

DBC decode multi-frame CAN data with new MF4 decoders (ISO TP, J1939 TP, NMEA TP)

CSS Electronics newsletter - October 2024

MF4 decoders v24.10.17

TP support

ISO TP

ISO TP



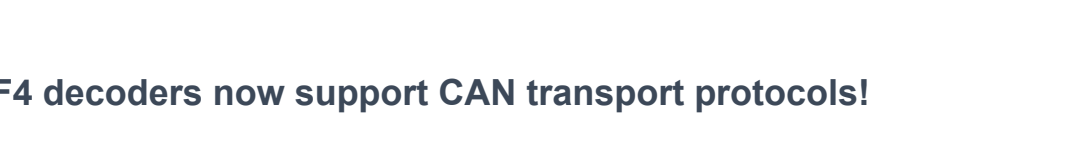
J1939 TP

J1939, NMEA 2000, ISOBUS



N2K TP

NMEA 2000 (Fast Packets)



MF4 decoders now support CAN transport protocols!

The CANedge [MF4 decoders](#) now support all primary 'transport protocols', including:

- ISO TP (OBD2, WWH-OBD, UDS)
- J1939 TP
- NMEA 2000 TP (Fast Packets)

The MF4 decoders let you DBC decode raw CAN/LIN data into CSV/Parquet data lakes - enabling you to analyze the data via e.g. Grafana dashboards, Python or MATLAB.

Being able to interpret multi-frame CAN data is critical to the majority of CAN logging use cases, e.g. in collecting DTCs (Diagnostic Trouble Codes), VINs (Vehicle Identification Numbers) and most UDS-based communication (e.g. in EVs).

Normally, decoding multi-frame CAN data is complex with limited support beyond expensive software tools - but this is now trivial with the free MF4 decoders!

Of course, all our DBC files are updated with TP support:

- [OBD2/WWH-OBD DBCs](#)
- [UDS \(EV data pack\) DBCs](#)
- [J1939 DBC](#)
- [J1939-73 DBC](#)
- [NMEA 2000 DBC](#)
- [ISOBUS DBC](#)
- [CANmod.router DBC](#)

You can download the latest MF4 decoders [via the Docs](#) - or learn more below.

Learn more



Grafana-Athena: Update your integration now

Need to update your Grafana-Athena integration with the new MF4 decoders?

The Grafana-Athena integration lets you easily deploy automated DBC decoding of your incoming CANedge log files in AWS. As MF4 files are uploaded to your AWS S3 'input bucket', a Lambda function is triggered, which uses our MF4 decoder to DBC decode your raw CAN/LIN data (using the DBC files stored in your S3 input bucket). The resulting Parquet files are written to an S3 'output bucket', forming a data lake.

The integration also deploys AWS Glue, enabling you to easily connect Grafana dashboards to your Parquet data lake - for fast, low cost and scalable visualization of decoded CAN/LIN data. The integration and data lake can of course also be used with Python/MATLAB for advanced data processing.

Follow [this guide](#) to update your Grafana-Athena integration!

Learn more about Grafana-Athena via our article below:

Learn more

	ActualEnginePowerHorse	MEExpThrftWt	DrivShaftExpThrftWt	EngineSpeed	EngineStartsWhile	EngineHoursWhile	EngineHoursPerFuel	ScheduleVotingDrivCycleCat	Rev
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	555.63	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	555.66	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.13	1.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.26	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	4.00	0.00	0.00	555.63	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	4.00	0.00	0.00	600.63	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.16	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.13	1.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.13	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.16	4.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.26	1.00	0.00	5.00	0.00	
2023-09-15T13:32:47.781Z	5.60	0.13	0.00	600.13	4.00	0.00	5.00	0.00	

Tad - free desktop Parquet viewer

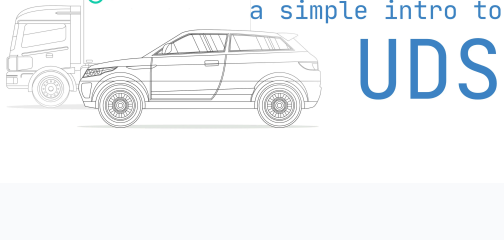
The CANedge lets you collect CAN bus data in MF4 files. The data can be processed via various free software/API tools, incl. our MF4 decoders, as described above. However, Parquet files cannot be opened by default on Windows. Enter Tad!

Tad lets you open Parquet files on your PC and view the data in a columnar structure. It's perfect for quick reviews of your data - e.g. to ensure that your DBC decoded CAN/LIN data looks as expected - before you deploy your setup for cloud automation.

Download Tad Parquet viewer

Simple Intro updates: OBD2 + UDS

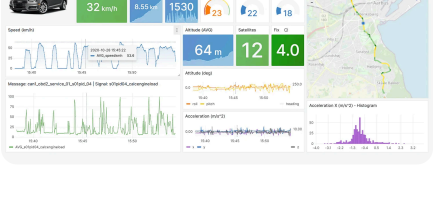
We have now updated our popular 'simple intros' to OBD2 and UDS, improving them dramatically. In particular, we have expanded the ISO TP focused sections with additional examples, including Diagnostic Trouble Code logging/decoding via OBD2 and WWH-OBD. Check them out below - and find all our simple intros in our [Guides](#) section!



J1939 DBC 2024-09 revision

The updated J1939 DBC version is now available for purchase - get your download link today! The new DBC includes an additional 80+ SPNs vs. the previous release.

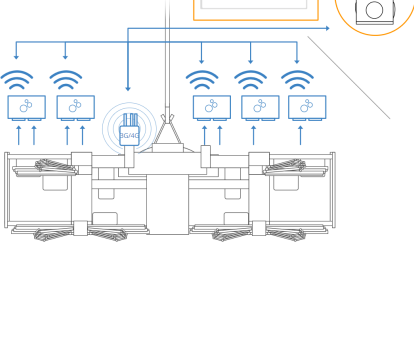
Learn more



New Grafana blog post

Grafana added a new blog post on their website, featuring the CANedge Grafana-Athena integration - check it out!

Learn more



WiFi web server in crane equipment

Learn how **Ematec AG** uses the CANedge2 WiFi CAN/LIN data logger as a blackbox in their Rotor Blade Clamps (used e.g. in windmill construction) - leveraging the new [WiFi web server mode](#).

"The CANedge2 is **small but powerful** - with **outstanding support** from CSS Electronics"

Learn more

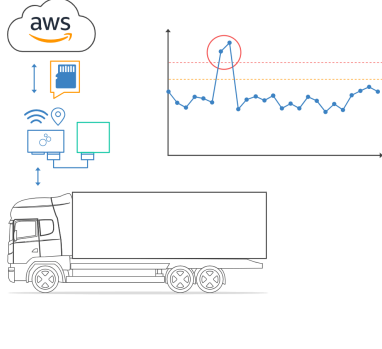


J1939 telematics & dashboards

Learn how **Meridian Generic Rail Limited** uses the CANedge3 and the Grafana-Athena dashboard integration to enable dashboard visualization, KPI tracking and predictive maintenance!

"The CANedge3 is an **excellent piece of hardware** paired with **excellent software and support** from the CSS team"

Learn more



Remote J1939 diagnostics via LTE

In this case study, **Wielton** uses the CANedge3 to capture rare events from heavy-duty reefers as part of an electric axle development process.

"When hunting for rare events and collecting service data, **there is no better way than the CANedge** - just install it in every prototype, **it will pay off!**"

Learn more

Comments from CSS

The new MF4 decoder update marks a key milestone for our team. One of our core ambitions over the past years has been to enable true scalability of the CANedge - while maintaining simplicity.

The MF4 decoders enable you to process terabytes of data across any number of log files and devices - in an extremely simple and efficient manner. And with full multi-frame support, you can now handle 100% of your decoding needs via this method.

In our next newsletter, we will deep-dive on some of the ways you can super charge your Grafana-Athena integration with new powerful features. Stay tuned!

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