

## LDS series

### LOAD DUMP SIMULATOR



Load dump simulator LDS 100

- ✓ Predefined pulses (pulse 5a and 5b) to meet automotive standards
- ✓ Pulse parameters are freely adjustable
- ✓ High current capability up to 200 A
- ✓ Save different pulse profiles on the simulator
- ✓ Pulse amplitude up to 250 V
- ✓ Simulator control via webinterface and interface commands
- ✓ Test and evaluation software available

The relating standards\*:

ISO 7637-2  
 ISO 7637-3  
 ISO 16750-2  
 ISO 21848  
 LV124  
 VDA320 (LV148)  
 BMW GS 95002  
 BMW GS 95002-2  
 BMW GS 95003-2  
 BMW GS 95024-2-2  
 BMW GS 95026  
 FCA CS.00054  
 Fiat 9.90111-01  
 Ford FMC1278  
 GMW 3097  
 GMW 3172  
 JLR EMC-CSv1.0A4  
 MAN M 3285  
 MBN LV 124-1  
 MBN 10567  
 Mitsubishi ES-X82114  
 Mitsubishi EX-X82115  
 Nissan 28401NDS02  
 PSA B21 7110  
 Renault 36-00-808/--M,N  
 SAE J 1113-11  
 Volvo 31822854  
 Volvo 31850329  
 VW 80000  
 VW 82148  
 VW TL 81000  
 Magnetic field test

\* The LDS series can be used for certain tests within these standards. Additional equipment might be required. For detailed information, please contact [sales@spitzenberger.de](mailto:sales@spitzenberger.de).

## Pulse characteristic

The LDS allows to generate pulses as required in many automotive test standards. For a list of predefined pulses see [Table 1](#). These pulses may occur in the event of a discharged battery being disconnected while the alternator is generating excessive charging current to loads, which are remaining on the alternator circuit at the moment of battery disconnection. The alternator output generates an overvoltage pulse, as shown in [Figure 1](#). In case the alternator has a built-in overvoltage protection, the amplitude of the overload pulse is limited as shown in [Figure 2](#).

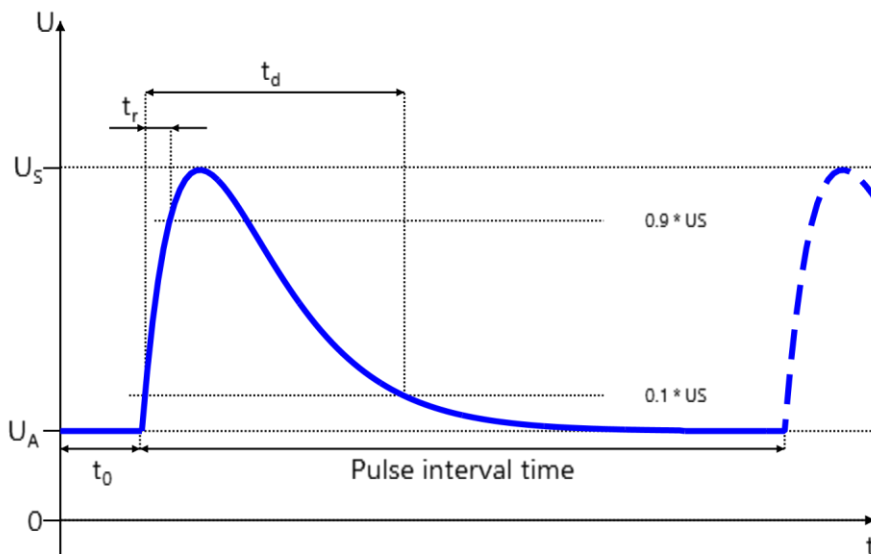


Fig. 1: Load dump test pulse 5a

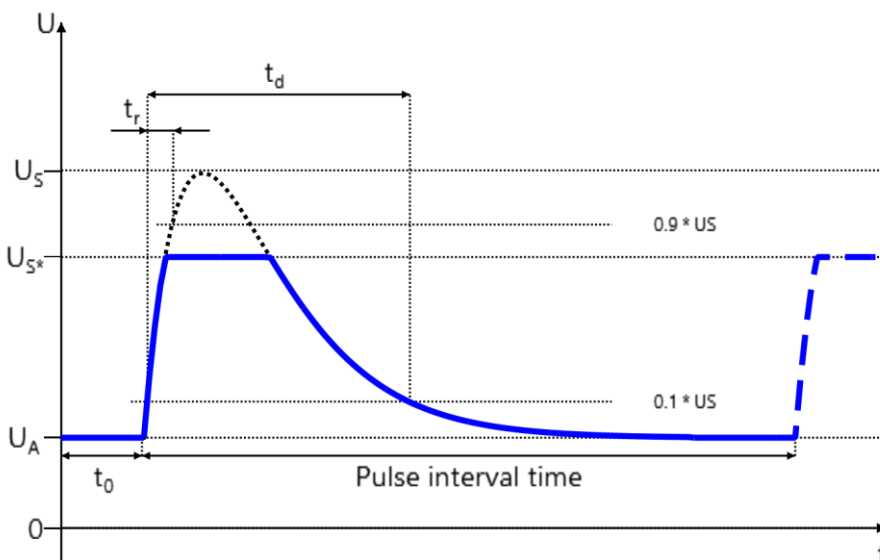


Fig. 2: Load dump test pulse 5b

## Predefined pulses\*

Standard	Pulse
BMW GS 95002-2	5
BMW GS 95003-2	5a, 5b
FCA CS.00054	Test B
Fiat 9.90111-01	5b
Ford FMC1278	5a, 5b
GMW 3097	5b
ISO 16750-2	Test A, Test B
ISO 7637-2	5a, 5b
Jaguar JLR-EMC-CS v1.0 Amendment4	G1, G2
Nissan 28401NDS02	5a, 5b, 5c
PSA B21 7110	EQ/IC 03
Renault 36-00-808	5a, 5b, 5c
SAE j1113-11	5a, 5b, 5c
Scania TB1901	5b
Volvo 31822854	Test B
VW TL 81000	Impulse 48

Table 1: Predefined pulses

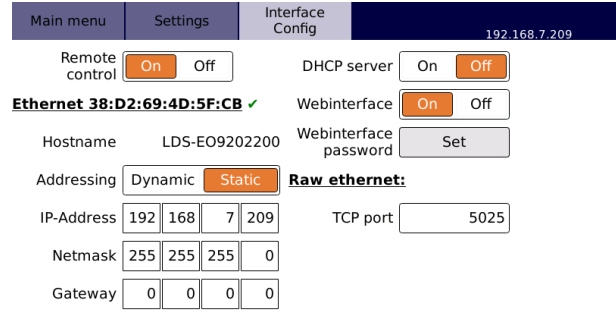
\* Other standards and pulses on request

## TOUCHSCREEN USER INTERFACE



U: 0.034 V Charged: ● Range: +225 V I-Limit: ● Local  
 I: 0.043 A Pulse Active: ● Overload: ●

Fig. 3: Main menu



U: 0.034 V Charged: ● Range: +225 V I-Limit: ● Local  
 I: 0.041 A Pulse Active: ● Overload: ●

Fig. 4: Interface configuration

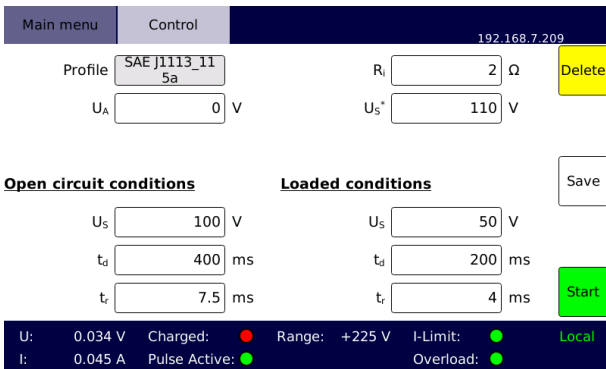


Fig. 5: Control setting

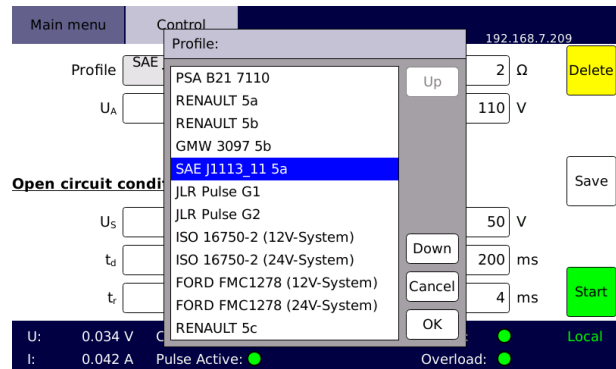


Fig. 6: Predefined profiles

## SOFTWARE CONTROL

### SPS TestManager

- ✓ Test and evaluation software for fully compliant emission and immunity tests
- ✓ Automated test run of various IEC and automotive standards

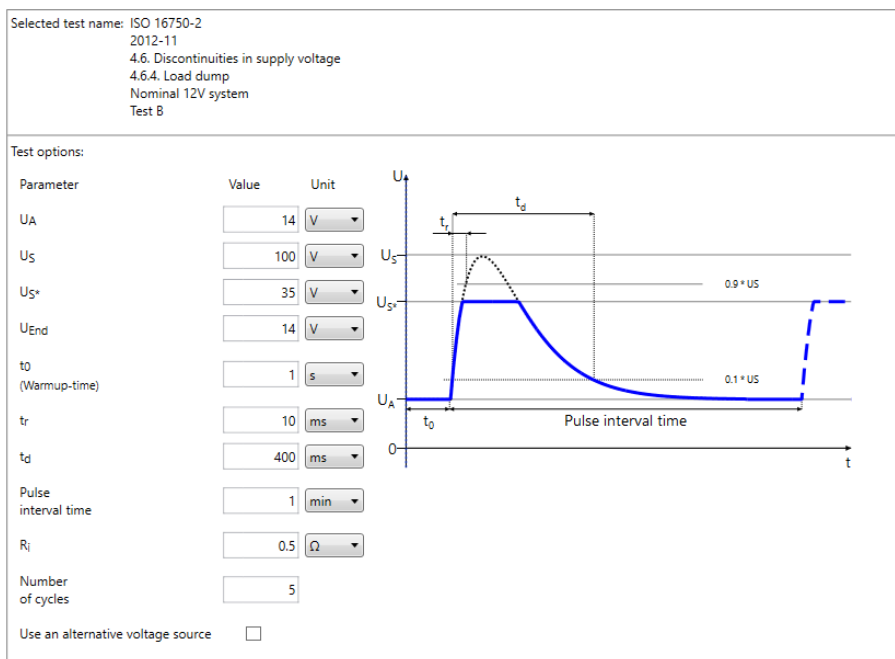


Fig. 7: SPS TestManager software

### Command interface

- ✓ Easily integrate the device into your own software applications
- ✓ Remote control commands are based on the SCPI standard

### Webinterface

- ✓ Monitor and control the connected device via a web browser

## TECHNICAL DATA

		LDS 100	LDS 200
<b>DC input voltage <math>U_A</math> (max.)</b>		70 V	70 V
<b>Continuous current</b>		100 A	200 A
<b>Pulses</b>			
	<i>Open circuit peak voltage <math>U_s</math></i>	0 V ... 250 V	
	<i>Supply voltage with load dump suppression <math>U_s^*</math></i>	0 V ... 250 V	
	<i>Pulse width <math>t_d</math> (max.)</i>	$R_i * 400 \text{ mF}$	
	<i>Energy (max.)</i>	$U_s^2 * 22 \text{ mF}$	
	<i>Repetition rate (min.)</i>	10 s	
	<i>Source resistor <math>R_i</math></i>	0 $\Omega$ ... 50 $\Omega$	
	<i>Rise time <math>t_r</math></i>	0.5 $\mu\text{s}$ ... 1 $\mu\text{s}$	
<b>Protection circuits</b>		overload / overtemperature / short circuit	
<b>Internal control unit</b>			
	<i>Display</i>	7.0" touchscreen (17.8 cm, resolution 800 x 480)	
	<i>User interface</i>	touchscreen / front panel button / incremental encoder webinterface	
<b>Interface</b>		Ethernet 100 Mbit/s (HiSLIP SCPI) USB 2.0 Host	
<b>Cooling</b>		temperature-controlled air forced cooling	
<b>Ambient temperature</b>		+10 °C up to +40 °C	
<b>Storage temperature</b>		-25 °C up to +60 °C	
<b>Relative humidity</b>		non condensing, max. 80 % for temperature < 31 °C, decreasing linearly to 50 % at 40 °C	
<b>System of protection</b>		IP20	
<b>Power supply (<math>\pm 10</math> %, 50/60 Hz)</b>		230 V	
<b>Line protection, connection</b>		16 A, Schuko	
<b>Housing</b>		desktop unit or plug-in, colour light grey (RAL 7035)	
	<i>Simulator</i>	19", 7 U	
	<i>approx. dimension (H x W x D)</i>	311 x 483 x 700 mm	
<b>Weight</b>	<i>Simulator (approx.)</i>	60 kg	

## OPTIONS AND ACCESSORIES

Options		
OPT.01	IEEE488	Not in combination with OPT.02
OPT.02	RS232	Not in combination with OPT.01