



BM-CANFD-X1

Portable Single-Channel USB CAN FD Analyzer - Generation 3

RELEASE - REV A

Product models	BM-CANFD-X1 (Generation 3)
Document	English product datasheet
Revision	REV A - 2026-07-27
Technical source	Generation-3 X1/X1PRO Chinese product specification



Document purpose

Technical product information for evaluation, integration, and purchasing. Specifications are based on the approved Chinese product document identified above.

1. Product overview

BM-CANFD-X1 is a compact direct-plug interface for online CAN and CAN FD analysis. It works with BUSMASTER for visual engineering, BMCLI for AI and automation workflows, and BMAPI SDK for custom applications.

Scope and limitation

This datasheet covers the non-isolated generation-3 X1 sold on the website. The separately listed X1PRO is currently a generation-2 isolated product and has its own datasheet.

Key capabilities

- One CAN/CAN FD channel with CAN FD payloads up to 64 bytes.
- Receive and transmit throughput above 26,000 frames per second per channel.
- Up to 64 hardware-timed transmit tasks per channel.
- Software-controlled 120-ohm termination and ESD protection.
- CAN FD data-phase bit rate up to 12 Mbps.
- Two hardware receive filters, including payload-based filtering.
- RAM and non-volatile Flash sequence-playback buffers.
- Configuration can be stored for automatic operation after power-on.

Typical applications

- ECU development and debugging
- Automated production and regression testing
- Portable service and commissioning
- CAN/CAN FD data acquisition
- UDS and ISO-TP diagnostics
- AI-assisted bus analysis with BMCLI

2. Technical specifications

Protocols	CAN 2.0 and CAN FD (ISO and Bosch modes)
Channels	1 x CAN/CAN FD
CAN FD bit rate	5 kbps to 12 Mbps
Receive throughput	> 26,000 fps
Transmit throughput	> 26,000 fps
Payload	0 to 64 bytes
Receive filters	2 hardware filters per channel
Timed transmit	Up to 64 hardware tasks per channel
Termination	Software-controlled 120 ohms / disabled
Isolation	Not isolated
USB	USB Full-Speed Type-A direct plug
Dimensions	53 x 23 x 14 mm, excluding terminal
Weight	< 50 g
Power	USB 5 V; < 0.6 W
Operating temperature	-40 to +85 deg C
Storage temperature	-40 to +105 deg C

3. Model selection and operating guidance

Model matrix

Model	CAN FD	Isolation	Connector
BM-CANFD-X1 Gen 3	1 channel	No	3.81 mm 3-pin terminal

Performance and integration notes

- For data rates above 2 Mbps, use a short, low-capacitance twisted pair with correct termination.
- The highest frame-rate figures require sufficient bus bit rate and load; actual results depend on frame length and bus timing.
- Sequence playback provides 32 KB RAM storage and 512 KB non-volatile Flash storage in the source specification.
- X1 is intended for online analysis and compact automated tasks, not isolated field wiring.

Selection rule

This datasheet covers the non-isolated generation-3 X1 sold on the website. The separately listed X1PRO is currently a generation-2 isolated product and has its own datasheet.

4. Mechanical and connector information



Product configuration shown for identification. Exact appearance and fitted options depend on the ordered model.

Mechanical and host interface summary

USB	USB Full-Speed Type-A direct plug
Dimensions	53 x 23 x 14 mm, excluding terminal
Weight	< 50 g
Power	USB 5 V; < 0.6 W

Connector notes

- 3.81 mm 3-pin removable terminal: CAN-H, CAN-L, and optional GND.
- Ground is normally optional and is useful for measurement or troubleshooting.

5. Software and engineering workflow

BUSMASTER

Use the graphical application to select the device, configure channels, observe frames and signals, record or replay traffic where supported, and run diagnostic workflows.

BMCLI

Use command-line and AI-assisted workflows for repeatable configuration, data inspection, diagnostics, test automation, and auditable engineering tasks.

BMAPI SDK

Build custom Windows or Linux applications through the shared BUSMUST programming interface. Availability of a specific function still depends on the hardware capabilities stated in this datasheet.

Important

Do not infer an unsupported function from software availability. Isolation, standalone operation, storage, routing, replay, and channel count are hardware-specific and are controlled by the model and configuration.

6. Ordering and support

Confirm the exact model, channel count, isolation requirement, connector or harness, operating environment, and any optional expansion before ordering.

Sales	sales@busmust.com
Technical support	support@busmust.com
Website	https://busmust.com/
Documentation	https://busmust.com/en/docs/

Specifications may change as the design evolves. Formal quotations, ordered configurations, approved samples, and project agreements govern delivered products.