# BM-LIN-L1

Portable Single-Channel USB LIN Analyzer

**RELEASE - REV A**

| | |
|---|---|
| Product models | BM-LIN-L1 |
| Document | English product datasheet |
| Revision | REV A - 2026-07-27 |
| Technical source | L1 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-LIN-L1 is a direct-plug single-channel LIN interface for master and slave simulation, signal analysis, scheduled transmission, and custom development.

**Scope and limitation**

L1 can store schedules and hardware tasks for operation without a PC, but it does not contain a TF card and is not intended for long-duration file logging.

## Key capabilities

- LIN 1.3 to LIN 2.x protocol compatibility.
- Classic, enhanced, and custom checksum support.
- Transmit throughput above 50 frames per second.
- Controllable 1-kohm pull-up and 12 V / 5 V auxiliary supply.
- Master and slave modes with dynamic bit-rate measurement in slave mode.
- Receive operation at 100 percent bus load without frame loss in the stated test conditions.
- 64 hardware receive filters and 64 hardware-timed transmit tasks.
- Saved configuration and schedule operation after power-on.

## Typical applications

- LIN ECU and node development
- LDF-based analysis
- Production-line validation
- Master and slave simulation
- Automated schedule testing
- Custom BMAPI applications

# 2. Technical specifications

| | |
|---|---|
| Protocol | LIN 1.3 to LIN 2.x |
| Channel | 1 x LIN |
| Bit rate | 1,200 to 19,200 bps |
| Receive performance | No frame loss at 100 percent bus load in the specified test |
| Transmit throughput | > 50 fps |
| Node modes | Master and slave |
| Receive filters | 64 hardware filters by LIN ID |
| Timed transmit | 64 hardware tasks by LIN ID |
| Pull-up | Software-controlled 1 kohm / disabled |
| Auxiliary supply | 12 V / 5 V, up to 100 mA for LIN PHY supply |
| USB | USB Full-Speed Type-A direct plug |
| Dimensions | 53 x 23 x 14 mm, excluding terminal |
| Weight | < 50 g |
| Power | USB 5 V; < 1 W |
| Operating temperature | -40 to +85 deg C |
| Storage temperature | -40 to +105 deg C |
| Offline LIN playback | Not supported by the current firmware |

# 3. Model selection and operating guidance

## Model matrix

| Model | LIN | Master/slave | Standalone tasks |
| --- | --- | --- | --- |
| BM-LIN-L1 | 1 channel | Supported | Supported |

## Performance and integration notes

- The auxiliary power pin supplies the LIN physical layer and is not an input for powering the analyzer itself.
- Master mode supports configurable schedules from 1,200 to 19,200 bps.
- Slave mode can measure the active bus bit rate dynamically.
- Use X2R/X4R or another logger when TF-card file recording is required.

| Selection rule |
| --- |
| L1 can store schedules and hardware tasks for operation without a PC, but it does not contain a TF card and is not intended for long-duration file logging. |

# 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; < 1 W |

## Connector notes

- 3.81 mm 3-pin removable terminal: LIN, VBAT auxiliary supply, and GND.
- The pin order is marked on the enclosure.

# 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.

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|---|---|
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| 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.