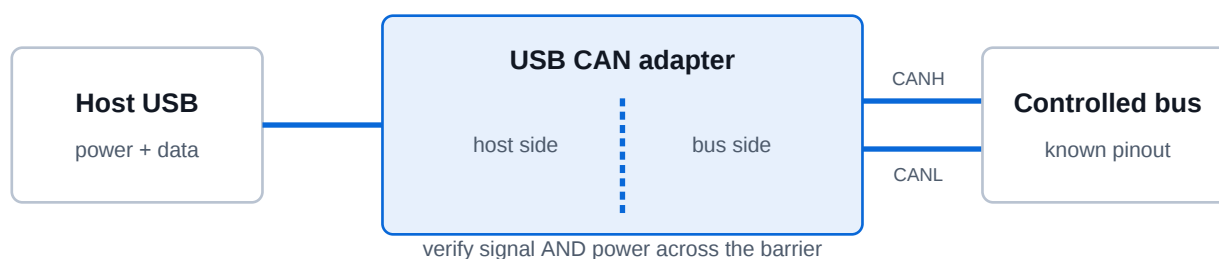


USB CAN Adapter Selection and Bench Checklist

A vendor-neutral worksheet for engineers choosing a driver path, electrical boundary, connector and capture-evidence plan.

Use this before comparing price. A connector shape, headline bitrate or isolated-component badge does not prove system compatibility.



START WITH FIVE DECISIONS

- ☐ Classical CAN or CAN FD - name the frame type and required bitrates.
- ☐ Host path - SocketCAN, SLCAN, gs_usb, vendor driver or SDK.
- ☐ Electrical boundary - draw signal, power, ground, shield and instruments.
- ☐ Physical layer - pinout, topology, termination and protection.
- ☐ Capture evidence - timestamps, errors, expected count and loss method.

Development and diagnostics only. Do not use this checklist as a substitute for a competent high-voltage, functional-safety, compliance or roadworthiness review.

1. Purchase requirement worksheet

Complete the requirement column before reading a product listing. Leave unknowns visible; do not convert them into assumptions.

Requirement	Your bench	Evidence to request
CAN generation	_____	Classical / FD test matrix; nominal and data bitrates
Host OS and version	_____	Driver name, USB ID, tested versions and install steps
Host API	_____	SocketCAN, serial protocol or named vendor SDK
Isolation boundary	_____	Signal-and-power diagram, BOM parts and assembly evidence
Connector and pinout	_____	Pin-numbered drawing and cable continuity table
Termination	_____	Switch state, resistance and intended topology
Capture integrity	_____	Timestamp source, error frames, buffering and loss test
Open-source scope	_____	Hardware / firmware / software repositories, revisions and licenses
Return and support	_____	Named compatibility remedy, logs required and support route

STOP / GO GATE

- ☐ GO: the seller names the model, revision, driver, pinout and test conditions.
- ☐ STOP: 'CAN compatible', 'isolated' or 'high speed' is the only evidence.
- ☐ STOP: a Classical CAN interface is proposed for a required CAN FD frame.
- ☐ STOP: the intended ground, power or connector path remains unknown.

2. Controlled bench acceptance

Record the original state before changing firmware, filters, termination or cabling. Change one variable at a time.

BEFORE POWER

- [] Photograph model, PCB revision, serial number, cable and switch positions.
- [] Verify CANH, CANL, ground and power pins against a numbered drawing.
- [] Check termination with the bench unpowered and topology documented.
- [] Draw the host, adapter, target, instruments, grounds and power supplies.
- [] Set current limits and define stop conditions for heat, resets or error storms.

LINUX SOFTWARE-ONLY PROOF

Run a virtual CAN interface before connecting hardware. This proves the toolchain, not the physical bus.

```
sudo modprobe vcan
sudo ip link add dev vcan0 type vcan
sudo ip link set vcan0 up
candump -L vcan0
```

REAL INTERFACE RECORD

```
ip -details -statistics link show can0
candump -L -e can0
```

- [] Save OS, kernel, driver, USB ID, firmware hash and exact bring-up commands.
- [] Save bitrate, topology, traffic generator, bus load and run duration.
- [] Compare expected and received counts with a named loss-detection method.
- [] Preserve raw IDs, payloads, timestamps and error state before decoding.
- [] Test disconnect, reconnect and recovery under a written step.

Report 'no loss observed under these conditions', not 'loss-free'.

3. Evidence packet and decision

PRODUCT EVIDENCE

- [] Locked BOM, PCB revision, firmware revision and corresponding source scope.
- [] Signal-and-power isolation diagram; protection parts and test conditions.
- [] Connector pinout, termination states and cable continuity table.
- [] Compatibility matrix with named OS, kernel, driver and application versions.
- [] Long-run capture record, expected counts, errors, drops and recovery result.
- [] Shipping contents, weight, dispatch path, return process and support route.

DECISION

- [] GO - the named configuration passed the controlled requirement.
- [] ITERATE - one failed item can be corrected and retested without changing the job.
- [] NO-GO - electrical, driver, frame-format or evidence requirements remain unresolved.

MALLMARS PILOT BOUNDARY

CAN Isolated is a Classical CAN pilot target. CAN FD, universal vehicle compatibility, safety-certified control and professional-instrument timestamp equivalence are not promised for v1. Public checkout remains closed until product, payment, policy and test gates pass.

PRIMARY SOURCES

[Linux Kernel - SocketCAN documentation](#)

[linux-can/can-utils](#)

[Texas Instruments - isolated signal and power paths](#)

[CANable - product and firmware paths](#)

[PEAK-System - PCAN-USB Pro FD specifications](#)

Continue at mallmars.com/learn/ and bring a non-confidential bench requirement to the 50-unit engineering pilot.

MallMars and its products are not affiliated with CANable or PEAK-System. CANable and PCAN names belong to their respective owners. This checklist is informational and does not replace product manuals, competent engineering review or applicable legal requirements.