

What is Power Over Serial (POS)

Power Over Serial (POS) is a feature that allows a device to receive power through the same cable used for CAT communication. POS enables one device in the chain to provide power to all connected devices, simplifying the overall power distribution setup.

- **Single Power Source:** only one device in the chain needs to be connected to an external DC power source. This device, often referred to as the "power injector" or "power source," supplies power to the entire chain of devices.
- **Reduced Cable Clutter:** eliminates the need for each device in the chain to have its own separate power cable. This reduces cable clutter, RF interference and makes the setup more organized and manageable.
- **Simplified Installation:** users only need to connect power to one device, typically the first or last in the chain, and the POS feature takes care of distributing power to all connected devices. This simplifies the installation process, especially in situations where multiple devices are used in close proximity.
- **Cost and Resource Savings:** users can potentially reduce the number of power adapters needed, leading to cost savings and a more efficient use of resources.

DC Power Source

All CatMeters.com accessories require 7V to 35V DC @ 600mA or less to operate.

Accessories are equipped with a standard 2.1mm DC jack, wired with the center pin as positive, the industry standard for many plug-packs / wall warts.

Some devices also feature DC screw terminals, providing the flexibility for bare wire connections. The terminal block or circuit board is marked with positive (+) and negative (-).

The power supply must provide a stable DC output without ramping up the voltage when turned on. In case of voltage ramp-up, there might be a delay or undesirable artifacts on the display. An internal timer will initiate a reset, but this process may take up to a minute.



DC Connection & POS Compatibility

- **POS Powered:** Accessories that can be powered from the CAT cable.
- **POS Injection:** Accessories that inject power into the CAT cable. They act as power sources allowing connected devices to draw power from them.
- **2.1mm DC Jack:** All accessories can be powered via 2.1mm DC jack
- **DC Screw Terminals:** Some accessories can alternatively be powered via the DC screw terminals

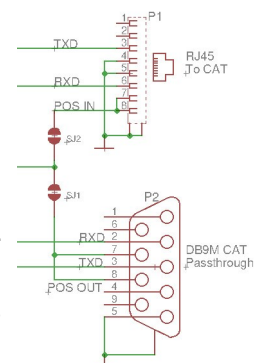
Accessory	2.1mm DC Jack	DC Screw Terminals	POS Powered	POS Injection
CatTouch	✓	✓	✓	✓
CatTouch7	✓	✗	✓	✓
CatKnobz	✓	✓	✓	✓
CatMeters	✓	✗	✓	✗
CatDisplay232	✓	✗	✓	✗

POS & DC connection capabilities of each accessory from CatMeters.com

POS Wiring Details

POS uses signals that are unused in modern RS232 installations like Yaesu CAT.

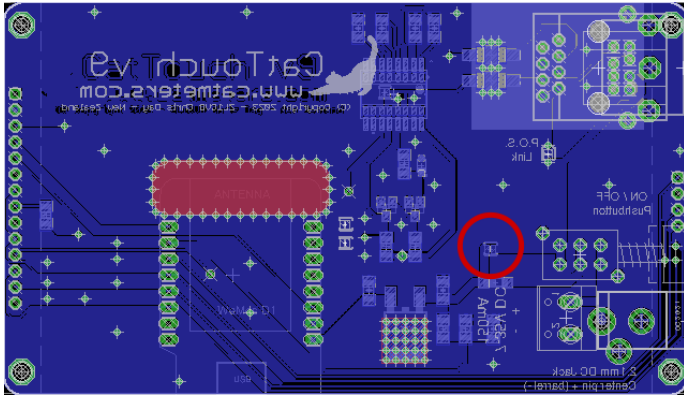
- **RS232 DB9:** Pin 7 & 8 are used for positive. Pin 5 and the DB9 shell are used for negative.
- **RJ45:** This is wired as a Cisco compatible serial consol port. Pin 7 & 8 are used for positive. Pin 4, 5 & the socket metal shield are used for negative.
- **SJ1 & SJ2:** On the PCB of some accessories, solder joint/s must be bridged to enable POS



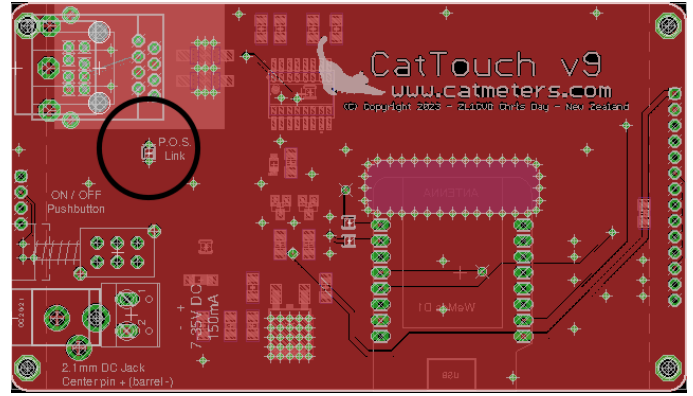
Enabling POS

Power Over Serial (POS) is enabled by shorting out a specific jumper on the circuit

- **CatTouch7, CatMeters & CatDisplay232:** All have POS Powered enabled by default but only CatTouch7 has POS Injection enabled by default.
- **CatTouch:** Early versions did not have POS enabled. There have been several circuit board revisions and the below diagrams show the approximate location of POS Powered and POS Injection jumpers.

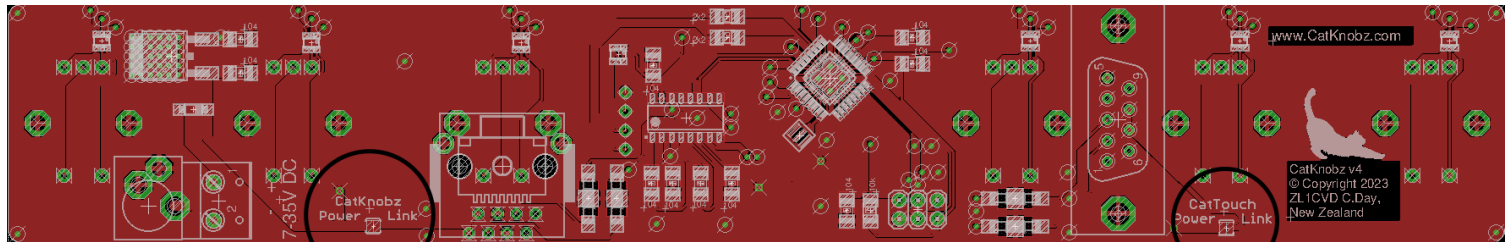


PCB component side - POS Injection



PCB rear side – POS Powered

- **CatKnobz:** Early versions did not have POS enabled. There have been several circuit board revisions and the below diagrams show the approximate location of POS Powered and POS Injection jumpers.



Link marked 'CatKnobz Power Link' is POS Powered

Link marked 'CatTouch Power Link' is POS Injection

RJ45 CAT Cable

The cable used for RS232 serial CAT connection is compatible with Cisco console devices and is wired as follows

