Sensor v4, then to your camera's remote release port
- Point your system towards the storm
- Turn the ADJ knob fully clockwise
- Switch the Lightning Sensor v4 ON
- The red LED lights on, the buzzer makes a continuous beep
- Gently turn the ADJ knob counter-clockwise until the beep stops
- Your Lightning Sensor v4 is now ready to operate
- Switch your camera ON
- Set the shooting parameters on your camera (See camera setting section below)
- When the shooting parameters have been set, switch ON the PF mode (switch toward the PF mark)

As soon as a lightning appears, your camera is triggered.

The lag time of your Lightning Sensor v4 is about 1.6  $\mu$ s, the fastest lightning trigger ever made in the world.  
As a comparison, the lagtime of a camera is between 25 and 85 ms. (According to the model).  
A lightning usually lasts from about 80 ms to more than 1 second.



## REMARKS :

The PF function (prefocused) has the same effect as a half pressing on the shutter release.

When enabled, the PF function appreciably reduces the lagtime of most cameras. When using Nikon or Sony cameras, this function MUST BE enabled to allow triggering.

When the PF function is enabled, you cannot get access to some camera setting menus. Pictures displaying becomes disabled as well. You must disable the PF function when you want to get access to the menus or check your pictures.

## SENSITIVITY ADJUSTMENT :

Your Lightning Sensor v4 has a very high dynamic range of detection. When the ADJ knob is set at beep stop (as described above), detection is optimal. Set in that way, your Lightning Sensor v4 will be able to detect the first stepped leaders (very useful to get beautiful branched lightning) as well as intra-cloud lightning still invisible to the eye (very useful to watch incipient convection and alert you that an electrical activity is developing. You must disable the PF function to hear the alert beep).

To decrease the sensitivity and only favor flashes and lightning strike visible to the eye, simply turn accordingly the ADJ knob to the left (Mind, some branching might be lost then).

## V4B OPTIONAL FEATURE :

This new feature gives you a second port (high quality waterproof Japanese connector) to connect a wired remote control (supplied), allowing you to proceed your own manual shooting, while leaving the Lightning Sensor v4 active, ready to trigger your camera if lightning strikes. You can also connect your own intervalometer to this second port (Jack 2.5mm)

## CAMERA SETTING :

It is very important to set your camera in a « All manual » mode:

- Manual Focus
- Preset White Balance (Not auto)
- Preset ISO (Not auto)
- Image review OFF
- Mirrorless/Hybrid : On some camera models, enabling the EFCS mode (Electronic First Curtain Shutter) allows to reduce the lagtime even more
- Single shot or continuous shot (High speed burst)
- Preset Exposure and Aperture (Not auto)
- Delighting and noise reducing functions disabled
- Silent LV Shoot OFF

## GUIDELINE FOR DAYTIME LIGHTNING CAPTURE :

- Always work in RAW mode (Bigger dynamic range than in JPEG mode during post-treatment)
- Chose the smallest ISO value you can (50 to 200, according to the camera models)
- Do not chose a too fast exposure speed, this to allow you to capture the maximum duration of a lightning.
- Usually, values slower than 1/80 are recommended (i.e. 1/50, 1/30, 1/10, 1/8 etc). The ideal is 1/6, or even 1/4.
- Adjust the aperture to get a good exposure, even a lightly surexposed one
- Usually, aperture from F/7 to F/22 are suitable.
- **ISO100 , Exp 1/10 , aperture F/14 is a good start. Then, reduce the aperture (to F/16 , F/18, etc) if needed.**
- The use of lens filters (circular polarizing filter, ND8 filter) is not needed.
- Use RAW files to get the optimal dynamic range of your pictures

## TROUBLESHOOTING :

Your Lightning Sensor v4 seems to trigger all the time even though there is no lightning? No worries, its electronics has been strictly checked and tested throughout production, a failure is very unlikely. Here are the points to check :

- Trigger cord is correctly and fully inserted on both sides
- ADJ knob is correctly set (please see "Sensitivity Adjustment" above)
- Battery has sufficient voltage (> 8.8 Volts) and contacts are well tight (otherwise, tighten with a small pliers)
- No cell phone is in the immediate area (Cell phone waves disturb the electronics)

## TECHNICAL SPECIFICATIONS :

Power supply : 9V standard alkaline battery, supplied  
Detection spectrum : IR and visible  
Lagtime : 1.6  $\mu$ s  
Trigger duration : 500 ms (impulse allows high speed burst captures)  
Waterproof (dusts and rain splashes, IP56 standard)  
Isolation voltage between camera and Lightning Sensor v4 : 7500V  
Mount system : flash shoe (ISO518) with blocking snap ring  
Size (L x l x H): 119 x 68 x 25 mm (4.6 x 2.75 x 1.0 inches)  
Weight : 140 g

## WARRANTY

Your Lightning Sensor v4 comes with 10 years of warranty against all construction or electronics operating fault, within the use for which the unit has been clearly designed in this user manual. (Keep your invoice FA2xxxxx)

Warranty does not cover damage due to lightning, hail, power supply fault, modification, impact, crush, misuse, as well as water seepage due to non-replaced, worn out switch protections.

Any opening of the unit will cancel the warranty. Battery, release cord, power supply cord, switch protections, are not covered by the warranty.

## FOR MORE INFORMATION :

Radio HAM Electronic  
54 route de Cuzy  
71760 ISSY L EVEQUE  
France

e-mail : [radiohamelectronic@orange.fr](mailto:radiohamelectronic@orange.fr)  
[www.radio-cb-services.com](http://www.radio-cb-services.com)  
[www.radiohamelectronic.com](http://www.radiohamelectronic.com)

