CSS Electronics

Danish developer & manufacturer of CAN hardware

DK **DANISH DESIGN:** Devices are designed from scratch by our Danish engineers

ISO **US PRODUCTION:** PCBs are assembled by our ISO 9001 US partner. EOL finalized in DK

100+ **GLOBAL:** We ship globally and our products are used across 100+ countries

<24H **SUPPORT:** We are known for extremely fast, high quality technical support

5K+ **REACH:** Devices are used by 5,000+ companies and trusted by top tier OEM engineers

CO2 **CO2 NEUTRAL:** We offset 100% of our CO2 emissions incl. production & shipping

CAN bus data loggers - simple-to-use. pro specs. interoperable.

Your data, your way. Easily log CAN data from your vehicle / machine - and extract it via SD, WiFi or 3G/4G. Process the interoperable data in your favorite tools - or via 100% free open source software/APIs.

Perfect for vehicle telematics, OEM development, diagnostics and more.

We offer two series of CAN bus data loggers: The CLX000 and CANedge. Further, we offer the CANmod sensor-to-CAN modules.

CLX000 - low cost CAN logger & interface

The CLX000 lets you log CAN data to an SD card in CSV format - and process it via the free software tools. Further, you can stream data in real-time via USB on your PC for e.g. reverse engineering and diagnostics purposes.

The CLX000 is ideal if you need a basic CAN logger, while also being able to stream data in real-time via USB.

CANedge - pro specs 2x CAN/LIN logger

The CANedge is our 2nd gen data logger. It combines ease-of-use with cutting-edge specs and powerful configurability. The time stamped data can be processed in your favorite tools - or via 100% free open source software/APIs.

The CANedge1 is recommended for pure data logging use cases.

The CANedge2/CANedge3 is ideal if you need to collect data via WiFi/LTE - e.g. pushing data to your server from a fleet of assets.

CANmod - sensor-to-CAN modules

The CANmod is a series of 'sensor-to-CAN' modules that output e.g. GNSS/IMU or thermocouple data. The modules integrate with any CAN bus system - meaning you can use them standalone to inject CAN data into e.g. a vehicle/machine CAN bus.

You can also use them as add-on modules for any CAN logger/interface - incl. In particular as add-ons for the CANedge.

Trusted by engineers at leading OEMs

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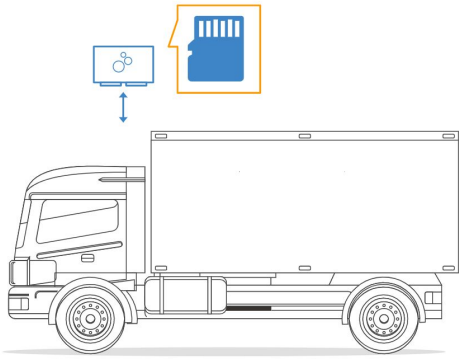
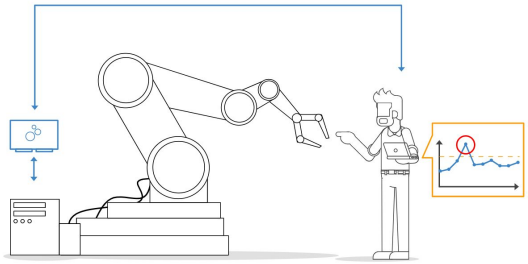
Example use cases



Vehicle 'black box'

Need to monitor data from your vehicle fleet?

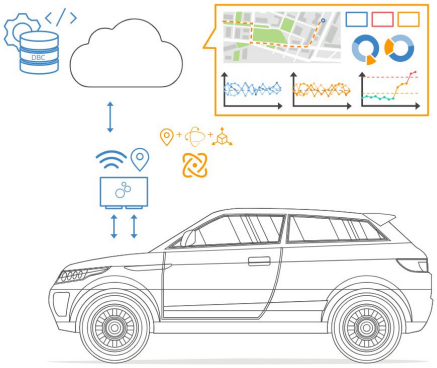
The CANedge1 is ideal for recording data over long periods from fleets - incl. cars (via OBD2) and heavy-duty vehicles (via J1939). With filters, compression & cyclic logging you can log years of data. Ideal for e.g. warranty/legal data storage or optimization.



Rare issue identification

Need to identify a rare, but critical issue?

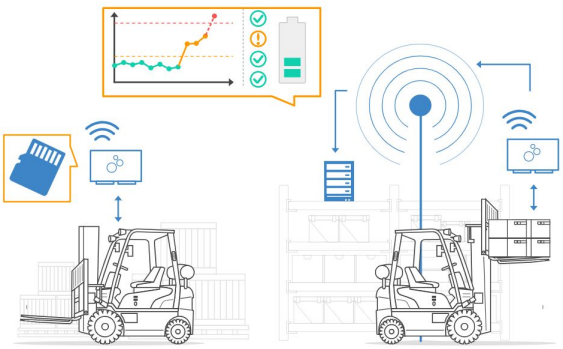
If you have e.g. production equipment that periodically exhibts an issue the CANedge1 is a great diagnostics tool. Simply connect it and leave it in. If the issue occurs, you can extract the raw data, DBC convert it and plot it for quick diagnostics.



Vehicle telematics

Need to monitor & optimize a vehicle fleet in near real-time?

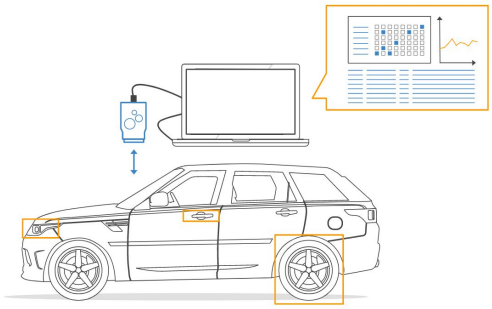
For 'on-road' upload of data, the CANedge3 can upload data via 3G/4G to e.g. your own AWS S3 cloud server. Alternatively, the CANedge2 can upload data when the vehicle periodically returns to e.g. a garage WiFi network. Ideal for OBD2 logging, truck fleet management, predictive maintenance and more.



Warehouse fleet management

Need to monitor a fleet of AGVs/forklifts in a warehouse?

For site managers/OEMs, the CANedge2 can collect data from AGV/forklift fleets e.g. for optimizing battery management. The device has strong WiFi range, can upload via multiple WiFi access points - and can store data on your local/dedicated/cloud server.



Reverse engineering proprietary data

Want to reverse engineer proprietary data parameters?

You may need to reverse engineer proprietary CAN data as part of e,g, creating dashboards or custom applications. The CLX000 lets you use both data logging and USB streaming as part of decoding exercises. Further, our free Wireshark plugin provides useful tools for reverse engineering CAN data.

CLX000

Low cost CAN logger & interface

PLUG & PLAY: Log data out-the-box. Standalone. Power via CAN connector

STREAM: Send/receive CAN data in real-time to PC via USB in SavvyCAN (DBC support)

STANDALONE: Log CAN data to 8-32 GB SD card (no PC needed). RTC (CL2000)

FREE SOFTWARE: All software is 100% free. DBC convert data via simple Windows GUI tool

COMPACT: Only 7 x 4 x 2 CM. 50G. 3 LEDs. Mini USB port for SD extraction + streaming

LOW COST: Lowest cost CAN logger & interface on the market

The plug & play CLX000 is a simple-to-use CAN logger. The device logs CAN data to an 8-32 GB SD card or streams it via USB to a PC.

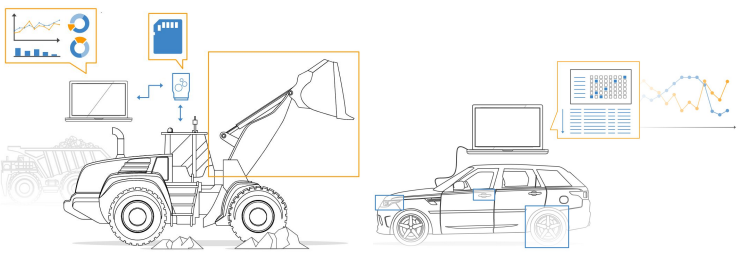
For the CL2000, data is date & time stamped via a real-time clock with battery backup.

The CLX000 is used in blackbox logging, reverse engineering or simple telematics use cases. For logging or WiFi/LTE use cases, see also the '2nd generation' CANedge series.

Compact CAN logger + interface

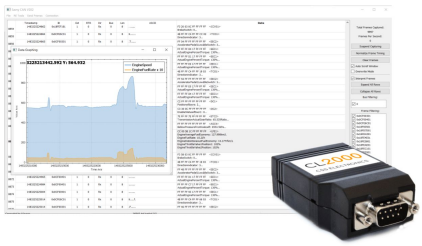
The CLX000 lets you both log raw CAN data to an 8-32 GB SD card and/or stream it via USB in real-time:

- Power via DB9 connector (<1W power consumption)
- Auto-detect bit rate - no configuration required
- Log raw CAN data in simple CSV format
- Easily extract data from the SD card via USB
- Configure device via simple CONFIG.INI file or editor
- Silent mode, filters, transmit lists, cyclic logging
- Timestamp data via real-time clock (CL2000)
- Stream data in real-time via USB in SavvyCAN
- Transmit custom data with real-time control
- DBC convert logged/streamed data via free software



Send/receive data in real-time via USB

With the free SavvyCAN software, it's easy to send/receive CAN data via USB. View raw traces, DBC decoded signals or create visual plots. The software also adds powerful reverse engineering tools.



Technical specs

GENERAL

Safety	CE, FCC, IC certified
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free
Documentation	Online/PDF documentation

CAN BUS

Channels	1 x CAN (Classical)
Protocols	J1939, OBD2, CANopen, NMEA2000, ...

DATA LOGGING

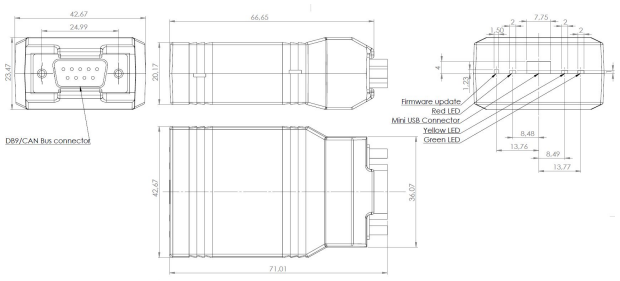
SD CARD	8-32 GB SD card (extract via USB)
Real-Time Clock	1 ms resolution (CL2000)
File format	CSV-style plain text format
Safety	100% power safe
Configuration	Simple configuration options

USB STREAMING

Stream	Send/receive raw/decoded CAN data

MECHANICAL/SUPPLY

Connectors	1 x DB9 (adapter cables available)
Input supply	+7V to +32V DC via DB9
Consumption	<1W
Dimensions	66.7 x 42.7 x 23.5 mm (L x W x H)
Weight	50 G
LEDs	3 LEDs (PWR, DATA, MEM)
Temperature	-20 degC to +65 degC
IP rating	IP40



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CANedge1

2xCAN/LIN Data Logger (SD + RTC)

PLUG & PLAY: Log data out-the-box. Standalone. Power via CAN connector

CONFIGURABLE: Filters. Transmit lists. Triggers. Cyclic logging. Silent mode

PRO SPECS: Extractable 8-32 GB SD. 2xCAN/LIN. CAN FD. Zero data loss. 50 µs RTC

FAST & SECURE: Industrial SD card. Data encryption for GDPR/CCPA. Compression

COMPACT: Only 8 x 5 x 2 CM. 100G. Alu enclosure. 4 LEDs. Configure CH2 5V power out

INTEROPERABLE: Convert MDF4 to e.g. CSV, ASC, TRC. Free open source GUI/API

The plug & play 2xCAN/LIN logger records timestamped CAN data (Classical/CAN FD) to the extractable 8 GB industrial SD card.

It's easy-to-use: Simply power the device via your CAN connector to start logging raw data. Extract the data and process it using 100% free open source MDF4 software/API tools - or convert it to your favorite log file format (Vector ASC, PEAK TRC, CSV, ...).

The CANedge1 is ideal for logging of CAN/LIN systems over long periods - e.g. for OEM R&D, diagnostics or legal purposes.

New: The CANedge1 is now available with **optional GPS/IMU**.

Pro specs CAN logger - at half the cost

The CANedge1 combines innovative design, cutting-edge components - and incredibly low costs:

- Dual high speed CAN/LIN (incl. CAN FD) channels
- Extractable 8-32 GB industrial SD card (months of data)
- Binary MDF4 log file format (extensive tool support)
- Advanced message filtering & transmit functionality
- Start/stop logging triggers based on CAN ID & databytes
- Silent mode, bit rate auto-detection, cyclic logging
- CAN/LIN error frame logging
- Data compression & encryption (e.g. for GDPR, CCPA)
- Fast boot time. Safely disconnect during use

Open source software/API - naturally

All software/APIs for the CANedge is 100% free and open source.

Data is stored in the popular MDF4 standard to enable interoperability across CAN tools and custom systems.

Convert: Simple MDF4 converters let you convert data to e.g. CSV, ASC (Vector), TRC (PEAK) - for use in your favorite tools.

Process: The asammdf GUI lets you process your data incl. DBC conversion (J1939, OBD2, ...) and graphical plots (Windows/Linux).

Automate: Easy-to-use Python APIs let you automate processing of large amounts of data (incl. quickstart library on github).

Visualize: Easily visualize data in customizable dashboards

Technical specs

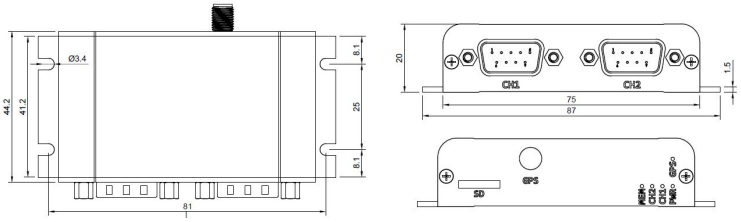
GENERAL	
Safety	CE, FCC, IC certified
Voltage tests	Transients ISO 7637-2:2011 by TÜV SÜD
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free & open source
Documentation	Online/PDF documentation

CAN BUS/LIN BUS	
Channels	2 x CAN/CAN FD + 2 x LIN (master/slave)
Protocols	J1939, OBD2, CANopen, NMEA2000, FD, ...
Bit-rate	Auto-detect/simple/advanced customization

DATA LOGGING	
SD CARD	8-32 GB extractable industrial micro SDHC
Real-Time Clock	50 us resolution (incl. battery backup)
File format	MDF4 (.MF4) - easily process/convert
Safety	100% power safe
Configuration	Advanced options (filters, prescalers, compression, error frame logging, data encryption, triggers & more)

GNSS/IMU (optional)	
GNSS/IMU	Add 40+ GNSS/IMU signals (see deep dive)

MECHANICAL/SUPPLY	
Connectors	2 x DB9 (adapter cables available)
Input supply	+7V to +32V DC via Channel 1 DB9
Consumption	<1W
Dimensions	75 x 47 x 20 mm excl. antenna/flanges
Weight	100 G
LEDs	4-5 LEDs (PWR, CH1, CH2, MEM, GPS)
Temperature	-25 degC to +75 degC
IP rating	IP40



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CANedge2

2xCAN/LIN Data Logger (SD + RTC + WiFi)

PLUG & PLAY: Log data out-the-box. Standalone. Power via CAN connector

SECURE WIFI: Push data via WiFi to your own server. Enterprise-grade security

PRO SPECS: Extractable 8-32 GB SD. 2xCAN/LIN. CAN FD. Zero data loss. 50 µs RTC

MANAGE FLEET: Easily update config/FW over-the-air across fleet. Auto-sync RTC via WiFi

COMPACT: Only 8 x 5 x 2 CM. 100G. Alu enclosure. 5 LEDs. Configure CH2 5V power out

INTEROPERABLE: Convert MDF4 to e.g. CSV, ASC, TRC. Free open source GUI/API

The plug & play 2xCAN/LIN logger records timestamped CAN data (Classical/CAN FD) to the extractable 8 GB industrial SD card.

The small device connects via WiFi access points (e.g. WLAN or 3G/4G routers) to securely push data to your server. Further, the device can be updated over-the-air. The CANedge2 is ideal for telematics & fleet management - as well as R&D field tests, diagnostics and predictive maintenance.

Software/APIs are free & open source - with no fees or lock-in.

New: The CANedge2 is now available with **optional GPS/IMU**.

Pro specs CAN logger - at half the cost

The CANedge2 combines innovative design, cutting-edge components - and incredibly low costs:

- Dual high speed CAN/LIN (incl. CAN FD) channels
- Extractable 8-32 GB industrial SD card (months of data)
- Binary MDF4 log file format (extensive tool support)
- Advanced message filtering & transmit functionality
- Start/stop logging triggers based on CAN ID & databytes
- Silent mode, bit rate auto-detection, cyclic logging
- CAN/LIN error frame logging
- Data compression & encryption (e.g. for GDPR, CCPA)
- Fast boot time. Safely disconnect during use

Open source software/API - naturally

All software/APIs for the CANedge is 100% free and open source.

Data is stored in the popular MDF4 standard to enable interoperability across CAN tools and custom systems.

Convert: Simple MDF4 converters let you convert data to e.g. CSV, ASC (Vector), TRC (PEAK) - for use in your favorite tools.

Process: The asammdf GUI lets you process your data incl. DBC conversion (J1939, OBD2, ...) and graphical plots (Windows/Linux).

Automate: Easy-to-use Python APIs let you automate processing of large amounts of data (incl. quickstart library on github).

Visualize: Easily visualize data in customizable dashboards

Technical specs

GENERAL

Safety	CE, FCC, IC certified
Voltage tests	Transients ISO 7637-2:2011 by TÜV SÜD
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free & open source
Documentation	Online/PDF documentation

CAN BUS/LIN BUS

Channels	2 x CAN/CAN FD + 2 x LIN (master/slave)
Protocols	J1939, OBD2, CANopen, NMEA2000, FD, ...
Bit-rate	Auto-detect/simple/advanced customization

DATA LOGGING

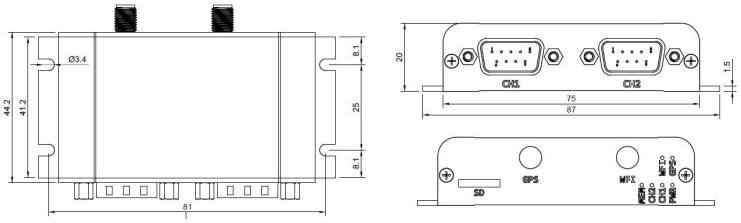
SD CARD	8-32 GB extractable industrial micro SDHC
Real-Time Clock	50 us resolution (incl. battery backup)
File format	MDF4 (.MF4) - easily process/convert
Safety	100% power safe
Configuration	Advanced options (filters, prescalers, compression, error frame logging, data encryption, triggers & more)

GNSS/IMU (optional)

GNSS/IMU	Add 40+ GNSS/IMU signals (see deep dive)

MECHANICAL/SUPPLY

Connectors	2 x DB9 (adapter cables available)
Input supply	+7V to +32V DC via Channel 1 DB9
Consumption	<1W
Dimensions	75 x 47 x 20 mm excl. antenna/flanges
Weight	100 G
LEDs	5-6 LEDs (PWR, CH1, CH2, MEM, WFI, GPS)
Temperature	-25 degC to +75 degC
IP rating	IP40



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CANedge3

2xCAN/LIN Data Logger (SD + RTC + 3G/4G)

PLUG & PLAY: Log data out-the-box. Standalone. Power via CAN connector

SECURE 3G/4G: Push data via 3G/4G to your server. Update over-the-air. SIM. E2E security

PRO SPECS: Extractable 8-32 GB SD. 2xCAN/LIN. CAN FD. Zero data loss. 50 µs RTC

MANAGE FLEET: Easily update config/FW over-the-air across fleet. Auto-sync RTC via 3G/4G

COMPACT: Only 8 x 5 x 2 CM. 100G. Alu enclosure. 5 LEDs. Configure CH2 5V power out

INTEROPERABLE: Convert MDF4 to e.g. CSV, ASC, TRC. Free open source GUI/API

The plug & play 2xCAN/LIN logger records timestamped CAN data (Classical/CAN FD) to the extractable 8 GB industrial SD card.

The small device connects via 3G/4G (using your own SIM card) to securely push data to your server. Further, the device can be updated over-the-air. The CANedge3 is ideal for telematics & fleet management - as well as R&D field tests, diagnostics and predictive maintenance.

Software/APIs are free & open source - with no fees or lock-in.

New: The CANedge3 is available with **GPS/IMU**.

Pro specs CAN logger - at half the cost

The CANedge3 combines innovative design, cutting-edge components - and incredibly low costs:

- Dual high speed CAN/LIN (incl. CAN FD) channels
- Extractable 8-32 GB industrial SD card (months of data)
- Binary MDF4 log file format (extensive tool support)
- Advanced message filtering & transmit functionality
- Start/stop logging triggers based on CAN ID & databytes
- Silent mode, bit rate auto-detection, cyclic logging
- CAN/LIN error frame logging
- Data compression & encryption (e.g. for GDPR, CCPA)
- Fast boot time. Safely disconnect during use

Open source software/API - naturally

All software/APIs for the CANedge is 100% free and open source.

Data is stored in the popular MDF4 standard to enable interoperability across CAN tools and custom systems.

Convert: Simple MDF4 converters let you convert data to e.g. CSV, ASC (Vector), TRC (PEAK) - for use in your favorite tools.

Process: The asammdf GUI lets you process your data incl. DBC conversion (J1939, OBD2, ...) and graphical plots (Windows/Linux).

Automate: Easy-to-use Python APIs let you automate processing of large amounts of data (incl. quickstart library on github).

Visualize: Easily visualize data in customizable dashboards

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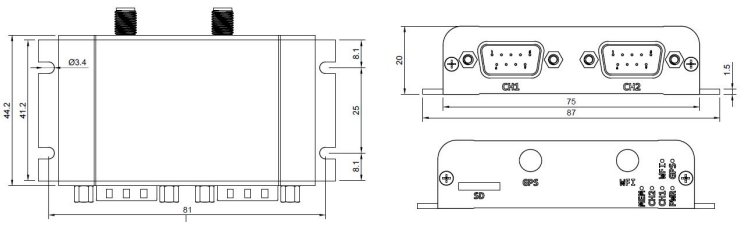
Protocols	J1939, OBD2, CANopen, NMEA2000, FD, ...
Bit-rate	Auto-detect/simple/advanced customization

DATA LOGGING	
SD CARD	8-32 GB extractable industrial micro SDHC
Real-Time Clock	50 us resolution (incl. battery backup)
File format	MDF4 (.MF4) - easily process/convert
Safety	100% power safe
Configuration	Advanced options (filters, prescalers, compression, error frame logging, data encryption, triggers & more)

GNSS/IMU	
GNSS/IMU	Add 40+ GNSS/IMU signals (see deep dive)

MECHANICAL/SUPPLY	
Connectors	2 x DB9 (adapter cables available)
Input supply	+7V to +32V DC via Channel 1 DB9
Consumption	<1W
Dimensions	75 x 47 x 20 mm excl. antenna/flanges
Weight	100 G
LEDs	6 LEDs (PWR, CH1, CH2, MEM, LTE, GPS)
Temperature	-25 degC to +75 degC
IP rating	IP40



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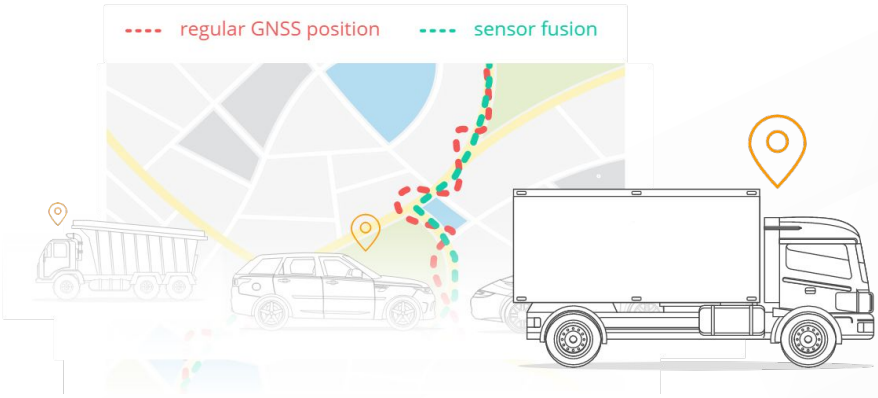
CANedge - GNSS/IMU details



GPS & 3D IMU - enrich your data

The CANedge comes with optional cutting-edge GNSS/IMU functionality - perfect for use cases like vehicle telematics.

- Add 40+ GNSS/IMU signals to your 2 x CAN/LIN data
- Full GNSS support (GPS, Galileo, BeiDou, GLONASS)
- Built-in gyroscope (roll, pitch, yaw) + accelerometer (X, Y, Z)
- High precision via sensor fusion incl. in GNSS hostile areas
- Signals encoded as 'internal' CAN data (separate channel)
- Configurable message inclusion/frequency (up to 5 Hz)
- DBC file for easy decoding to human-readable form
- Optionally sync the CANedge RTC via precise GNSS time
- Flexible deployment via external GNSS antenna

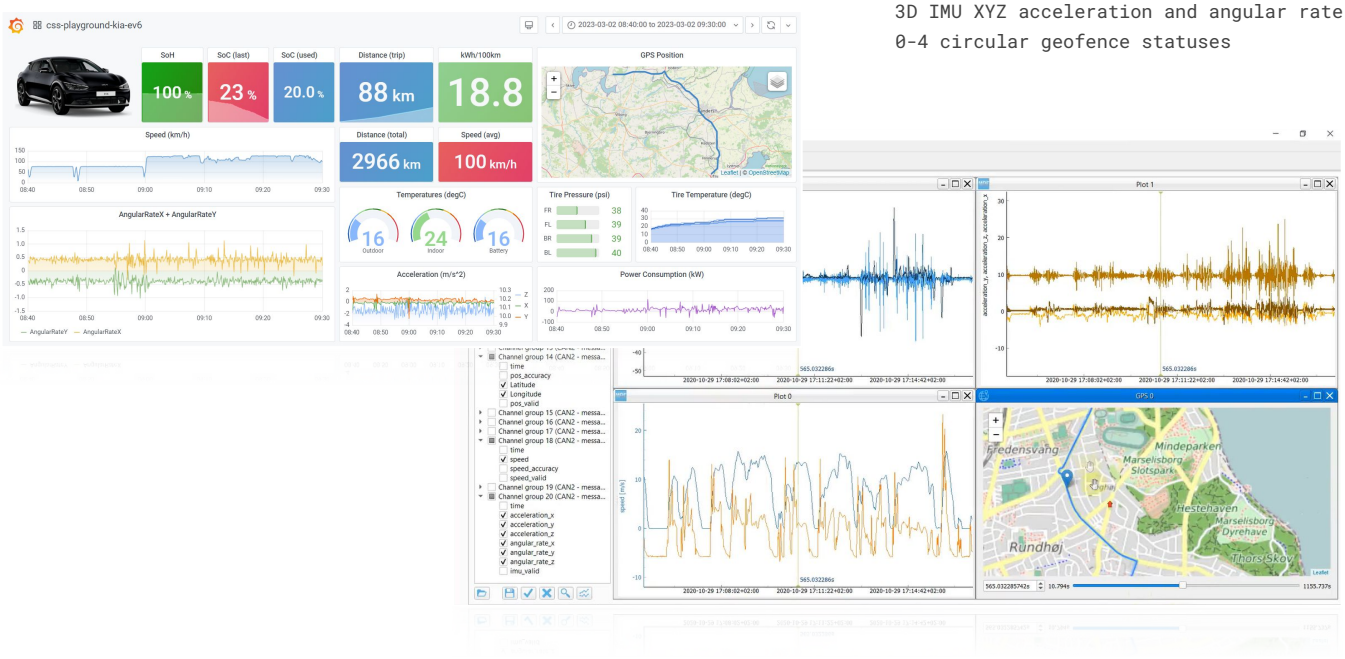
Technical specs (GPS & IMU)

GNSS & 3D IMU

Module	u-blox NEO-M9V sensor module with built-in gyroscope and accelerometer
GNSS	Combine GPS, Galileo, BeiDou, GLONASS
Sensor Fusion (UDR)	Up to 3x better accuracy incl. in GNSS hostile areas (tunnels, urban)
CAN encoding	GNSS/IMU data output on 'internal' pseudo CAN channel encoded as CAN frames [5 Hz]
Configurable	Filter/prescale internal GNSS/IMU data
Antenna	GPS antenna as option (required for GNSS)

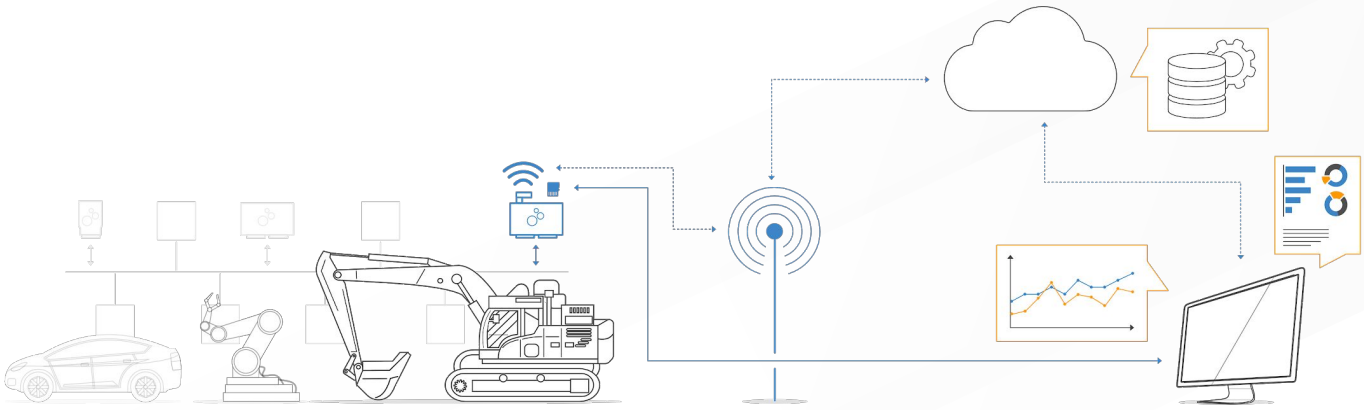
Signals

Position: Longitude and latitude
Time: High precision timestamp
Status: Fix type + satellite count
Speed: Travel speed in m/s and km/h
Altitude: Altitude in meters
Roll, pitch, heading [automotives only]
Distance traveled (since power on)
3D IMU XYZ acceleration and angular rate
0-4 circular geofence statuses



The CANedge units with GNSS/IMU are ideal for vehicle telematics, diagnostics and analysis - with easy visualization in e.g. Grafana or asammdf

CANedge2/CANedge3 details



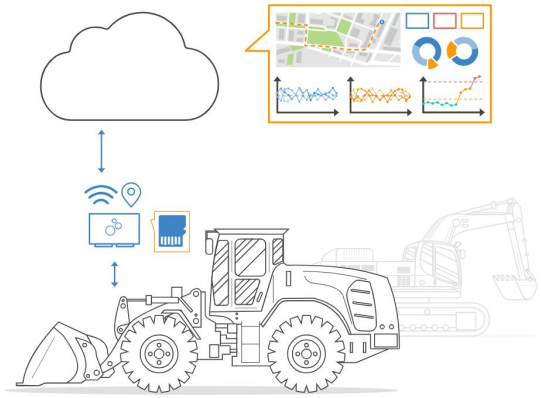
Reinventing telematics

Today, fleet telematics is vital across vehicles and machines.

However, end users face challenges: Expensive subscriptions. No data ownership. Security concerns. Vendor lock-in.

The CANedge2/CANedge3 provides a modern alternative:

- Upload data to your own local/dedicated/cloud server
- Add WiFi/SIM & server details to the config
- Log data to the SD. Auto-upload when connectivity
- Configure file splits to control upload frequency
- 100% secure: HTTPS, credential encryption and more
- Manage via over-the-air updates (FW & config)
- Zero fees. Zero lock-in. Interoperable. Open source tools



Technical specs (WiFi, 3G/4G, server)

WIFI or 3G/4G	
Transfer modes	Auto-push data to server from SD
Protocol	HTTP/HTTPS for fast, secure transfer
CANedge2 WiFi	Add 1-4 WiFi prioritized access points
CANedge3 LTE	Add your own micro SIM card
Over-The-Air	Configurable OTA firmware/config updates
WiFi Heartbeat	Device optionally sends periodic status
LAN Standard	IEEE 802.11 b / g / n (CANedge2)
Antenna	External (SMA)
Server Interface	S3 REST - Use with AWS, MinIO, Azure, ...

SECURITY	
HTTPS	Data + OTA updates optionally via TLS 1.2
WPA/WPA2	Supports WPA/WPA2
Credentials	Optionally encrypt WiFi/SIM/S3 passwords
Firmware	All firmware updates are digitally signed
User Access	Manage user access via S3 policies

Easily manage data/devices on your server

The device uploads data to an S3 server - which makes it easy to manage your server files via any S3-compatible tools or SDKs.

Further, the 100% optional CANcloud tool lets you manage your S3 server devices & data via your browser:

- Host yourself - or simply log into your server via our link
- Monitor device status across your fleet via dashboard
- Browse, download, share & delete uploaded log files
- Easily update config/firmware over-the-air
- Browser based (works on all OS & devices)
- 100% free and open source - easy to customize

The CANcloud status dashboard lets you monitor device data upload and their status (SD %left, firmware version, config status)

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CANmod.gps

GPS-to-CAN with 3D Inertial Sensor & UDR

PLUG & PLAY: Standalone - no PC required. Integrate with any CAN bus to add GNSS/IMU data. DBC included

INERTIAL DATA: Built-in gyroscope (roll, pitch, yaw) and accelerometer (X, Y, Z). 100 Hz frequency

COMPACT: Only 7 x 2 x 5 CM. 70G. Alu enclosure. 4 LEDs. 5-26 V DC via DB9. USB for config/firmware/stream

SENSOR FUSION: High precision position and attitude data via sensor fusion of the GNSS/IMU

USE GLOBALLY: 1 Hz GNSS position. Hot start via battery backup. GPS, Galileo, BeiDou, GLONASS

CONFIGURABLE: Configure CAN IDs, bit rate, data frequency & geofences via JSON config and GUI

This standalone GPS-to-CAN module produces GNSS position and 3D inertial data (via a gyroscope & accelerometer) and outputs it via configurable CAN bus frames.

The module supports 'Untethered Dead Reckoning' - meaning that even if the GNSS signal is lost entirely, the module can deliver continuous positioning through IMU-based estimates (no external inputs required).

You can integrate the module with any CAN bus, e.g. vehicle networks or CAN hardware. As an example, you can use it as a plug & play add-on module for the CANedge.

Incl. antenna. Optional adapters (dropdown).

Easily add GNSS/IMU data to any CAN bus

The CANmod.gps makes it easy to add position and 3D inertial data to your CAN bus - e.g. for use by ECUs or CAN hardware.

- Compatible with any high speed CAN bus (2.0A, 2.0B)
- Fully configure CAN IDs, bit rate and message frequency
- Power at 5-26 V DC via standard DB9 adapter cables
- Optionally record data via any CAN interface/logger/...
- Ex: Use as add-on for the CANedge (power via 2nd port)
- DBC included for decoding to human-readable form
- Optionally stream sensor data via USB in real-time
- White label e.g. for inclusion in your production

Technical specs

GENERAL

Safety	CE, FCC, IC certified
Functionality	The device produces GNSS/IMU data and outputs it via CAN bus and/or USB
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free & open source
Documentation	Online/PDF documentation

CAN BUS

Channels	1 x CAN/CAN FD
CAN IDs	Fully configurable (CAN 2.0A/2.0B)
Bit-rate	Fully configurable (up to 1 Mbit/s)

SENSOR GNSS/IMU

Module	NEO M8U (GNSS + gyro + accelerometer)
Sensor Fusion	Enhanced precision in GNSS hostile areas
Accuracy	Position: 2.5 m CEP Heading: 1 degree (50% at 30 m/s) Velocity: 0.05 m/s (50% at 30 m/s)
Battery Backup	Battery enables 'aided starts' (3s)

SIGNALS

CAN Signals	Position: Longitude & latitude [1 Hz] Time: Precise epoch timestamp [1 Hz] GNSS status and satellite count [1 Hz] Speed: Travel speed in m/s [1 Hz] Altitude: Altitude in meters [1 Hz] Attitude: Roll, pitch, heading [1 Hz] Distance since power on and total [1 Hz] Geofences: Status of geofences [1 Hz] IMU:Angular/acceleration rates [100 Hz]

MECHANICAL/SUPPLY

Connectors	1 x DB9 (adapter cables available)
Input supply	+5V to +26V DC via DB9 (pin 1 or 9)
Consumption	<1W
Dimensions	52.5 x 70.0 x 24.5 mm (L x W x H)
Weight	70 G
LEDs	4 external LEDs (PWR, CAN, MEM, SIG)
Temperature	-25 degC to +70 degC
IP rating	IP40
Antenna	u-blox ANN-MS-0-005 (magnetic base, 5m)

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CANmod.temp

4 x Thermocouple-to-CAN [Temperature Sensor]

PLUG & PLAY: Standalone - no PC required. Integrate with any CAN to add temperature data. DBC included

PRECISE: High accuracy with cold-junction compensation & line frequency filtering. Fault detection

COMPACT: Only 7 x 2 x 5 CM. 80G. Alu enclosure. 3 LEDs. 5-26 V DC via DB9. USB for config/FW/stream

USE ANY TYPE: Configure each thermocouple channel type (B, E, J, K, N, R, S, T)

THERMOCOUPLES: Output data from 4 thermocouples at 5 Hz. High signal resolution of 0.01 degC

CONFIGURABLE: Configure CAN IDs, bit rate, message frequencies and more via JSON config and GUI

This thermocouple-to-CAN module produces temperature data from 4 thermocouple sensors and outputs it via CAN bus (standalone) or USB.

The module supports all thermocouple types (B, E, J, K, N, R, S, T) and can be easily daisy-chained.

You can integrate the module with any CAN bus system - e.g. to provide temperature data for your ECUs or existing CAN hardware.

As an example, you can use the module as an add-on for the CANedge - ideal for e.g. engine dynos, EGT analysis or temperature telematics.

Probes not included.

Add temperature data to any CAN bus

Add temperature sensor data via 4 thermocouples to your CAN bus - e.g. for use by ECUs or CAN hardware.

- Compatible with any high speed CAN bus (2.0A, 2.0B)
- Fully configure CAN IDs, bit rate and message frequency
- Daisy-chain multiple modules for 8, 12, 16, ... channels
- Power at 5-26 V DC via standard DB9 adapter cables
- Optionally record data via any CAN interface/logger/...
- Ex: Use as add-on for the CANedge (power via 2nd port)
- DBC included for decoding to human-readable form
- Optionally stream sensor data via USB in real-time
- White label e.g. for inclusion in your production

Example: Log/stream sensor data

The CANmod.temp is often used as an 'add-on' for the CANedge. This setup lets you record e.g. vehicle data via Channel 1 and temperature data via Channel 2. The data can be easily DBC decoded via e.g. the asammdf GUI, Python or MATLAB.

You can also stream the sensor data in real-time via USB using SavvyCAN to view raw/decoded data (e.g. via plots) - ideal for validating your setup pre-deployment or for lab testing.

Technical specs

GENERAL	
Safety	CE, FCC, IC certified
Functionality	Supports 4 x thermocouples for outputting temperature data via CAN and/or USB
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free & open source
Documentation	Online/PDF documentation

CAN BUS	
Channels	1 x CAN/CAN FD
CAN IDs	Fully configurable (CAN 2.0A/2.0B)
Bit-rate	Fully configurable (up to 1 Mbit/s)

SENSOR TEMPERATURE	
Module	Pro specs MAX31856MUD+
Channels	4 thermocouple sensors/channels
Temperature	Supports -210°C to +1800°C
Formatting	DegC via automated edge linearization
Accuracy	Lab-grade with cold junction compensation
Resolution	Up to 0.01 degC resolution
Other	Line frequency filtering, fault detection, overvoltage protection

SIGNALS	
CAN Signals	Probe temperatures in degC [5 Hz] Ambient temperature [5 Hz] Faults: Status of each sensor [5 Hz]

MECHANICAL/SUPPLY	
Connectors	1 x DB9 (adapter cables available)
Input supply	+5V to +26V DC via DB9 (pin 1 or 9)
Consumption	<1W
Dimensions	52.5 x 70.0 x 24.5 mm (L x W x H)
Weight	70 G
LEDs	3 external LEDs (PWR, CAN, MEM)
Temperature	-25 degC to +70 degC
IP rating	IP40

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CANmod.input

Analog/Digital/Pulse to CAN Bus Converter

PLUG & PLAY: Standalone - no PC required. Integrate with any CAN bus to add input sensor data. DBC included

+DIGITAL: Digital input reading of each channel. 1 kHz. Configure low/high/hysteresis

COMPACT: 7 x 2 x 5 CM. 70G. 8 LEDs. 5-26 V DC via DB9. 3.3V excitation signals. USB for config/FW/stream

+PULSE: Pulse input reading of each channel. 16 kHz. Frequency or counter mode (up to 32 bit)

8 X ANALOG: 8 analog input channels (1 kHz, 10 bit). Configurable voltage ranges (0-0.625V to 0-10V)

CONFIGURABLE: Configure sensors, CAN IDs, bit rate, frequencies and more via JSON config and GUI

This sensor-to-CAN module produces analog, digital & pulse measurements from 8 input channels - and outputs the data via CAN bus. The module is 100% standalone, no PC required.

The compact device offers pro specs incl. high accuracy and high-frequency sampling - as well as configurable input ranges and digital thresholds.

The module integrates with any CAN bus to provide data for ECUs or CAN tools. For example, you can use the module as an add-on for the CANedge.

Optionally add the DB25-to-input adapter.

Easily add analog/digital/pulse data to any CAN bus system

Add analog/digital/pulse data via 8 input channels to your CAN bus - e.g. for use by ECUs or CAN hardware.

- Powerful parallel sampling of analog/digital/pulse signals
- Configure input range for optimal resolution/amplification
- Configure digital high/low levels incl. optional hysteresis
- Quickly connect sensors via DB25-input adapter cable
- Optionally output signals via CAN FD for fewer frames
- Daisy-chain multiple modules for 16, 24, 32, ... channels
- Dedicated excitation signal for input sensors (~3.3 V)
- Power device at 5-26 V DC via standard DB9 adapter cables
- Optionally record the data via any CAN interface/logger/...
- DBC included for easy decoding to human-readable form
- Optionally stream sensor data via USB in real-time

Example: Log/stream sensor data

The CANmod.input is often used as an 'add-on' for the CANedge. This setup lets you record e.g. vehicle data via Channel 1 and analog/digital/pulse data via Channel 2. The data can be easily DBC decoded via e.g. the asammdf GUI, Python or MATLAB.

You can also stream the sensor data in real-time via USB using SavvyCAN to view raw/decoded data (e.g. via plots) - ideal for validating your setup pre-deployment or for lab testing.

Technical specs

GENERAL

Safety	CE, FCC, IC certified
Functionality	Pproduces analog/digital/pulse data from 8 input sensors and outputs via CAN/USB
Warranty	1-year warranty
Support	Free, fast & high quality support
Origin	Denmark
Software	100% free & open source
Documentation	Online/PDF documentation

CAN BUS

Channels	1 x CAN/CAN FD
CAN IDs	Fully configurable (CAN 2.0A/2.0B)
Bit-rate	Fully configurable (up to 1 Mbit/s)

SENSOR TEMPERATURE

Channels	Supports 8 input channels
Types	Supports analog, digital, pulse sensors
Input Range	0-10V, 0-5V, 0-2.5V, 0-1.25V, 0-0.625V *Ranges are locked in channel pairs of two*
Resolution	10 bit
Thresholds	Digital high/low switch thresholds (0-100%) incl. dead-zone/hysteresis
Pulse Modes	Pulse inputs can be measured as frequencies or counters (up to 32 bit)

SIGNALS

CAN Signals	Analog output in millivolt (mV) [1000 Hz] Digital output as 'actual' (dead-zone, low, high) and 'low'/'high' [1000 Hz] Pulse output as a frequency/counter value (for reset/accumulate mode) [1000 Hz]

MECHANICAL/SUPPLY

Connectors	1 x DB9 (adapter cables available)
Input supply	+5V to +26V DC via DB9 (pin 1 or 9)
Consumpti	<1W
Dimensions	52.5 x 70.0 x 24.5 mm (L x W x H)
Weight	70 G
LEDs	8 external LEDs (PWR, CAN, MEM, CH1/CH2, CH3/CH4, CH5/CH6, CH7/CH8)
Temperature	-25 degC to +70 degC
IP rating	IP40

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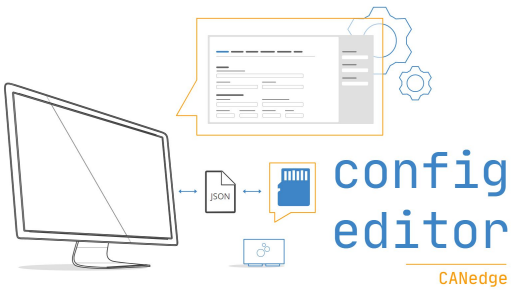
CANedge software/API tools

100% free and open source, naturally



Easily configure your device

The CANedge/CANmod JSON config can be modified via a GUI editor - either online via browser or offline (e.g. from the SD).

- GUI editor for user-friendly configuration
- Optionally edit your config directly in e.g. Notepad++
- Batch tool available for large-scale configuration OTA

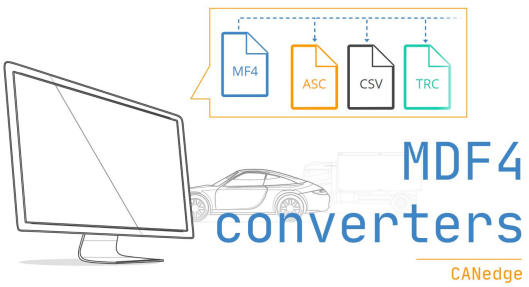
Learn more

Load data in your favorite tools

Simple MDF4 converters let you convert data to e.g. CSV, ASC (Vector), TRC (PEAK) - for use in your favorite tools.

- Drag & drop files/folders onto the converter to process
- Optionally use via the CLI or in scripts for automation
- Decompress/decrypt as part of conversion
- Works on both Windows/Linux

Learn more



DBC convert & plot your data via GUI/API

The free asammdf GUI/API lets you process your data:

- DBC convert data to physical values (incl. J1939, OBD2)
- Easily create advanced graphical plots
- Resample or concatenate your data
- GUI executable for Windows/Linux (no installation)
- Powerful Python API for big data automation

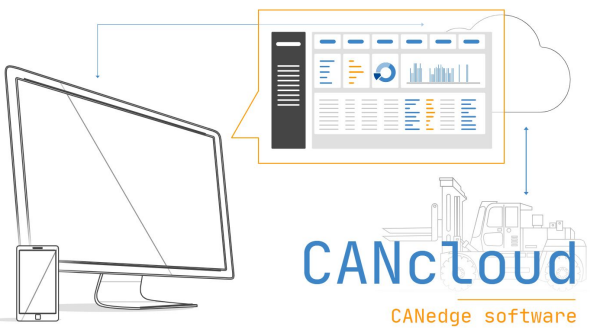
Learn more

Manage your server devices & data

CANcloud is a simple browser tool that lets you manage your S3 server devices & data from any PC/tablet with no installation.

- Host yourself - or simply log into your server here
- Monitor device status across your entire fleet
- Browse, download, share & delete uploaded log files
- Easily update config/firmware over-the-air
- Browser based (works on all OS & devices)

Learn more



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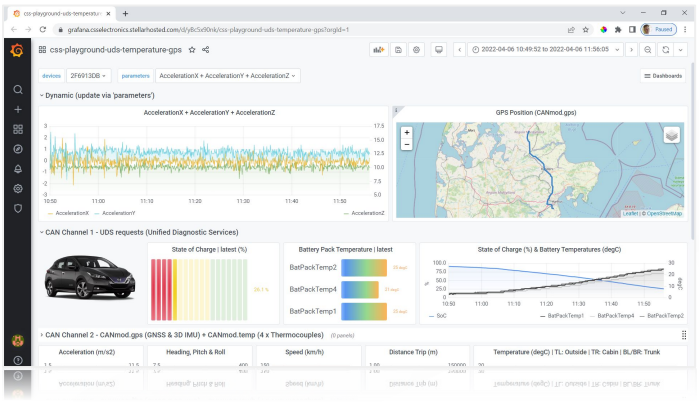
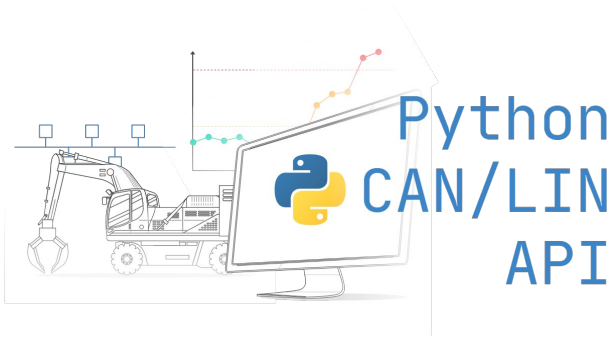
CANedge software/API tools

100% free and open source, naturally





Automate your data processing

Need to automate your CAN bus data processing via Python? The free Python API enables easy listing, loading and DBC decoding of your data - from local disk or your server.

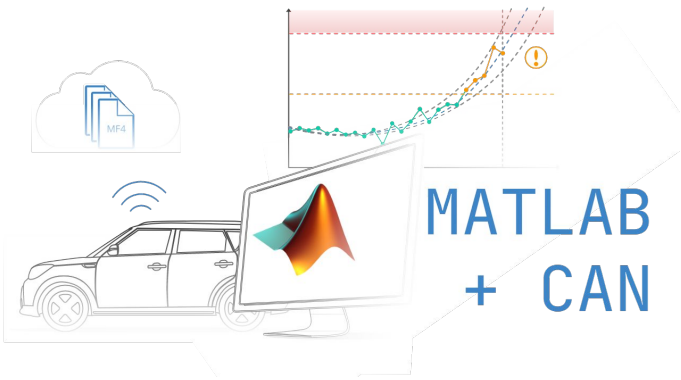
Learn more

Visualize your data in dashboards

With our plug & play dashboard integrations, you can quickly get your CAN/LIN data integrated with custom Grafana dashboards.

Perfect for presenting specific views e.g. for internal sharing, diagnostics - or as services towards clients.

Learn more



Easily load data in MATLAB

MF4 data from the CANedge can be natively loaded via MATLAB's Vehicle Network Toolbox - or converted to compatible MAT/CSV.

This makes it simple to continue using MATLAB for end users that are familiar with this tool from other projects.

Learn more

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