

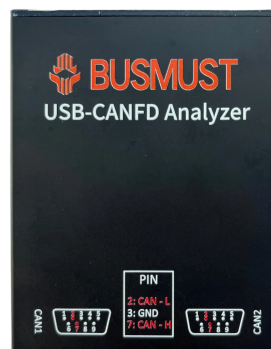


BM-USB-CANFD-X2R / X4R

Isolated CAN FD Analysis and Standalone Logging Interfaces

RELEASE - REV A

Product models	BM-USB-CANFD-X2R, BM-USB-CANFD-X4R
Document	English product datasheet
Revision	REV A - 2026-07-27
Technical source	X2R/X4R 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

X2R and X4R combine complete USB online analysis with TF-card standalone logging, replay, timed transmission, and routing. The isolated interfaces are intended for long-duration acquisition and unattended field operation.

Scope and limitation

The logger family uses generation-specific 8 Mbps and throughput limits. Do not apply the 12 Mbps or >26,000 fps figures of generation-3 X2/X4 analyzers.

Key capabilities

- Two or four isolated CAN/CAN FD channels.
- Receive throughput above 16,000 fps and transmit throughput above 4,000 fps.
- Automatic logging, timed transmission, routing, and replay after power-on.
- Software-controlled 120-ohm termination.
- CAN FD data-phase bit rate up to 8 Mbps.
- TF card up to 128 GB with cyclic recording.
- Two hardware receive filters and up to 64 timed transmit tasks per channel.
- 2,500 V industrial electrical isolation.

Typical applications

- Vehicle black-box recording
- HIL log replay
- Fleet and industrial monitoring
- Long-duration field acquisition
- Standalone gateway and routing
- Online diagnostics and automation

2. Technical specifications

Protocols	CAN 2.0 and CAN FD (ISO and Bosch modes)
CAN FD bit rate	5 kbps to 8 Mbps
Receive throughput	> 16,000 fps per channel
Transmit throughput	> 4,000 fps per channel
Receive filters	2 hardware filters per channel
Timed transmit	Up to 64 tasks per channel
Routing	Configurable channel, ID, and frame-type mapping
Termination	Software-controlled 120 ohms / disabled
Isolation	2,500 V
TF card	Push-push slot; up to 128 GB
File systems	FAT16, FAT32, and exFAT
USB	USB 2.0 Type-B
Dimensions	80 x 45 x 93 mm, excluding connectors
Weight	< 200 g
Power	USB 5 V; < 2.5 W
Operating temperature	-40 to +85 deg C; use wide-temperature media where required

3. Model selection and operating guidance

Model matrix

Model	CAN FD	Isolation	TF card
BM-USB-CANFD-X2R	2 channels	2,500 V	Up to 128 GB
BM-USB-CANFD-X4R	4 channels	2,500 V	Up to 128 GB

Performance and integration notes

- Automatic logging writes received traffic to the TF card after power-on.
- Replay can transmit preloaded log files to selected CAN FD channels for bench and HIL workflows.
- When standalone logging or replay is active, the mass-storage interface may be disconnected to protect real-time card access.
- For operation at the temperature limits, use storage media rated for the same environment.

Selection rule

The logger family uses generation-specific 8 Mbps and throughput limits. Do not apply the 12 Mbps or >26,000 fps figures of generation-3 X2/X4 analyzers.

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 2.0 Type-B
Dimensions	80 x 45 x 93 mm, excluding connectors
Weight	< 200 g
Power	USB 5 V; < 2.5 W

Connector notes

- DB9 male per channel: pin 2 CAN-L, pin 7 CAN-H, pin 3 optional GND.
- The enclosure provides channel activity, termination, power, and TF-card I/O indication.

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.