



- Extended VDO Counter
- 1 Minute Rule
- VDO GeoLoc +4

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# DTCO® 2.2

## Digital tachograph

The DTCO® 2.2 digital EU tachograph offers an impressive combination of reliability, technology and handling. It has a new front panel design with one button operation for Driver Card ejection and mode activity selection. With a more modern design, the DTCO® 2.2 has a fresher look. It stores digital data such as driving, work and rest activities (according to the latest 1 Minute Rule), speed, RPM, additional events (via D1 / D2) and up to four new vehicle related inputs.

By connecting a DTCO® GeoLoc module (GPS-Receiver with motion sensor), vehicle position data can be recorded (cyclic data transmission via CAN 1 or 2 connections). This data can be stored inside the DTCO® 2.2 distance or time dependant. Tachograph events and up to four CAN messages (e.g. fuel consumption, tyre pressure) can also be assigned regarding time and location.

The DTCO® GeoLoc module can furthermore be used to generate the second motion signal (IMS / Independent Motion Signal), if for example the IMS cannot be provided via the vehicle's CAN. Another special feature of the new digital tachograph is the extended VDO Counter, an intelligent on-board computer which provides the driver with real-time information on remaining driving and breaks / rest times. Using this data, it's possible to plan routes and times more efficiently. When using optional accessories e.g. the DTCO® SmartLink, you can view this additional information on a Smartphone like for example the minimum duration of the next break period or the latest start of the weekly rest period.

The process for completing manual entries by a driver represents another key feature when using a Smartphone and the DTCO® SmartLink Pro with the DTCO 2.2.

The DTCO® 2.2 mainly consists of the recording unit (with mass memory), two automatic chip card readers, an integrated printer and a display. The DTCO® 2.2 meets the requirements of Regulation (EC) No. 1360 / 2002 when used with a KITAS 2+ speed sensor and installed in accordance with the requirements of EU and national legislation.

The integral mass memory stores the vehicle's activities, covering a period of approx. 365 days. Driver data is recorded on a personal Driver Card (chip card) which is inserted in the digital tachograph before the start of a journey. The DTCO® 2.2 has various interfaces for vehicle electronics. Via the front interface data from the mass memory can now be downloaded faster (time saving up to 30%).

For example, the DTCO® 2.2 enables mass memory and driver card data to be transferred easily by wireless using a Remote Download Device (DLD®). The downloaded data can then be evaluated and archived using a suitable analysis solution, for example via the VDO TIS-Web® online service.

**VDO**

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## Digital tachograph

### System Components of the digital tachograph

- DIN radio slot format, 2 fully automatic chip card readers, printer, display, real-time clock, operating controls and memory
- Smart KITAS 2+ speed sensor
- Can be connected to an analogue speed indicator or instrument cluster

### Classic data recording

The DTCO® 2.2 records driving, work, availability and rest times for drivers and co-drivers, the current speed and distance travelled, journey specific parameters such as rpm and further vehicle activities and events. The data will be stored vehicle related.

Driving and rest times are also recorded on a personal driver card.

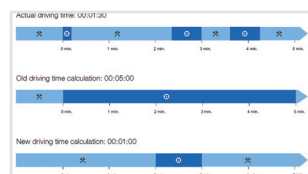
### Highlights DTCO® 2.2

- VDO GeoLoc +4: A vehicle position logger (DTCO® GeoLoc) can be connected to the DTCO® Position logging can be enabled and disabled by the driver.
- Allows up to 4 independent vehicle CAN messages to be configured.
- Extended VDO Counter: The driver is provided with real-time information on remaining driving and breaks / rest times and includes 'Double manning' and ferry / train operations, new with information about the minimum duration of the next break period and for the latest start of the weekly rest period.
- Latest "1 Minute Rule" calculates driving time according to EU Regulation 1266/2009, so drivers can optimise driving time during the working day.
- Remote / local download of data (including digital signature), time saving about 30%.
- Context-sensitive menu and simplified user guidance (manual entries).
- Graphical printouts
- VRN entry after initial calibration using a company card (once only).



VDO Counter:

The driver continually receives up-to-date information about his driving and rest times.



1 Minute Rule:

Sample calculation with three steps in five minutes.

### Operation and functions

- Recording of additional data (i.e. 168 hours of speed recording, odometer reading when vehicle becomes stationary).
- Early warning of periodic inspection due, tachograph card expiry and Driver card download.
- Intuitive user guidance (menu texts).
- Indication of download status shown on the display.

### Interfaces

- 2 CAN interfaces for on-board electronics, DTCO® GeoLoc or Download Device (DLD®) (optional).
- Sensor interface for smart sender unit (KITAS2+)
- Signal outputs (2 x v pulse, 1 x 4 imp / m)
- Logical diagnostic interface on CAN and / or K-Line
- Info interface for on-board computer and other telematic systems (independent of ignition).
- 6-pin front interface for programming, calibration, data download (wireless as an option).

### Technical specifications

- 1-DIN radio slot format, installation dimensions: 178 x 50 x 150 mm (W x H x D).
- Real-time clock (based on UTC time)
- Operating voltage: 24 V (12 V optional)
- Measuring range: 0 - 250 km/h
- Operating temperature: 25 °C - +70 °C
- Storage temperature: 40 °C - +85 °C
- Pulse range: 4,000 - 25,000 imp/km
- Inputs: KITAS 2+ 2171, RPM sender unit, additional inputs
- Outputs: 2 x v pulse, 1 x 4 imp/m
- Accuracy: speed: ±1 km/h, distance: ±1%, clock: ±2 s/day
- Weight: approx 1,300 g

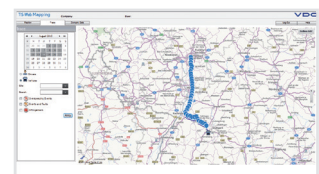
### Suitable data download solutions

- DLK Pro Download Key
- Download Device (optional) (DLD® Short Range II and DLD® Wide Range)



DTCO® SmartLink Pro:

All important data directly on your smartphone.



VDO GeoLoc:

Vehicle position data recording. Evaluation in TIS-Web Mapping.