



## FM-Tco4 HCV

FM-Tco4 HCV is an advanced GPS tracker for all types of heavy vehicles – trucks, busses, agriculture, mining, construction and other special machinery.

It is designed for vehicle tracking and can perform advanced tasks – read on-board computer data (CANbus), monitor driver behaviour, remotely download tachograph data, manage fuel, etc.

The device communicates using GSM (2G) networks, and it is also available in a version that supports UMTS (3G).

## Key features

- Real-time data from GPS and Accelerometer
- Tachograph data reading and download (.ddd)
- Driver behaviour monitoring (Eco-Drive)
- CANbus data reading (FMS, J1939 and J1708)
- Temperature monitoring
- Driver registration and identification
- Remote ignition blocking
- Fuel monitoring
- Internal Geozones
- Jamming detections
- Commands and configuration via SMS
- Supports additional sensors

	FM-Tco4 HCV	FM-Tco4 HCV 3G
<b>Environmental specifications</b>		
Temperature	Operating: -35 to +70 °C Storage: -40 to +70 °C Battery charging: 0 to +45 °C Battery discharging: -20 to +60 °C Battery storage: -20 to +70 °C	
Relative humidity	0% to 95% Non-condensing	
<b>Electrical specifications</b>		
Power supply range	10 ÷ 32 V DC	
Power supply voltage	12/24 V DC	
Maximum voltage ratings	50 V @ 60 s 72 V @ 0.1 s	
Maximum current rating	250 mA @ 12 V DC	350 mA @ 12 V DC
Internal battery	LiPo 3.7 V 1050 mAh	
Protections	Battery and 1-Wire power line short circuit protection Reverse polarity protection Electrostatic discharge protection on USB and 1-Wire data line Overcurrent protection on 1-Wire power line ESD protection on SIM card slot (can be ordered) Charging protection	
<b>Power consumption @ 12 V DC</b>		
Operating	Idle mode: 52.6 mA Active mode: 78.5 mA Sleep mode: 17.3 mA Deep sleep mode: 6.0 mA	Idle mode: 67.5 mA Active mode: 102.0 mA Sleep mode: 24.2 mA Deep sleep mode: 6.2 mA
Operating while charging battery	Idle mode: 167.5 mA Active mode: 176.0 mA Sleep mode: 130.9 mA Deep sleep mode: 119.3 mA	Idle mode: 172.4 mA Active mode: 211.4 mA Sleep mode: 127.7 mA Deep sleep mode: 114.1 mA
<b>Connectivity</b>		
GSM	Modem: Quectel M95 Antenna: Internal (Quad-band) Frequency band @ GSM: 850/900/1800/1900 MHz	Modem: Quectel UG96 Antenna: Internal (Quad-band) Frequency band @ UMTS: 800/850/900/1900/2100 MHz Frequency band @ GSM: 850/900/1800/1900 MHz

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GNSS (GPS, GLONASS) module	Modem: U-blox EVA-M8M Antenna: External Frequency: 1575.42 MHz (GPS); 1602 MHz (GLONASS) Channels: 72 Tracking sensitivity: -164 dBm Reacquisition sensitivity: -160 dBm Cold start duration: < 30 s Aided start: 3 s	
<b>Interfaces</b>		
4 x Digital inputs	Voltage range: 0 - 30 V DC Voltage threshold: 4 V DC Invertible via configuration: DIN3/DIN4 Voltage threshold: 250 mV DC	Voltage range: 0 - 30 V DC Voltage threshold: 4 V DC Invertible via configuration: None
2 x Analog inputs	Voltage range: 0 - 30 V DC Resolution: 12 bit	
2 x Digital outputs	Maximum voltage: 32 V DC Maximum current: 1 A	
2 x CAN interfaces	FMS, J1939, HCV CAN, LCV CAN, OBD and tachograph data reading Both interfaces can be used simultaneously	
K-Line interface	OBD parameter and DTC reading Tachograph data reading	
1-Wire interface	Power output: 200 mA @ 5 V DC iButton DS1990A, DS1971, DS18B20 temperature sensors	
Serial ports	2 x RS232 (DFS, refrigerators, transparent channel, Garmin, RFID) 1 x RS485 (DFS, transparent channel, J1708 data reading)	
User interfaces	Mini USB interface 3 x Indication LEDs 3.5 mm audio interface	
<b>Features</b>		
Internal storage	4 MB (max. 30000 records)	
External storage	Up to 32 GB	
Accelerometer	3-axis auto-calibrating; g-force up to 4 g	
<b>Certifications and ratings</b>		
Certifications	E-mark, CE, RoHS	E-mark, CE, RoHS, FCC Part 15

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<b>Physical properties</b>		
Dimensions	111 x 75 x 25 mm	
Weight	134 ± 10 g	
Housing	Plastic	

## Ordering information

<b>FM-Tco4 HCV</b>	Tco4 for heavy commercial vehicles with GSM (2G)
<b>FM-Tco4 HCV 3G</b>	Tco4 for heavy commercial vehicles with UMTS (3G)

## Warnings

All internal components including the battery must be replaced only by the manufacturer! Any self-willed attempt to repair or change any components will void the warranty.



Caution! The devices are shipped to the users with partially charged batteries. After the first power up the device must not be used with the battery. It must be connected to an external power source until the battery is fully charged. Once charging is complete, the device can begin its normal operation.



Caution! There is a risk of explosion if the battery is replaced with a battery of an incorrect type. Dispose of used batteries according to environmental requirements.



Waste equipment should not be disposed of with your other household waste. The product must be taken to separate collection points at the product's end-of life.

## Document application

Given parameter values and various characteristics within this document apply only to the most recent device hardware version.

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