CANmod.input

General Information

- Functionality: The device processes analog, digital, and pulse data from up to 8 input sensors, outputting the results via CAN or USB.
- Included: CANmod.input module and USB dust cover. Please note: input sensors and mini USB adapter are not included.
- Firmware: Free firmware updates can be installed via USB, allowing for new features.
- Configuration: Uses configuration files based on the popular open source JSON schema, similar to CANedge.
- Software: Free open source editor available for device configuration, both offline and online.
- Safety: Certified to CE, FCC, IC, and RoHS standards (certificates available in documentation).
- Warranty: 1-year warranty included.
- Support: Fast and high quality support offered at no cost.
- Origin: Manufactured in Denmark.

Sensor Input

- Channels: 8 input channels available.
- Sensor Types: Each channel supports analog, digital, and pulse-type sensors.

- Sampling Method: Each input simultaneously samples analog, digital, and pulse signals.
- Input Range: Configurable ranges: 0-10V, 0-5V, 0-2.5V, 0-1.25V, and 0-0.625V. Ranges are shared in pairs (CH1/CH2, CH3/CH4, CH5/CH6, CH7/CH8).
- Resolution: 10-bit analog resolution.
- Sampling Frequency: Analog and digital at 1 kHz, pulse measurements at 16 kHz.
- Digital Thresholds: Configurable high/low switch thresholds (0-100%) with optional dead-zone/hysteresis.
- Pulse Modes: Pulse inputs can be read as frequency (reset mode) or counter (accumulate mode).
- Pulse Resolution: Up to 32-bit (maximum 4,294,967,294).
- Protection: Inputs protected against overvoltage and undervoltage.
- Input Impedance: 136K.

Data Parameters

- CAN Signals: Outputs sensor data via CAN messages/signals. Analog data in millivolt (mV) at 1000 Hz, digital as 'actual' or 'low/high' at 1000 Hz, pulse as frequency or counter at 1000 Hz. Output frequencies may be limited by baud rate and message volume.

CAN Bus

- Channels: 1 CAN channel.
- Modes: Can broadcast data on CAN bus or supply it on request.
- Standard: Complies with ISO 11898 for CAN and CAN FD (baud rates 5K–1Mbit/s and 1M, 2M, 4M).
- Identifiers: Supports CAN 2.0A (11-bit ID) and 2.0B (29-bit ID).
- Termination: Termination can be toggled with a switch beneath the DB9 connector.
- Retransmission: Automatically retransmits frames losing arbitration or affected by errors.
- Transceiver Protection: ESD protection (+/-25kV HBM, +/-12kV IEC), +/-14V bus fault, short-circuit protection, common mode input +/-12V, TXD dominant timeout prevents network blocking.

Configuration

- Bit Rate: Choose standard bit rates (5K to 1M) or customize bit timing.
- Enable/Disable: Enable or disable each CAN message individually.

- Identifier Customization: Configure each CAN ID as 11-bit or 29-bit.
- Push/Poll Mode: Set trigger modes (push or poll) for each message.
- Frequency: Prescale CAN message frequency as needed.

Electrical

- Input Supply: +5V to +26V DC through DB9 (power on pin 1 or 9). Alternatively, via USB for updates or real-time data streaming.
- Power Consumption: Extremely low (<1W) for minimal battery impact.
- Protection: Reverse voltage protection on CAN-bus supply and transient protection on supply lines.

Mechanical

- Enclosure and Weight: Compact aluminum design: 65 x 48 x 24 mm (excluding connectors/flanges), 70 grams.
- Connector (Front): Standard D-sub 9 (DB9) connector.
- Connector (Back): D-sub 25 (DB25) connector.
- Sensor Supply: Dedicated excitation signals for each channel (~3.3 V, shared max 100 mA).
- Pin-Out: Refer to product manual for DB9/DB25 pin assignments.
- USB: Mini USB connector for configuration, firmware updates, and streaming (USB cable not included).
- LEDs: Eight external LEDs indicate module status: Power, CAN bus, Memory, Status, and input channel pairs.
- Temperature: Operating range: -25°C to +70°C.
- IP Rating: IP40.
- Mounting: Mountable via velcro strips or similar methods.