

# HILO TEST

Ideas for today and tomorrow

## ISO/TS 7637-4

Road Vehicles — Electrical disturbance by conduction and coupling

Part 4: Electrical transient conduction along shielded high voltage supply lines only

Sales Partner:



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Covering sales in North America  
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About the company

Product range

ISO 7637-4

General

Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

Our solution

CAR-AN-HV

CAR-AWG1200

CAR-CN50-1

CAR-AWG25

CAR-PS1500

Combined system

Usage

Summary

## About the company

### About the company

#### Product range

#### ISO 7637-4

General

Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

#### Our solution

CAR-AN-HV

CAR-AWG1200

CAR-CN50-1

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CAR-PS1500

Combined system

#### Usage

#### Summary

- The company was founded in 1978 as a spin-off from the KIT Karlsruhe
- At present the company has 15 employees in sales, development and production
- We work successfully profit oriented
- The export quota is about 60%

## Product range

All devices are controllable from the 7" touch screen, as well as optionally over PC remote software

### Compact test systems for EMC inspection (e.g. Multi-CE)



Automotive test equipment to fulfill many international as well as manufacturer standards (e.g. CAR-SYS)

### AC-Test Systems



Burst, Surge and combination wave generators, till 30KV and 100KA

### Alternating current and pulsed current shunts



### High voltage dividers and measuring systems until 300 KV

About the company

Product range

ISO 7637-4

- General
- Transient emission test
- Immunity test – Pulse A
- Immunity test – Pulse B

Our solution

- CAR-AN-HV
- CAR-AWG1200
- CAR-CN50-1
- CAR-AWG25
- CAR-PS1500
- Combined system

Usage

Summary

# ISO/TS 7637-4

## General

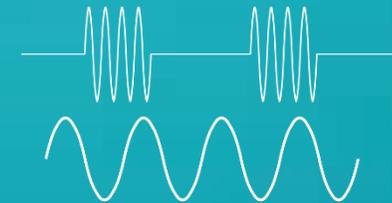
### Transient emission test:

The automotive system consists of many data, supply lines and components. All of these together all together form a passive network of impedances and capacitances. This is defined in the standard as artificial network (AN). Transient emission tests shows, how the device under tests behaves in under these circumstances

### Immunity tests:

There are two types of disturbances on the high voltage supply lines generated by the switching of various devices:

- Pulsed sinusoidal disturbances (Waveform A)
- Low frequency sinusoidal disturbances (Waveform B)



### Device under test:

- Shielded high-voltage supply lines
- Supply voltages up to 1500V

About the company

Product range

**ISO 7637-4**

### General

Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

Our solution

CAR-AN-HV

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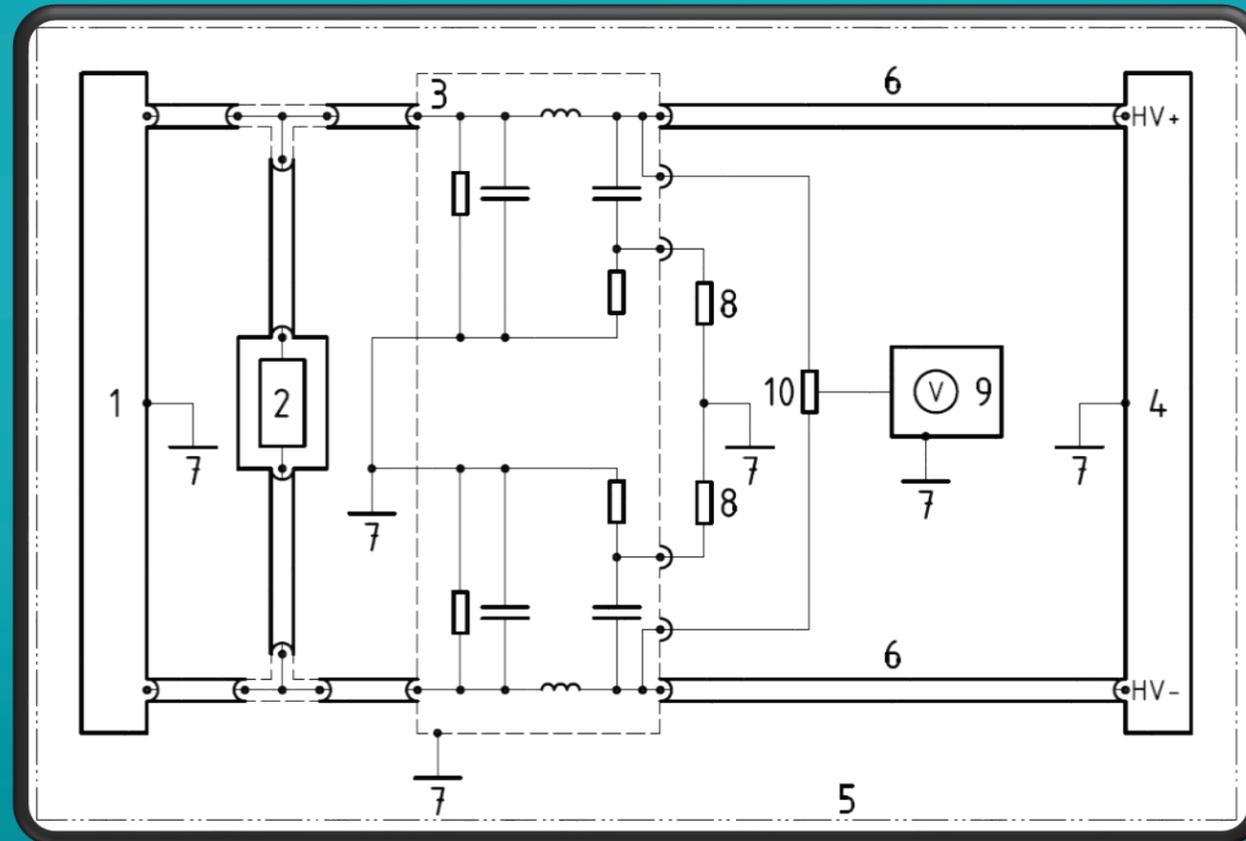
Combined system

Usage

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## ISO 7637-4

### Transient emission test



About the company

Product range

### ISO 7637-4

General

#### Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

### Our solution

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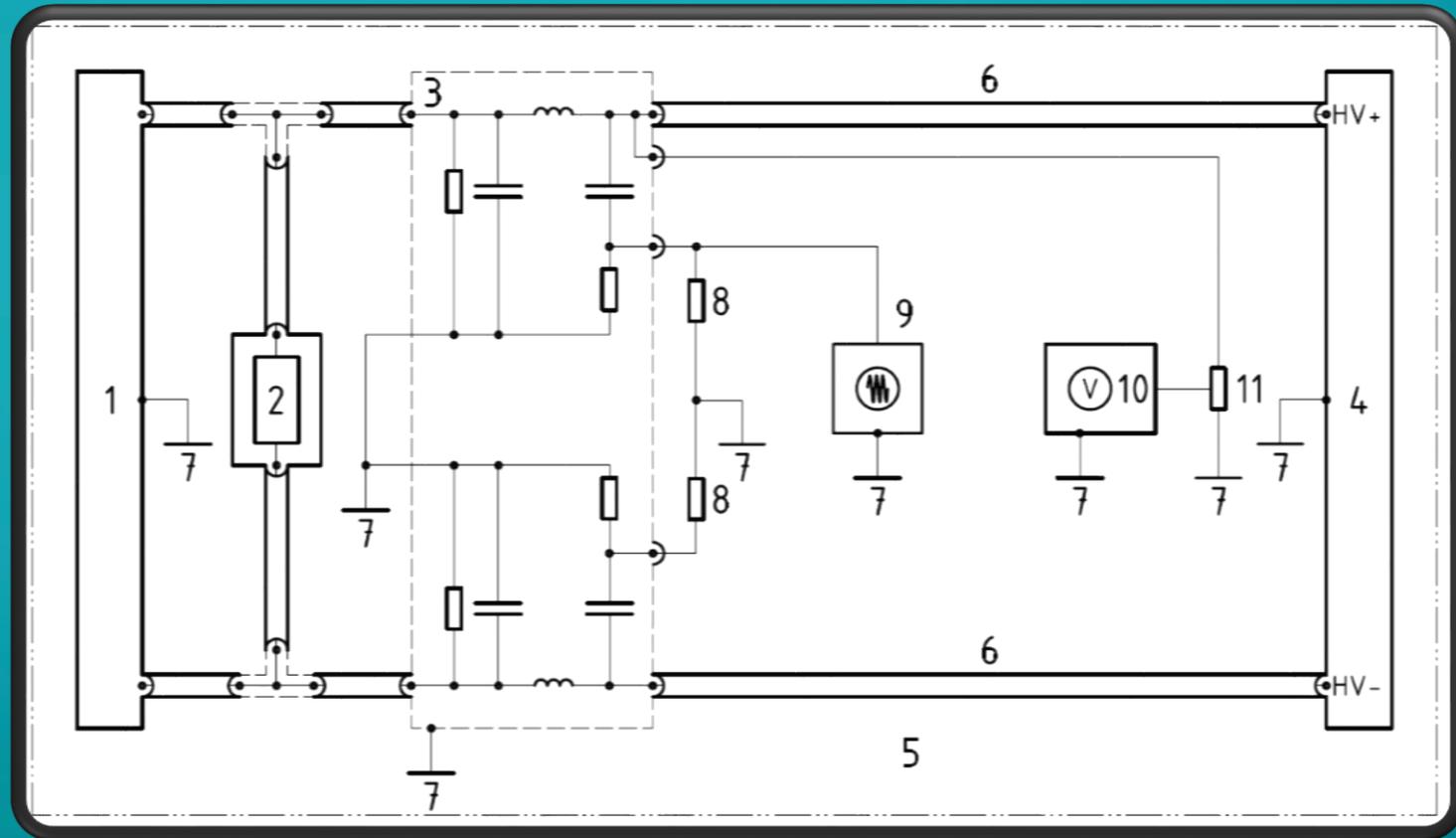
Combined system

Usage

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## ISO 7637-4

### Immunity test – Pulse A



About the company

Product range

### ISO 7637-4

General

Transient emission test

**Immunity test – Pulse A**

Immunity test – Pulse B

### Our solution

CAR-AN-HV

CAR-AWG1200

CAR-CN50-1

CAR-AWG25

CAR-PS1500

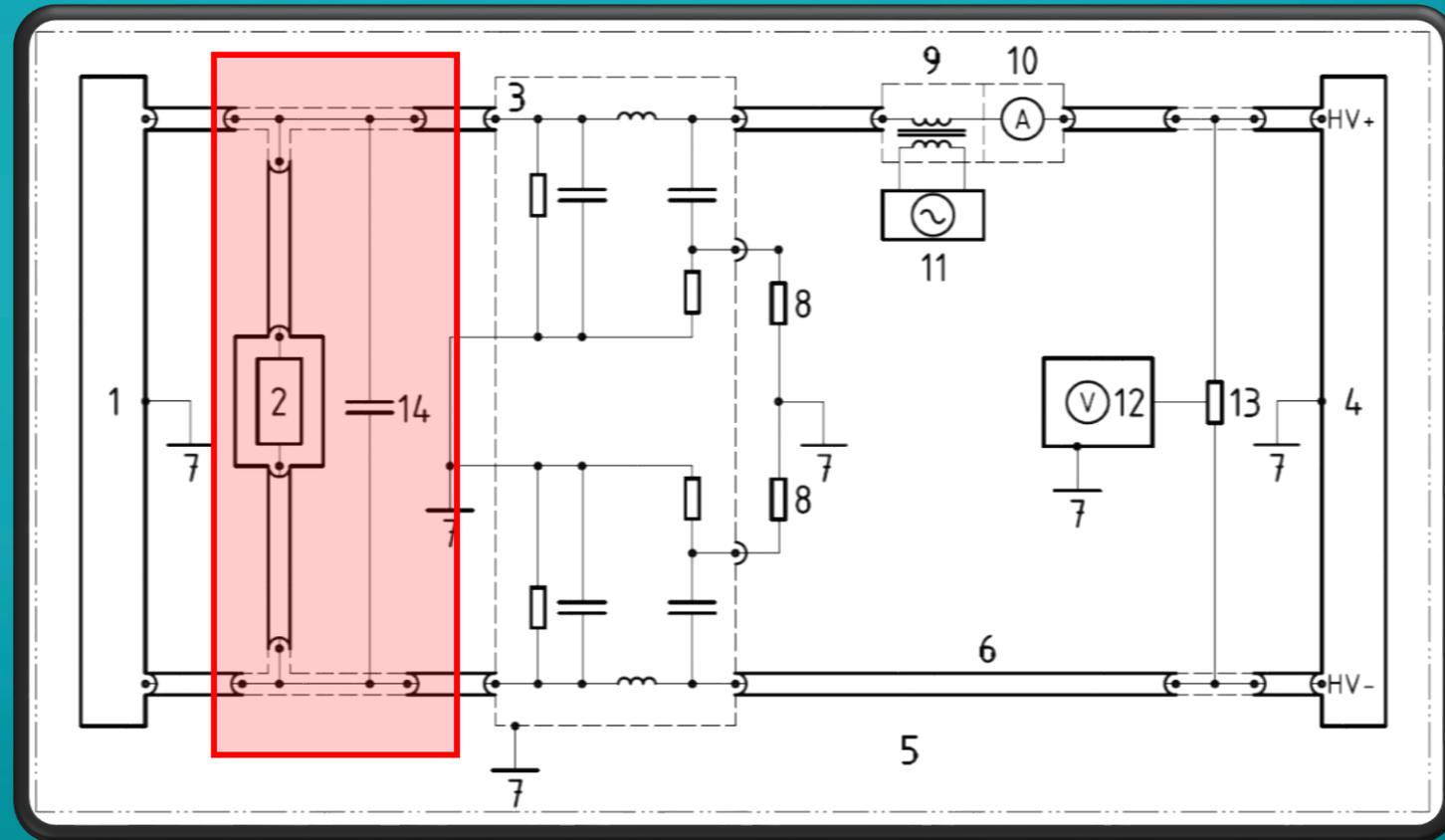
Combined system

Usage

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## ISO 7637-4

### Immunity test – Pulse B



About the company

Product range

### ISO 7637-4

General

Transient emission test

Immunity test – Pulse A

**Immunity test – Pulse B**

Our solution

CAR-AN-HV

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CAR-CN50-1

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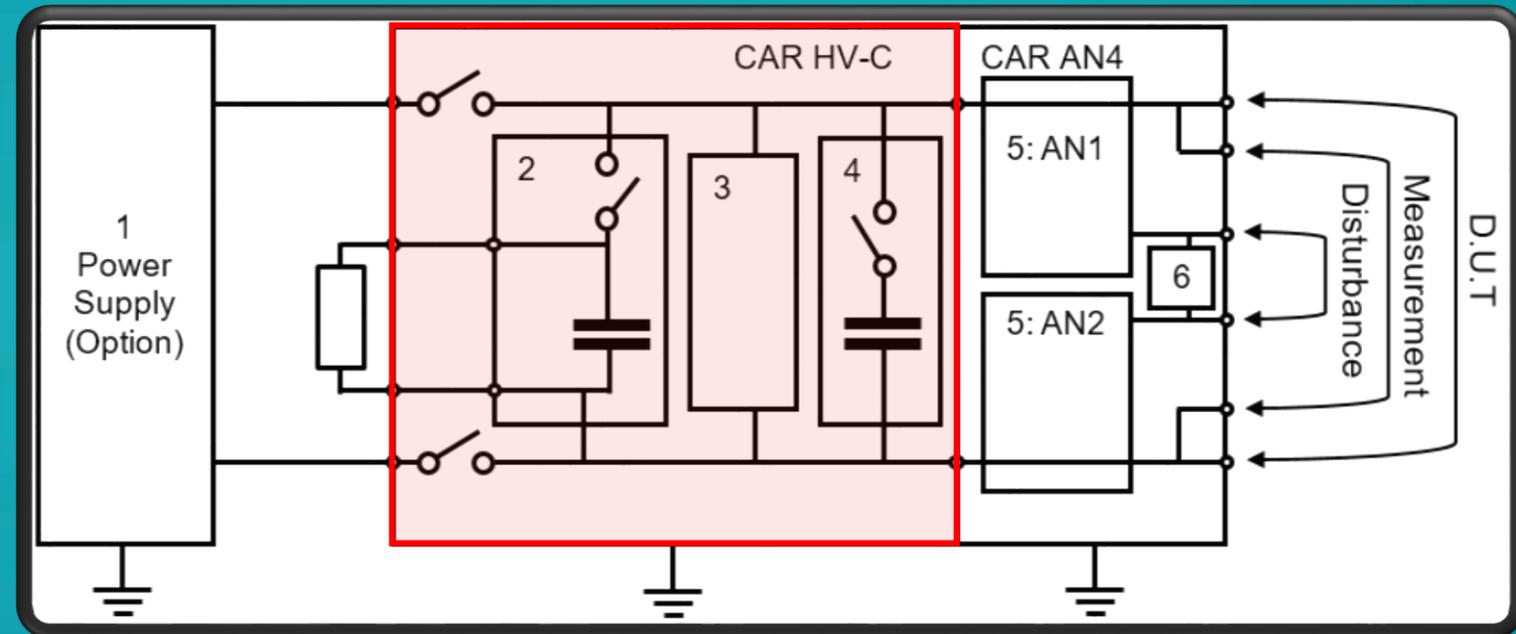
Combined system

Usage

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## Our solution

### CAR-AN-HV



1. Power supply/ battery (optionally)
2. Switchable load for high voltage battery (resistor external)
3. Residual voltage monitoring with ground switch
4. Switchable capacitor 100µF
5. Artificial network
6. 50Ω termination

About the company

Product range

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Our solution

**CAR-AN-HV**

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Combined system

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## Our solution

### CAR-AN-HV

CAR-HVC: Control unit + CAR-AN4: Artificial network  
Designed for testing passive and active components and devices:

- Used for emission test and immunity tests (A and B)
- Trigger able load switch
- Load for high voltage battery included
- 100 $\mu$ F capacitor included
- Security due residual voltage control and ground switch
- External artificial network according ISO7637-4



About the company

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## Our solution

### Car-AWG1200

Low frequency generator

- Used for Immunity test – Pulse B
- Output voltage: 0-75V
- Output current: 40A
- Frequency sweep range: 1 - 300 kHz



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Product range

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## Our solution

CAR-AN-HV

**CAR-AWG1200**

CAR-CN50-1

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Combined system

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## Our solution

### Car-CN50-1

Coupling transformer:

- Used for coupling Immunity test - Pulse B
- Voltage capability: 600V
- Current capability: 50A
- Frequency range: 30 – 300 kHz



About the company

Product range

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Transient emission test

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## Our solution

CAR-AN-HV

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Combined system

Usage

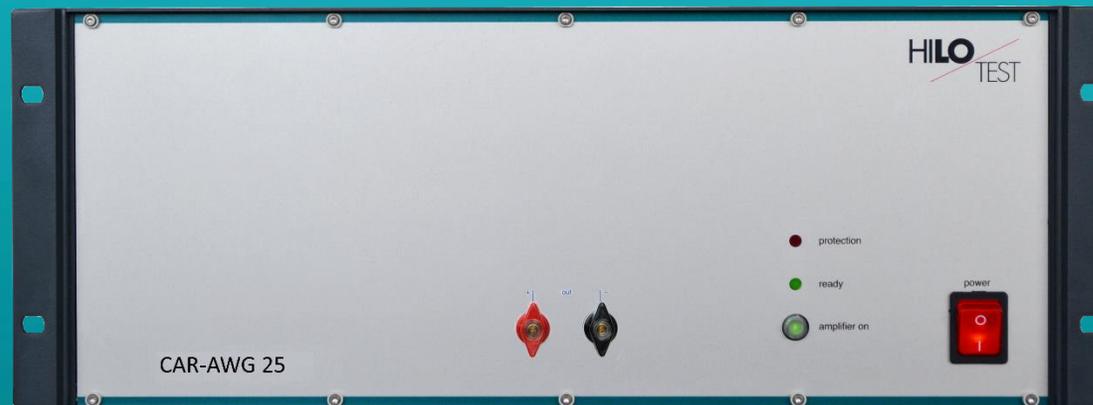
Summary

## Our solution

### Car-AWG25

Simulator for sinusoidal disturbance

- Used for immunity tests – Pulse A
- Frequency range: 100kHz – 250MHz



About the company

Product range

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Transient emission test

Immunity test – Pulse A

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## Our solution

CAR-AN-HV

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**CAR-AWG25**

CAR-PS1500

Combined system

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## Our solution

### Car-PS1500

#### Power Supply:

- Load for high voltage battery included
- Output Voltage: 0 - 1500V
- Output Current: 30A
- Constant power: 15kW
- Slew rate: 100V/s



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Product range

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Transient emission test

Immunity test – Pulse A

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## Our solution

CAR-AN-HV

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CAR-AWG25

**CAR-PS1500**

Combined system

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## Our solution

### Combined system

Compact and customer friendly:

- Main switch
- Remote controlled
- Security due to voltage monitoring and earthing switch
- Security due residual voltage control and ground switch



About the company

Product range

ISO 7637-4

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Transient emission test

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## Our solution

CAR-AN-HV

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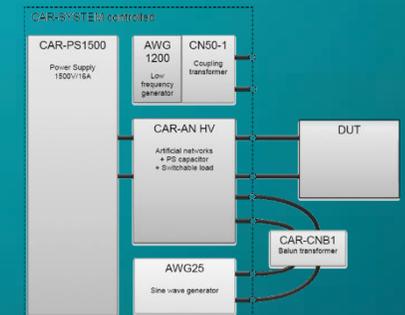
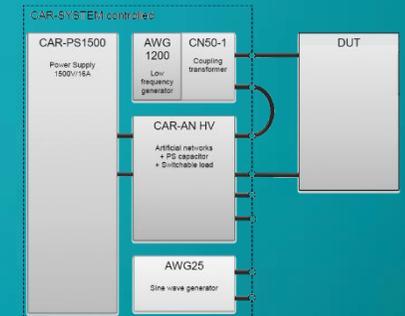
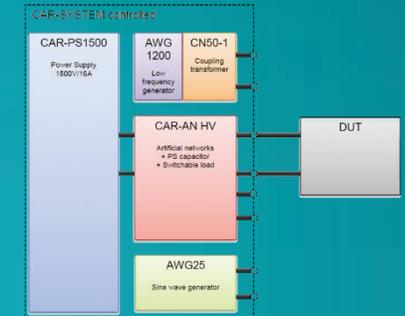
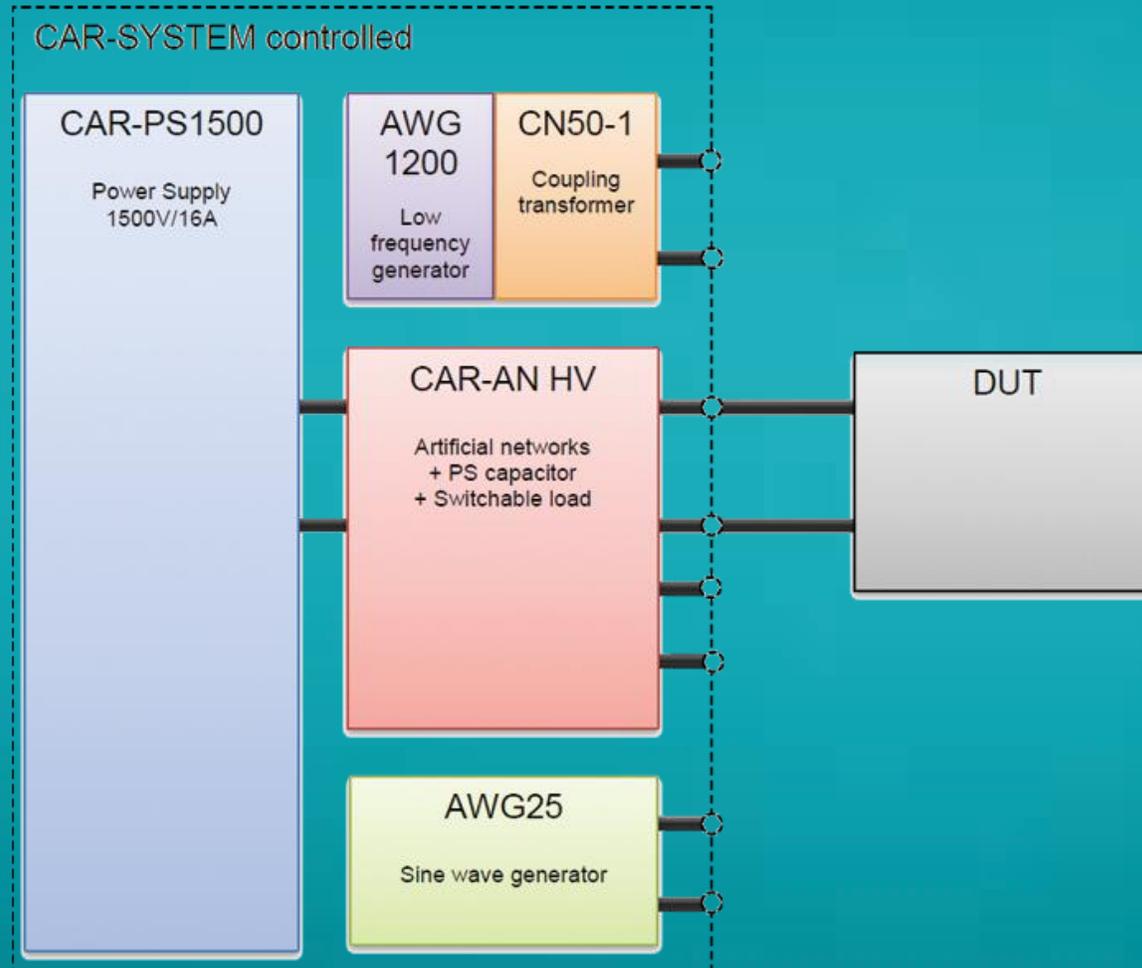
### Combined system

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## Usage

### Transient emission test



About the company

Product range

ISO 7637-4

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Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

Our solution

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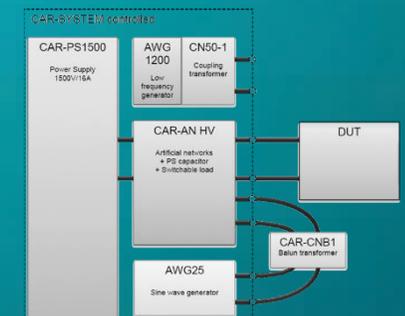
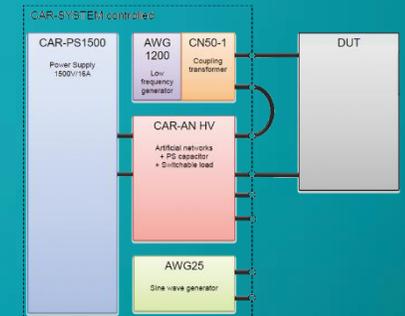
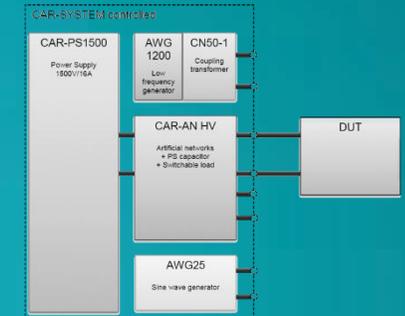
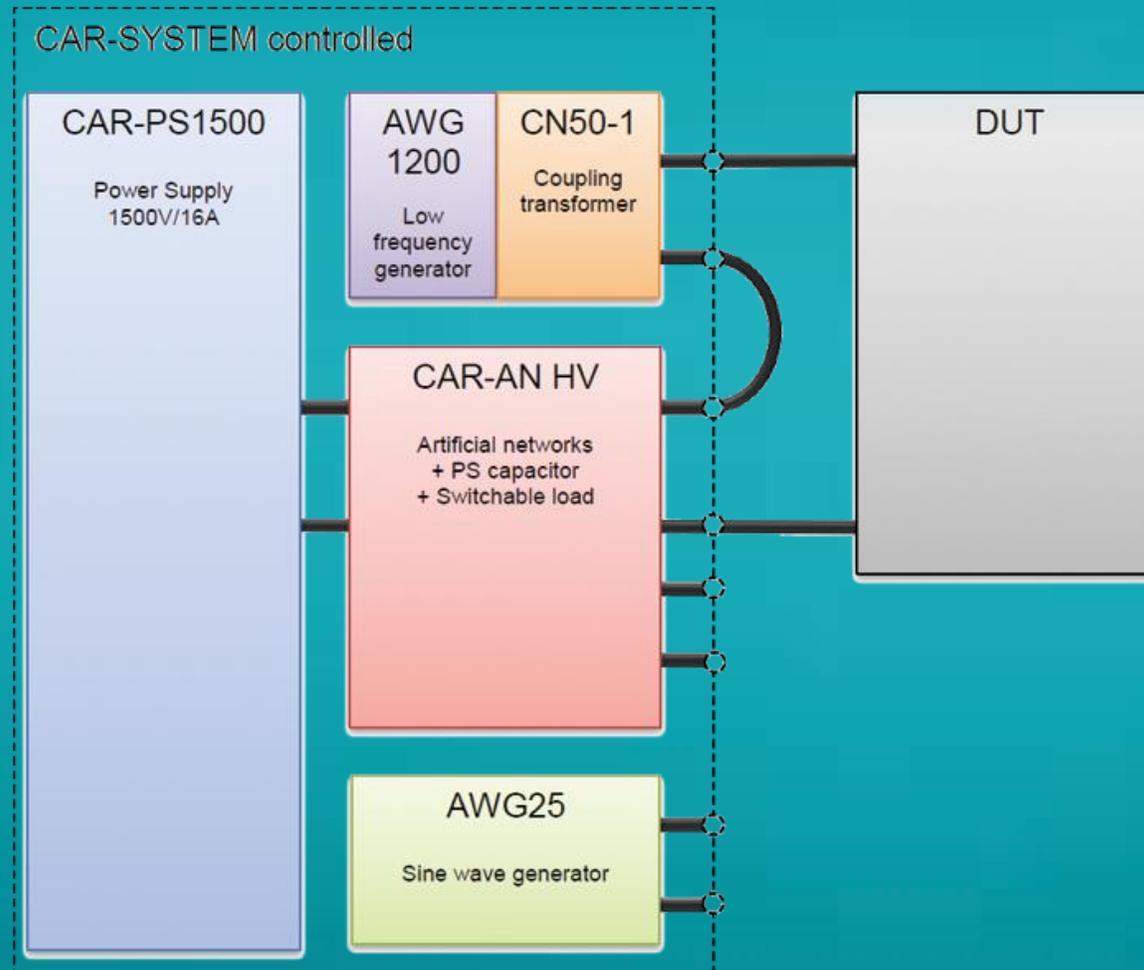
Combined system

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## Usage

### Immunity test - Pulse A



About the company

Product range

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Transient emission test

Immunity test – Pulse A

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Our solution

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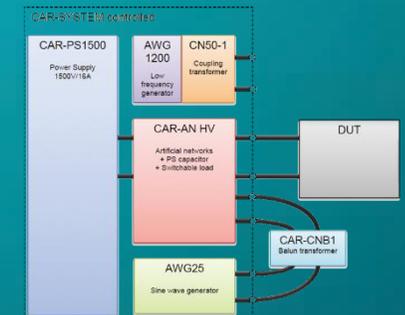
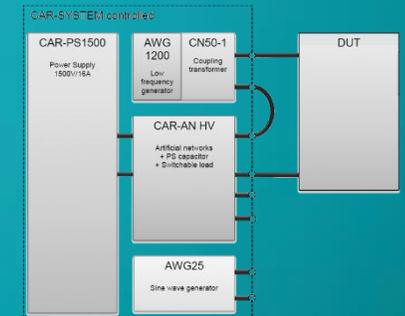
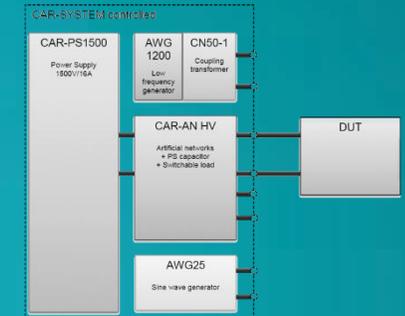
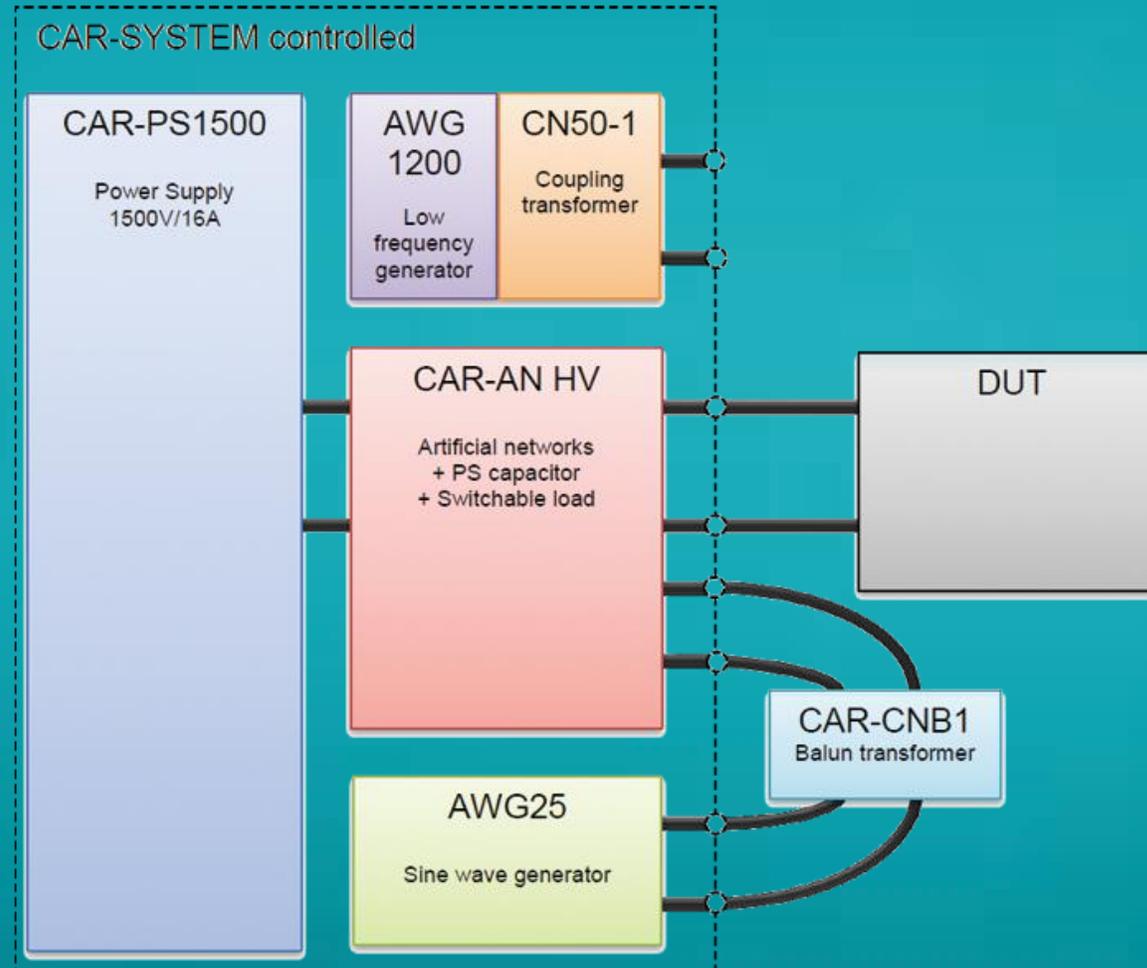
Combined system

Usage

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## Usage

### Immunity test - Pulse B



About the company

Product range

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General

Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

Our solution

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CAR-AWG25

CAR-PS1500

Combined system

Usage

Summary

## Summary

### Car-PS1500

Designed for testing passive and active components and devices:

- Transient emission test
- Immunity test – Pulse A
- Immunity test – Pulse B
- Compact construction
- Customer friendly control
- Secure (Voltage control, earthing switch)
- Space for extensions (higher power supply)



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About the company

Product range

ISO 7637-4

General

Transient emission test

Immunity test – Pulse A

Immunity test – Pulse B

Our solution

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