

FINTEK

CANBUS Burnin Tools for Linux

v1.03.2

Sep 11, 2026

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Revision History

Date	Version	Revision History
2020/3/11	v1.00	Initial version
2020/6/24	v1.01	Fix multi-open fail with same CAN device. Fix multi-ID loss issue. Split warn/err frame
2024/5/22	v1.03	Add CANFD support
2024/5/24	V1.03.1	Fix compile issue.
2026/9/11	V1.03.2	Binary release only. Supports AMD64, ARM, and AARCH64.

1. Preliminary

This document is for Fintek CANBUS test tool to verify the CANBUS with SocketCAN. This tool will use multi CANID and self diagnose ID/DATA with checksum to ensure no error occur.

2. Using binary Tool

The test application supports the following three platforms. The corresponding binaries are located in the app directory:

- x86_64 / AMD64: fitcanbusburnin_amd64
- ARM64 / AArch64: fitcanbusburnin_aarch64
- ARMHF: fitcanbusburnin_arm

Please select the application binary that matches the target test platform, and perform the following steps with root privileges:

1. Rename the platform-specific binary:

```
mv fitcanbusburnin_<platform> fitcanbusburnin
```

2. Make the binary executable:

```
chmod +x fitcanbusburnin
```

3. Tool Usage

```
root@code-tobefilledbyoem:/home/code# ./fitcanbusburnin
Fintek CANBUS Burnin version v1.03
param failed
Fintek CANBUS Burnin app.
Usage:
./fitcanbusburnin <can> <bitrate>[/<fd rate>[/<data size>] <id> <id_bits> <tx cycle delay> <tx diff id num> <tx wait time>
<tx/rx mode>
<can>: can bus index, e.g. can0
<bitrate>: 10/20/50/100/125/250/500/800/1000 kbits
<fd rate>: 1000/2000/4000/5000 kbits
<data size>: CAN: 0~8, CANFD: 0~64
<id>: can id
<id_bits>: 11: SFF, 29: EFF
<tx frame delay>: frame delay (us)
<tx diff id num>: number different id
<tx wait time>: non-used
<tx/rx mode>: 1: RX, 2: Tx
```

This tool can TX or RX CAN frame and statistic the traffic information. The command format:

```
./fitcanbusburnin <can> <bitrate>[/<fd rate>]/[/<data size>] <id> <id_bits> <tx cycle delay> <tx diff id num> <tx wait time> <tx/rx mode>
```

<can>: can bus index, e.g. can0

<bitrate>: 10/20/50/100/125/250/500/800/1000 kbits

<fd rate>: 1000/2000/4000/5000 kbits

<data size>: CAN: 0~8, CANFD: 0~64

<id>: can id

<id_bits>: 11: SFF, 29: EFF

<tx frame delay>: frame delay (us)

<tx diff id num>: fix to 1, default sent 4 set id.

<tx wait time>: non-used

<tx/rx mode>: 1: RX, 2: Tx

TX command:

```
./fitcanbusburnin can2 1000 0x111 11 500 1 0 2
```

Use bitrate 1000kbits

ID: 111~114h

SFF mode(11bits)

frame delay = 500us

```
./fitcanbusburnin can2 500 0x111 29 0 1 0 2
```

Use bitrate 500kbits

ID: 00000111~00000114h

EFF mode(29bits)

frame delay = 0us (Full speed TX)

```
./fitcanbusburnin can2 1000/5000/64 0x111 29 0 1 0 2
```

Use bitrate 500kbits, data bit rate 5000kbits, data size = 64Bytes.

ID: 00000111~00000114h

EFF mode(29bits)

frame delay = 0us (Full speed TX)

RX command:

```
./fitcanbusburnin can1 1000 0 11 0 1 0 1
```

Use bitrate 1000kbits

We'll ignore other parameter except bitrate with RX mode

```
./fitcanbusburnin can1 1000/5000/64 0 11 0 1 0 1
```

Use bitrate 1000kbits, CANFD data rate 5000kbits.

We'll ignore other parameter except bitrate/data rate with RX mode

This app can handle up to 2048 CANID & same data set in RX mode, this parameter can be changed in source code "fitcanbusburnin.c" with MAX_RX_DEVICE.

4. Example

This example will TX(can2) to RX(can1). We must run RX app first than run TX app and stop the test with press enter key in TX/RX app. Don't use CTRL-C to stop TX/RX, it'll cause test count error.

We can verify the TX/RX packet count & data after stop.

TX :

```
./fitcanbusburnin can0 1000/5000/64 0x111 29 0 1 0 2
```

Use bitrate 1000kbits, data rate 5000kbits, data size = 64Bytes.

ID: 000h~004h

SFF mode(11bits)

frame delay = 0us (Full speed TX)

RX:

```
./fitcanbusburnin can1 1000/5000/64 0 11 0 1 0 1
```

Use bitrate 1000kbits, data rate 5000kbits

start:

```
root@code-tobefilledbyoem: /home/code
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin#
root@code-tobefilledbyoem:/home/code/ddd/old/hpeter/fintek/F81602/ap/burnin# ./fitcanbusburnin can0 1000/5000/64 0x111 29 0 1
0 2
Fintek CANBUS Burnin version v1.03
init_canbus: init canbus: can0 ok
Do TX test mode

Press Enter to quit TX test
tx cnt: 405188, rate: 5627.00 f/s, te: 0(0), re: 0(0), 0 0 0 0 0 0
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code#
root@code-tobefilledbyoem:/home/code# ./fitcanbusburnin can1 1000/5000/64 0 11 0 1 0 1
Fintek CANBUS Burnin version v1.03
init_canbus: init canbus: can1 ok
Do RX test mode

Press Enter to quit RX test
RX: 405212, ERR: 0, WARN: 0, rate: 5627.00 f/sec, sets: 4, max_rx_set: 1
[1] 0:./fitcanbusburnin* 1:tail 2:bash- "code-tobefilledbyoem" 09:42 22- 五 -24
```

stop:

[illegible]