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# VDR 3202-M

## Digital tachograph

The VDR 3202 release M is a digital tachograph for the Chinese market. It meets the requirements of the standard GB/T19056-2003 as well as of international environmental and electrical automotive standards. It benefits from the worldwide experience of VDO in tachographs and combines a high quality with a wide range of functionalities.

It allows data, such as driving and rest times, speed, rpm, status inputs, as well as information needed for calibration, to be digitally recorded.

The VDR 3202-M fits into a standard 1-DIN radio slot and consists of a recording unit with mass memory. Different configurations regarding the chip card reader, the printer, the illumination and the CAN interface are available in order to meet all the customers' requirements.

Thanks to its seals preventing from opening the housing or removing the connectors, the smart cards and the possibility to use smart sensors KITAS 2171 the VDR 3202-M is a highly tamperproof system.

Data relating to the vehicle and driver are stored in an integral mass memory with capacity for recording activities for approx. 360 hours. Accident data stored into the mass memory can provide important information for the vehicle accident analysis. Additionally important driver-related data are stored on a personal driver card (smart card) inserted into the digital tachograph before each journey or shift begins.

The VDR 3202-M has interfaces for connecting to onboard electronics or an instrument cluster (electronic speedometer). Mass memory data can be uploaded via the front RS232 and USB interfaces. RS232 interface is also used to calibrate the system (note that only authorized service partners are permitted to perform system calibration).

It is exceptionally easy to upload, evaluate and store this digital data for business management purposes. We offer appropriate solutions such as the VDRDMS software.

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### System components

The radio slot-sized VDR 3202-M include a smart card reader (automatic or manual), a display (different colors available), a thermal printer (integrated/external), a real time clock, operating controls and a data storage facility. The VDR 3202-M can also be optionally connected to an analog speed indicator or an instrument cluster.

### Data recording

The VDR 3202-M records the following data:

- Time: driver's driving time, break/rest time, log in/log out time, data upload & download time
- Vehicle speed: average speed per minute for the last 360 hours
- Engine speed: average speed per minute for the last 360 hours
- Accident data: the last 3 records can be locked/unlocked
- Fatigue driving events: driving more than 4 hours without resting at least 20 minutes; accumulated driving time higher than 8 hours within 24 hours
- Over speed events
- Vehicle moving with ignition off
- Door open/close
- Events and faults
- Special parameters such as the vehicle coefficient characteristic, rpm.

### Access rights/Data protection

Special tachograph cards are used in the VDR 3202-M to comply with data protection requirements and ensure security. Authorized workshops can activate the calibration function of the VDR 3202-M using their workshop card.

### Functionality/Options

- Various display illumination colors
- Fully automatic/manual smart card reader
- External thermal printer/integrated thermal printer
- KITAS speed sensor/normal speed sensor
- Chinese menu text with symbols
- CAN bus
- K-Line diagnostics
- Rpm input
- Vehicle speed input
- 10 status inputs
- Warning for different events: over speed, fatigue driving, moving vehicle without driver login, card illegal logout and so on.

### Technical specifications

- Installation dimensions: 178 mm × 50 mm × 150 mm (w × h × d), 1-DIN radio slot format
- Operating voltage: 24 V–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 per km
- Clock: real-time clock
- Inputs: speed sensor, n sensor, 10 additional inputs
- Outputs: 2 × v pulse; 1 × 4 pulses/m
- Accuracy:
  - Speed: ± 1 km/h
  - Distance: 5 km ± 0.1 km
  - Time: ± 2 s per day
- Data keeping time: >1 year (without power)
- Protection: IP43
- Weight: approx. 1000 g

### Interfaces

- CAN interface for system and vehicle
- K-Line diagnostic interface
- Interface for smart sensor
- Signal output (v pulse, 4 pulses/m)
- RS232 interface for programming, calibration and data upload, communication to external device
- USB interface for data upload by USB memory stick