

# CAR – Transient Emission 21

Modular EMC-Test Equipment for electrical installation of vehicles



## Highlights:

- **Modular construction**
- **Electronically and mechanically (+ life time counter) triggerable load switches**
- **Artificial Network with temperature control**
- **Shunt resistors: 10Ω / 20Ω / 40Ω / 120Ω**
- **Battery current: 50A / 100A**

### According to

ISO 7637: 2011

CISPR 25

CISPR 16-1-2

The CAR- Transient Emission 21 is used to check the transient transition behaviour when switching loads on the vehicle electrical system.

It consists of two triggerable circuit breakers (electronically or mechanically), an artificial network, a control unit for operating the device, a set of load resistors and optionally an external power supply.

The CAR-Transient Emission 21 can perform the "Transient Emission Test" for "slow pulses" and "fast pulses" according to ISO 7637-2.

Sales Partner:



**ABSOLUTE EMC** LLC.  
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A microprocessor-controlled 7" touch screen display unit is integrated in the control panel and permits an easy operation of the generator.

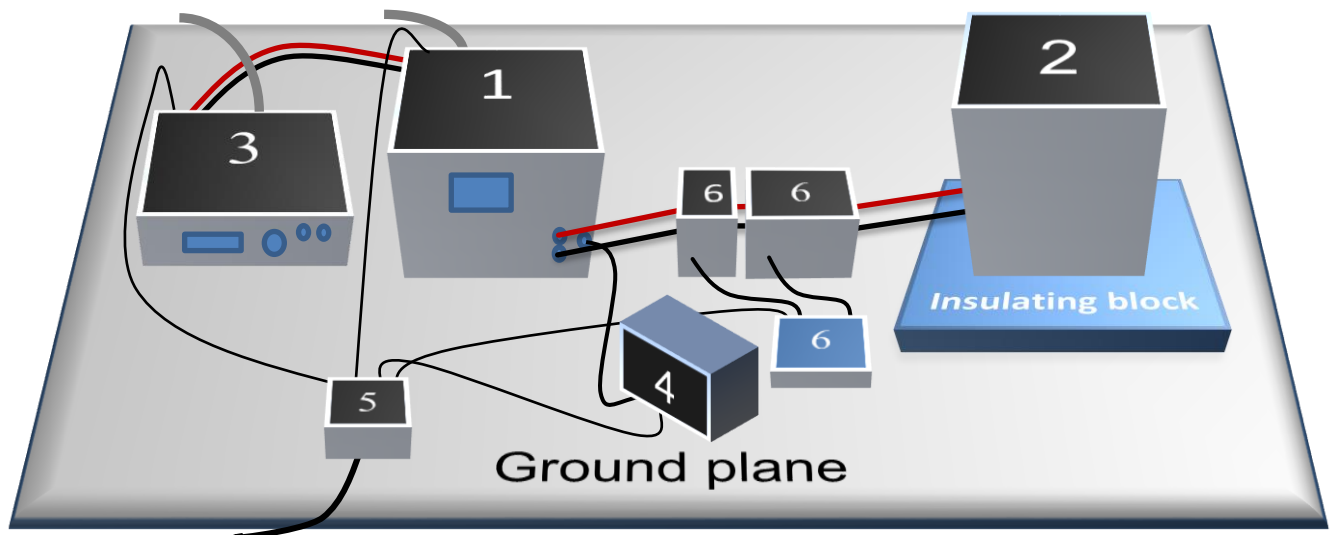
The software program CAR-remote permits the PC control of the generator via Ethernet and also allows the standardized documentation according to IEC 17025 and the evaluation of test results.

The device can be operated individually or in conjunction with the CAR TEST SYSTEM and can be controlled by the PC Remote software.

It is characterized by its compact design and a easy operation.

Option	Description
switchable to CISPR 25	1 $\mu$ F
switchable to CISPR 16-1-2	2 $\mu$ F + 1 $\Omega$
PC Software CAR-Remote ( required for PS )	To control CAR - SYS 14 To control HILO PS To control PG 2804 To control CAR-TE 21

### Block diagram of CAR-TEST-SYSTEM 14 with CAR-TE21



- 1 CAR-SYS Generator  
with internal power supply resistance R;  
ground connection; maximum length for test pulse 3: 100 mm
- 2 device under test disconnected / connected
- 3 Power supply 70V/ 200A (AWG X / PS X)
- 4 Oscilloscope, at monitor output, built in 1:100
- 5 Ethernet switch  
Connected with PC control (CAR-Remote Software)
- 6 CAR-TE21 (CAR-AN21 + CAR-TE21-S + Control Unit)

- Options :
- Load Dump 2804
  - Load Dump 3xPS 66-55 (LD-PS)

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Technical specifications:		CAR-TE 21
<b>CAR-TE21-C – Control unit - Mainframe</b>		
Microprocessor controlled touch panel		7", capacitive
Ethernet Interface for remote control of the generator		Built-in
Interface for updates		USB
Trigger control		Manual, programmed sequence, external
Trigger output		Built-in
Mains power		24V=, 1A
Dimensions	desk top case, W * H * D	280*60*150 mm <sup>3</sup>
Weight		2kg
Featuring		Support feet 20°
<b>CAR-TE21-SE – Electronically switch unit</b>		
Max. operating voltage		70V
Max. operating current		50 / 100A
High short circuit current capability		500A for 200ms
Voltage drop over switch at 25A		< 2.0V
Switching time		300ns ±20%
Transient over voltage protection		Varistor
Nominal voltage		0 - 100%
Turn off time		0.1-1000 s
Period		0.01-1000 s
Number of tests		1 – 1000; infinity
Cooling system		Fan
Dimensions	desk top case, W * H * D	90*150*150 mm <sup>3</sup>
Weight		2kg
<b>CAR-TE21-SM – Mechanically switch unit</b>		
Type		Automotive relay; No suppression across contacts
Life time counter		built-in
Voltage rating		> 400 V
Switching time		200ms
Turn off time		1-1000 s
Period		0.5-1000 s
Number of tests		1 – 1000; infinity
Dimensions	desk top case, W * H * D	90*150*150 mm <sup>3</sup>
Weight		2kg

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### CAR-AN21 – Artificial network

Max. operating voltage	1000 V= / 250V≈ (1kHz)
Max. operating current	50 / 100A
Series inductance	5 μH
Load impedance	0.1 μF + 50Ω
Frequency range	0,1 – 125 MHz
Cooling system	Fan
Dimensions desk top case, W * H * D	200*150*150 mm <sup>3</sup>
Weight	2kg

### CAR-TE21-R – Load Resistor

Resistor values	10Ω, 20Ω, 40Ω, 120Ω
Maximum voltage	24V
Dimensions desk top case, W * H * D	105*60*185 mm <sup>3</sup>
Weight	2kg

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