

LLLOD

Lunático Last Line of Defence

User's manual



What is LLOD?

Lunatico Last Line of Defence is a small program designed to be there, hidden, in your observatory computer, **waiting to take action if anything goes wrong**. If all goes well, you'll most likely forget about it.

The idea is simple: monitor a number of things, and, if something's wrong, after a grace period, take action.

Things LLOD can monitor:

- weather safety status
- mount position
- a program running and not stopping
- internet connectivity

Actions it can take if conditions become unsafe:

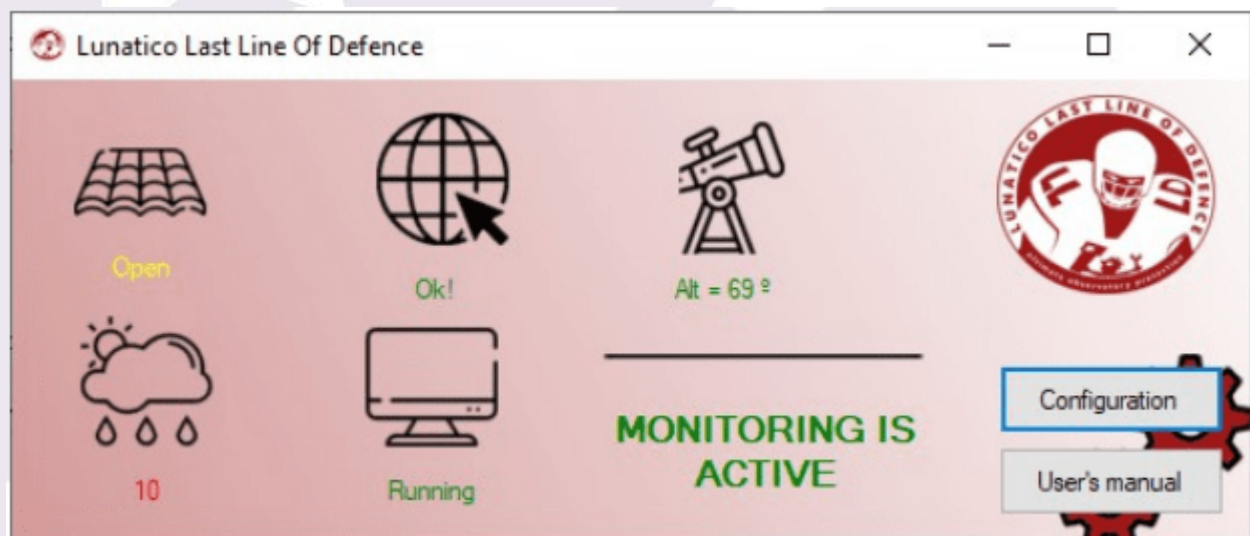
- running a script
- closing the roof
- parking the mount

LLOD is designed to be **easy to use, simple to configure, and very reliable**.

How it works

As seen in the sample screenshot in the next page, below each pictograph you'll find a status, in general:

- green** for safe
- yellow** for the open roof
- red** for unsafe, this will be a number representing the number of seconds that item has been in an unsafe status

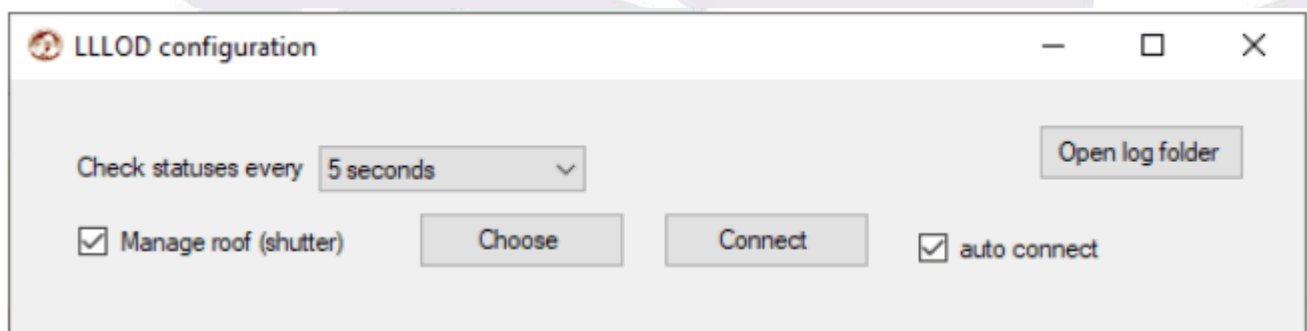


Note: as an optional bonus, it can feed our [Good Night System](#) with status data so that even if the computer running LLLOD freezes or just loses power, or reboots for Windows to install *yet another* update, you'll get a GNS alarm that will wake you up.

If the roof driver is connected (it's recommended to **enable auto connect**!) the system will wait for the roof to open before becoming active.

The configuration window

The configuration window, as seen below, is really self-explanatory.



(Continued on next page)

Monitor: ☒ ASCOM safety monitor ☒ auto connect

☒ Mount ☒ auto connect

☒ Consider error altitude below degrees

☒ Internet connectivity, server:

☒ Program running Currently CCDSessionControl

On unsafe for seconds

☒ Execute external program or script Currently C:\jaime\PrepareToClose.vbs

☒ Wait for it to end, up to seconds

☒ Park mount if not already parked

☐ Wait for it to park, up to seconds

☒ Close roof if open

☒ Wait for it to close, up to seconds

☒ connect with the [Good Night System](#)

☒ Report session status

☒ Report end of session (ending GNS session gracefully)

☒ Report errors, raise GNS alarm

But some things can be clarified:

—The weather is monitored via the ASCOM safety monitor.

—**Everything is optional**, meaning, you can choose to, for example, monitor the weather and internet connectivity, but nothing else.

—Every action to be launched on unsafe for a given time, is optional as well. Be warned, though, if one of the “close observatory” actions fails (for instance, the mount does not park...) and you have selected “Wait for it to park”, then the closing sequence will be aborted and end in error.

—And lastly, to accommodate current users of the GNS, and make it compatible with any other way of using it, what is sent to it is also selectable. To complete the picture, **there's a**

detailed log that can be checked for analysis of what happened the night before – everything is reflected there.

Supporting our work

We've decided to offer this software **for free** – but we'll indeed appreciate it if you decide to donate some amount, depending on how useful you find the program.

We're calling this “Up To You – ware”. At the end of each session, you'll have a summary window offering you the chance to donate something – if and how much, that's up to you.