Tachograph simulator
DTCOSIM

SERVICE MANUAL

Tachograph simulator DTCOSIM

The simulator is a device that is used as replacement for tachograph in vehicle where tachograph is not mandatory, but the existing installation requires signals generated by the tachograph.

The simulator generates following signals:
- V imp, 4 imp/m, zero speed signal
- via CAN: vehicle speed, distance travelled, date and time
- or via k-line: distance travelled, date and time

Mounting in vehicle

The device should be mounted in vehicle using handles on enclosure.
The simulator has the same connections as tachograph – the **A** [white], **B** [yellow] and **D** [brown] sockets.
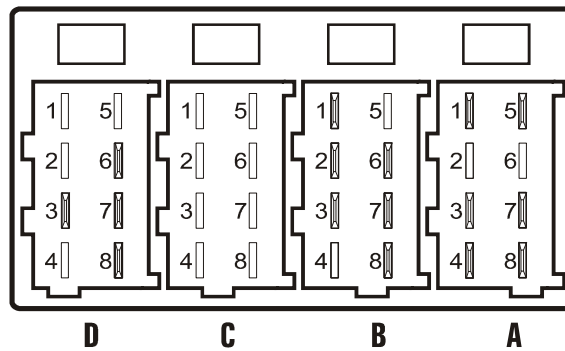
Technical data:

All signals are compatible with ISO 16844-1 norm

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Power supply	12V or 24V
Current consumption	40mA
„k" constant setting range	4000 ÷ 64000 imp/km
Output power supply for speed sensor	8V DC
Working temperature range	−40°C ÷ +85°C
Dimensions	113 x 65 x 23 mm

Dimensions
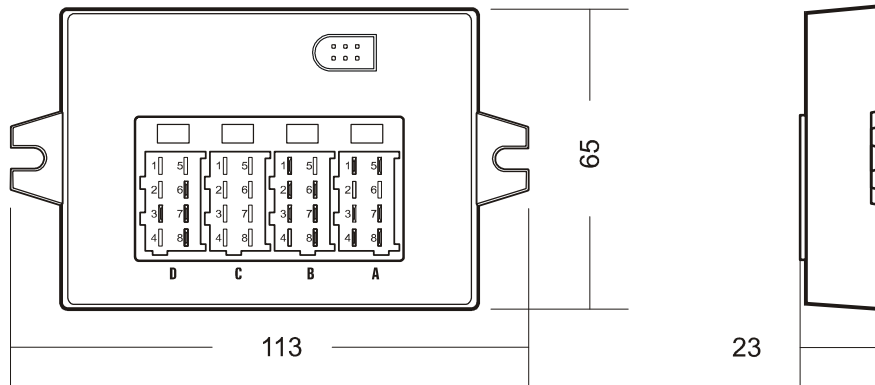
Connector

A1	Power from battery	[30]
A3	Ignition	[15]
A4	CAN H	
A5	Ground from battery	[31a]
A7	CAN GND	
A8	CAN L	
B1	Power supply output	[+]
B2	Power supply output	[-]
B3	Signal from speed sensor	
B6	V-impulse	
B7	V-impulse	
B8	4 imp/m	
D3	V-impulse	
D6	V-impulse	
D7	K-line	
D8	Zero speed signal	

Programming

Wiring diagram
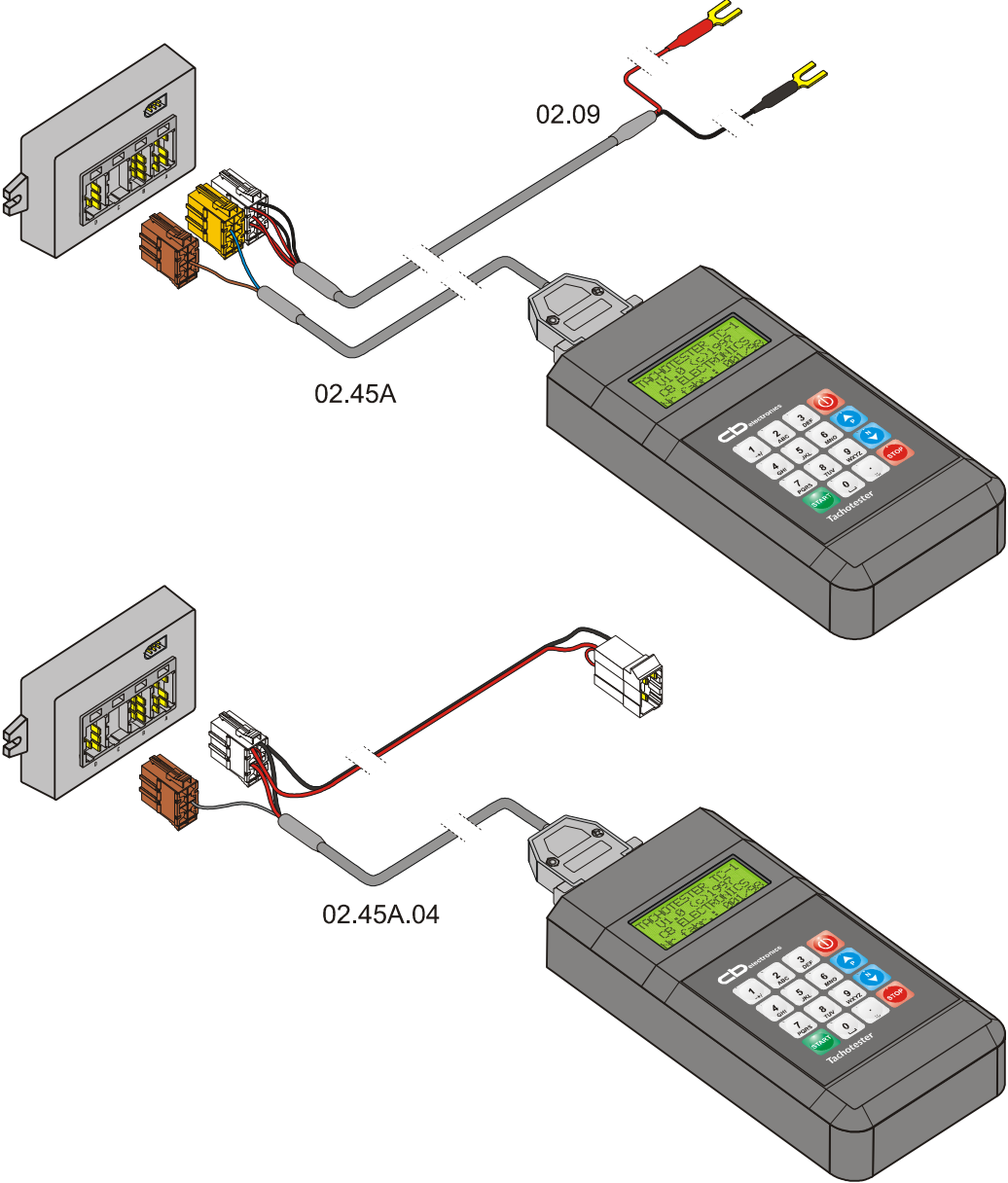
The simulator device is programmed using **TC-1 Tachotester** produced by CB Electronics. Connect the simulator to Tachotester using **02.45A** or **02.45A.04** cable. The simulator powered from external power supply, for example using **02.09** cable

Programming simulator

Choose the „SiemensVDO 1324" in Tachotester main menu and press "START". The Tachotester will read simulator settings. Some of these parameter must be changed to allow proper work of simulator

Following parameters of **DTCOSIM simulator** can be changed:
- Odo – odometer
- w – characteristic constant of vehicle
- PTO - number of impulses per one shaft revolution
- ES - product code
- VIN - vehicle identification number
- System time

Programming product code

The product code should be read from the tachograph that will be replaced by tachograph simulator, and entered into simulator settings.
The simulator device need valid product code to function properly.

Second digit after dot - determines type of CAN bus. Allowed digits are: 0, 2, 3 and 4 (for ex. 1324.x2xxxxxxxxxx).

If second digit after dot is "1" that means the tachograph has built-in terminating resistor 120ohm between A4 and A8 pin. The CAN bus requires such resistor in one of devices connected to bus, to work properly. If the tachograph with terminating resistor is replaced by the simulator (which doesn't have terminating resistor), the resistor must be added.
This can be done by soldering 120 ohm 0.25W resistor to lines A4 and A8, for example inside the white connector. After adding the terminating resistor, the second digit after dot in code can be changed to "2" (1324. x2xxxxxxxxxx)

Third digit after dot – determines the interface is k-line. Setting this digit to 1 will turn on the k-line. In the same time the second digit after dot should be set to 0 to turn off the CAN interface. Additionally the 12-th digit should be set the same as 3-rd digit. Example product code for k-line interfaced simulator is: 1324.601000000001.

Programming date and time

The simulator is equipped in very precise real time clock (error less than ± 2 minutes per year) with automatic daylight saving time switch.
The clock must be initialized by setting correct date, UCT/GMT time and offset.
The simulator is factory set to correct date and time with +1h offset.

Speedometer connection

[15]

[31b]   [58d]

[31]   [30]

Rcan
120 ohm*

* the value depends on CAN bus line resistance