

Application Note

Simultaneous recording of voltage, vibration and GPS information

Market : Automotive / Transportation

Portable ScopeCorder DL350



Summary

In drive tests of vehicles and transportation equipment, more detailed data analysis can be performed if voltage/current of batteries and motors, temperature and vibration, in-vehicle serial bus data such as CAN/CAN FD, and others can be recorded together with speed and position information from GPS.

However, when recording the data of a vehicle in motion and the data from GPS simultaneously with a data logger, it is difficult to synchronize these data and an expensive dedicated measurement system is needed.

Measurement using a data logger often involves multiple channels and it is necessary to set the optimum range one by one according to the level of each input signal in advance, requiring a great deal of time for the work before measurement.

This application note describes the simultaneous recording of various signals and GPS information using the Portable ScopeCorder DL350.

Key Points

The DL350 portable ScopeCorder can be equipped with 2 plug-in modules selected from 18 types and can perform combined measurement, ranging from voltage/current, acceleration (vibration), temperature, strain, frequency, logic to CAN/CAN FD/LIN/SENT in-vehicle serial bus data-trend measurements.

- ✓ A4 size/3.9 kg compact and lightweight body
- ✓ Vibration Resistant (JIS D 1601 Compliant)
- ✓ High noise-resistance
- ✓ Two modes of operation
 - Scope Mode: to operate as an oscilloscope
 - Recorder Mode: to operate as a data recorder
- ✓ Up to 100 MS/s sampling, 1000 V isolation voltage measurement
- ✓ Navigation function (Easy Setup)
- ✓ Auto Setup feature
- ✓ CAN/CAN FD/LIN/SENT bus trend display
- ✓ GPS position, velocity and time synchronization
- ✓ Harmonic Analysis function
- ✓ GO/NO-GO determination & action: e.g. send email, save waveform data when triggered
- ✓ 3-Way Power supply: AC/DC/Battery operated



ScopeCorder DL350

Features

■ High-speed and long-term recording

You can choose from 1 MS/s, 10 MS/s, and 100 MS/s sampling rate modules to suit your needs.

The internal memory of 100 M points/slot or an SD card of up to 20 G points/slot allows long term recording.

Examples of Recording time to SD memory card

Recorder mode			
Sampling interval	For 1 ch ¹	For 4 ch ²	For 8 ch ³
1 μ s	1 hour	—	—
10 μ s	10 hours	10 hours	5 hours
100 μ s	120 hours	120 hours	50 hours
1 ms	50 days	50 days	20 days
10 ms	50 days	50 days	50 days
100 ms	50 days	50 days	50 days
200 ms	50 days	50 days	50 days

■ Navigation Function (Easy Setup)

Navigation function shows you how to set up DL350 step by step so that it can be used even by users unfamiliar with its operation. Of course, you can also save and load the setup files.

■ Auto Setup feature

The auto setup function automatically displays an input signal on the appropriate time and amplitude axes.

■ GPS Information

By connecting the optional accessory GPS unit, you can obtain GPS information and add it to the measurement data.

- Latitude [°]
- Longitude [°]
- Altitude [m]
- Velocity [km/h]
- Direction [°]
- GPS Status



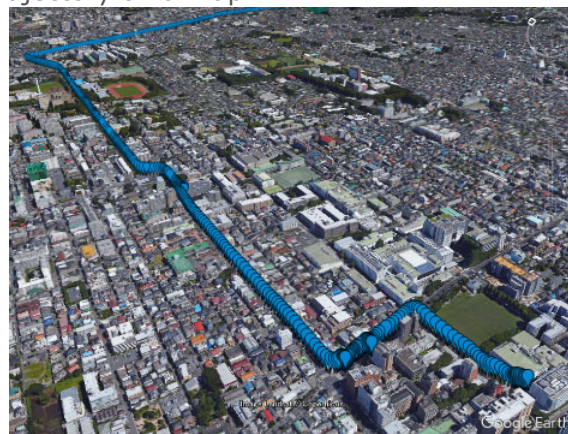
■ 3-Way Power supply: AC/DC/Battery

The DL350 supports AC, DC (cigarette plug) and rechargeable battery that provides up to 3 hours of continuous operation. With the battery installed, measurement will continue even during power failure.

You can extend the operation time of your DC Power supply with a commercial high-capacity external battery.

■ Trace display of travel locus

Google Earth Pro allows you to trace your trajectory on a map.



DIAdem enables you to display traces on a map together with the measurement data.

■ Battery built-in current probe

The DL350 is designed to be battery-powered and to measure without grounding, so it does not have a built-in probe power supply for safety.

When using a current probe, use an external probe power supply or use a current probe with a built-in battery.

Verified Current Probe

Chauvin Arnoux's
Battery-Integrated AC/DC Current Clamp

	K1/K2	MH60
Typical Model		
Current calibres	4500mApk (K1) 450mApk (K2)	140Apk
Bandwidth	2kHz (K1) 1.5kHz (K2)	1MHz
Jaw insertion capacity	Max. Ø3.9mm	Max. Ø26mm

See the latest product information of Chauvin Arnoux
URL: https://catalog.chauvin-arnoux.com/fr_en/produits/chauvin-arnoux/current-clamps-and-sensors

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