

Understanding the LEDs

The lights on a Compute Module 4 (CM4), typically a **red Power (PWR) LED** and a **green Activity (ACT) LED**, indicate its operational status and can help diagnose boot problems.

LED Meanings

The behavior of the LEDs depends on the specific carrier board and software configuration, but generally follow these patterns:

Red Power (PWR) LED

- **Solid ON:** The CM4 board is receiving sufficient power (usually 5V or 12V, depending on the carrier board power input).
- **OFF or Flickering:** Suspect a power supply issue. The power source may be faulty or not providing enough current.

Green Activity (ACT) LED

The green LED indicates the system's activity, particularly eMMC access, and can flash specific patterns to signal errors during the boot process.

- **Flashing Irregularly:** Normal read/write activity is in progress, indicating the system is running or booting.
- **Solid ON (after initial power-on):** The system has halted, and it's generally safe to power off the device. It may also be a sign of a non-booting state on some setups.
- **Solid OFF:** The system may be off, or there might be an issue preventing it from accessing the boot media.
- **Specific Flash Patterns:** These patterns diagnose early boot issues. For example:
 - **3 flashes:** start.elf (bootloader file) not found.
 - **4 flashes:** start.elf found but cannot be launched (potentially corrupted).
 - **7 flashes:** kernel.img not found.
 - **8 flashes:** SDRAM not recognized (may require a firmware update).

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