



Covers directive  
(EU) 1266/2009 (1 Minute Rule)  
„every minute counts“

[www.dtco.vdo.com](http://www.dtco.vdo.com)

# DTCO<sup>®</sup> 1381

## Digital Tachograph

The digital EC tachograph DTCO<sup>®</sup> 1381 EU convince by technology, handling, and reliability. It allows digital recording of data, such as driving and rest times, speed and rpm, as well as information needed for calibration.

The DTCO<sup>®</sup> 1381 fits into a standard 1-DIN radio slot and consists of a recording unit with mass memory, two fully automatic smart card readers, an integrated printer and display to share information. In conjunction with the intelligent KITAS 2171 speed sensor and tachograph cards, the DTCO<sup>®</sup> 1381 meets all the requirements of Regulation (EC) No. 1360/2002. The system calibration is only allowed to be performed from authorized service partners.

Data relating to the vehicle is stored in an integral mass memory with capacity for recording activities for approx. 365 days.

Driver-related data is stored on a personal driver card (smart card) inserted into the digital tachograph before each journey or shift begins.

The DTCO<sup>®</sup> 1381 has interfaces for connecting to on-board electronics or an instrument cluster (electronic speedometer). Mass memory data can be downloaded via the front interface, which is also used to calibrate the system. The digital recorded data can be simple evaluated and archived by, e.g. business management purposes, with VDO offering appropriate solutions such as the TIS-Office<sup>®</sup> software and the TIS-Web<sup>®</sup> Internet evaluation service.

As comfort function the DTCO<sup>®</sup> 1381 offers the possibility to easy download and transfer wireless mass memory and driver card data via the Download Device (DLD<sup>®</sup>).

The DTCO<sup>®</sup> 1381 from Release 1.4 covers all requirements according (EU) directive 1266/ 2009, with effect to the 1st of October 2011. inter alia company friendly driving time calculation (1 Minute Rule).

**VDO**

# DTCO<sup>®</sup> 1381

## Digital Tachograph

### System components of the new digital tachograph

The radio slot-sized DTCO<sup>®</sup> 1381 includes 2 smart card readers, a printer, a display, a real-time clock, operating controls and data storage facility. In conjunction with the intelligent KITAS speed sensor and the requisite tachograph cards, the DTCO<sup>®</sup>1381 meets all the requirements of the new directive. The DTCO<sup>®</sup> 1381 can also be optionally connected to an analogue speed indicator or an instrument cluster.

### Data recording

The DTCO<sup>®</sup> 1381 records driving, work, availability and break/rest times for the driver and crew, the speed and distance travelled, specific parameters such as rpm, and other work processes and events related to the vehicle. The data relating to the vehicle is stored in the integrated memory, while driving and rest times are additionally stored on personal driver cards. The capacity of the system memory is sufficient to record all activities for approximately 365 days. The driver cards hold approximately 28 days of driver activity.

### Access rights/data protection

Special tachograph cards are used in the DTCO<sup>®</sup> 1381 to comply with data protection requirements and ensure security. Fleet operators can protect their data against unauthorised access with a company card. Enforcement officers require a control card to access the system. Authorised workshops can activate the calibration function of the DTCO<sup>®</sup> 1381 using their workshop card.

### An overview of the essential new functions of the DTCO<sup>®</sup> 1381 Rel. 1.4

- Company friendly driving time calculation (1 Minute Rule)
- Remote Download
- Fast Download
- New user guidance (manual entry)
- 255 Company locks
- Driver card download without company card possible
- Allows single entry of vehicle identification number with Company Card after first calibration
- Graphical printouts about speed diagrams and profiles in addition status and activity protocols.
- Early warnings for upcoming periodical inspections and for expiry date of tachograph cards

### Operation and functions

- 29 AETR languages possible
- Display background illumination available in 9 colors
- Dimming function for display illumination and button lighting
- Two fully automatic chip card readers for different tachograph cards
- Simple paper replacement – no tiresome feeding in
- Clear and concise user guidance with menu text
- Automatic driver warning after 4 hours and 15 minutes of driving time (Regulation (EC) No. 561/2006)
- Recording and printing of speed/rpm profiles (optional)
- Driver 1 and Driver 2 activities are printable (graphics)
- Status inputs D1/D2 printable as a bar graph (optional)
- Printouts of all vehicle and driver data
- Recording of additional data (e.g. 168 hours speed data recording, odometer reading when vehicle stops)
- Early warnings (advance warnings about periodic inspections and expiry of tachograph cards)
- Download status shown on display

### Interfaces

- CAN interface for onboard electronics
- CAN interface for Download Device (DLD<sup>®</sup>) (optional)
- SensorInterface for intelligent sensor (KITAS 2)
- Signal output (2 x v pulse, 1 x 4 pulses/m)
- Diagnostics interface CAN or K-Line
- Info interface for onboard computers or other telematics systems
- 6-pin interface for programming, calibration and data download via Downloadkey
- 6-pin interface for data transfer by wireless (optional)

### Suitable solutions for direct data download

- Downloadkey
- Download Device (optional)  
(DLD<sup>®</sup> Short Range and DLD<sup>®</sup> Wide Range)

### Technical data

- Installation dimensions: 178 x 50 x 150 mm (w x h x d), 1-DIN radio compartment format
- Operating voltage: 24 V (optional 12 V)
- Measuring range: 0 to 220 km/h
- Operating temperature: -25 °C to +70 °C
- Storage temperature: -40 °C to +85 °C
- Pulse range: 4,000 to 25,000 pulses/km
- Real-time clock based on UTC time
- Inputs: KITAS 2171, n-sensor, additional inputs
- Outputs: 2 x v pulse, 1 x 4 pulses/m
- Accuracy: Speed: ±1 km/h, distance: ±1%, time: ±2 s/day
- Weight approx. 1,350 g