

Load dump pulse generator type LDS

The relating standards:

ISO 16750-2, test pulse A and B

Ford FMC 1278

JLR-EMC-CSv1.04A

SAE J 1113-11

PSA B21 7110

Renault 36-00-801

The Load Dump Generator LDS generates the pulses A and B according to ISO16750-2 and many other automotive standards.

These pulses may occur in the event of a discharged battery being disconnected while the alternator is generating charging current and with other loads remaining on the alternator circuit at this moment. With the touch screen panel the pulses can be selected and started easily.

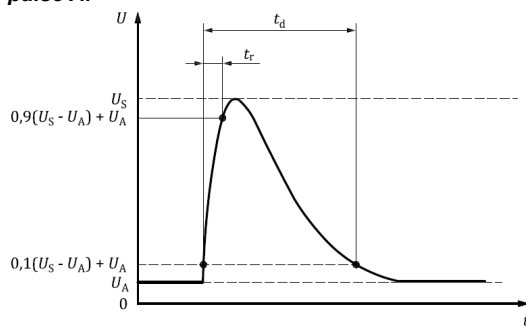
For automated tests a user-friendly software application is available.



ISO Test pulses A, B Load Dump

Pulse 5a represents the transient produced due to sudden disconnection of the battery from the alternator. Pulse 5b represents a voltage clamped transient produced due to sudden disconnection of the battery from an alternator fitted with Central Load Dump Protection.

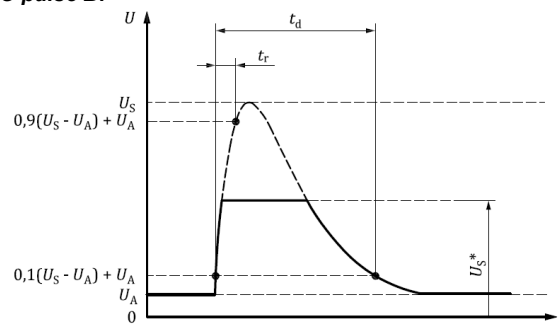
ISO pulse A:



Test without centralized load dump suppression

Images taken from the ISO 16750

ISO pulse B:



Test with centralized load dump suppression

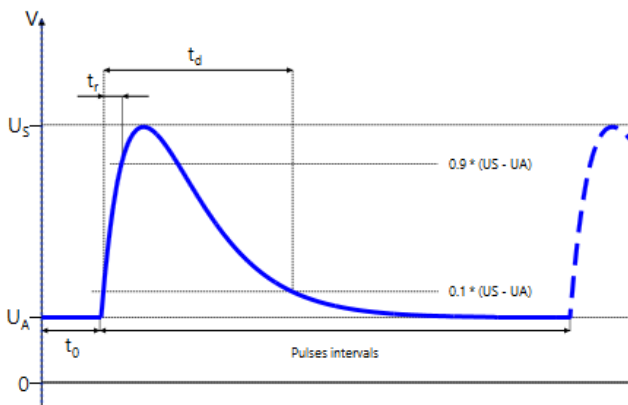
ISO 16750-2: 4.6.4.2.2 LOAD DUMP TEST WITHOUT CENTRALIZED SUPPRESSION

Software parameters of the LDS application software

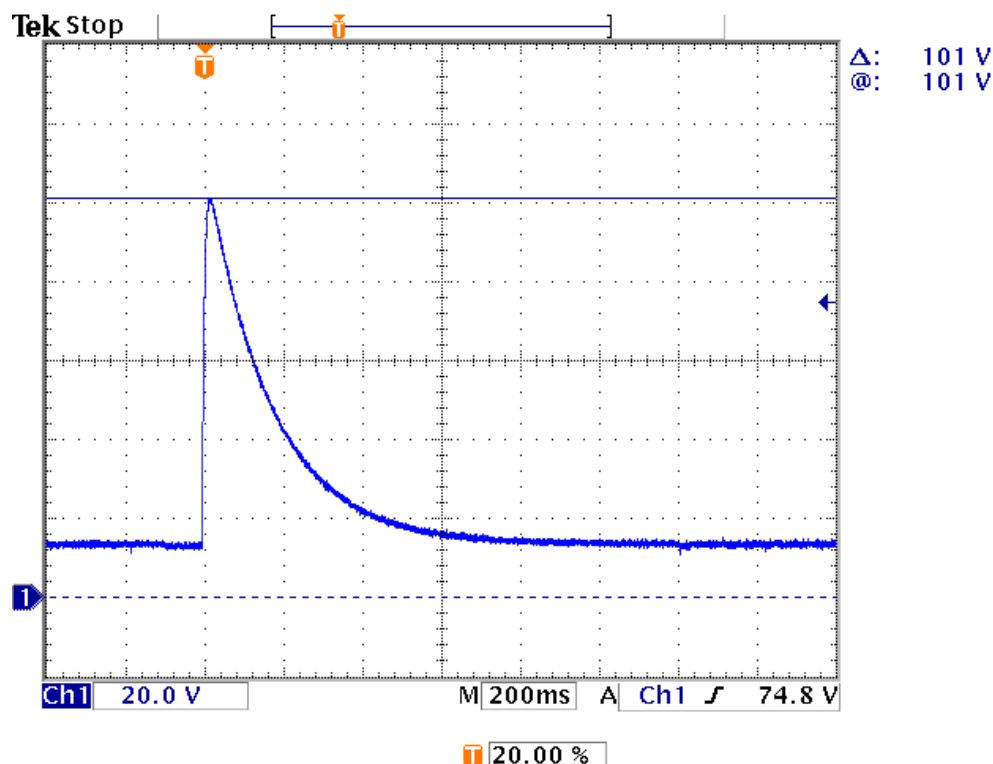
Test options:

Parameter	Value	Unit
UA	14	V
US	101	V
Uend	14	V
t0 (one time)	1	s
tr	10	ms
td	400	ms
Ri	2	Ω
Pulses intervals	1	min
Number of cycles	10	

Use an alternative voltage source ☐



Measurement of the ISO pulse with the above parameters

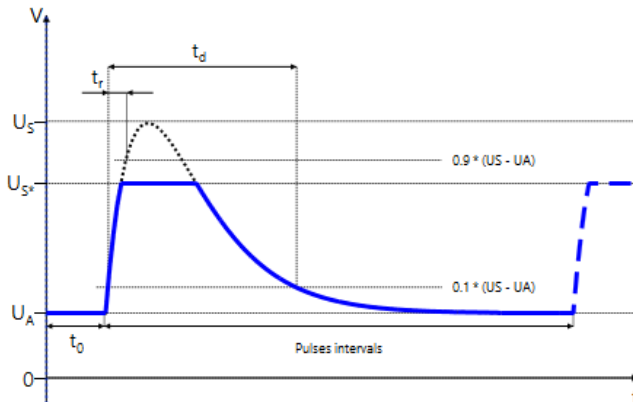


ISO 16750-2: 4.6.4.2.3 LOAD DUMP TEST WITH CENTRALIZED SUPPRESSION

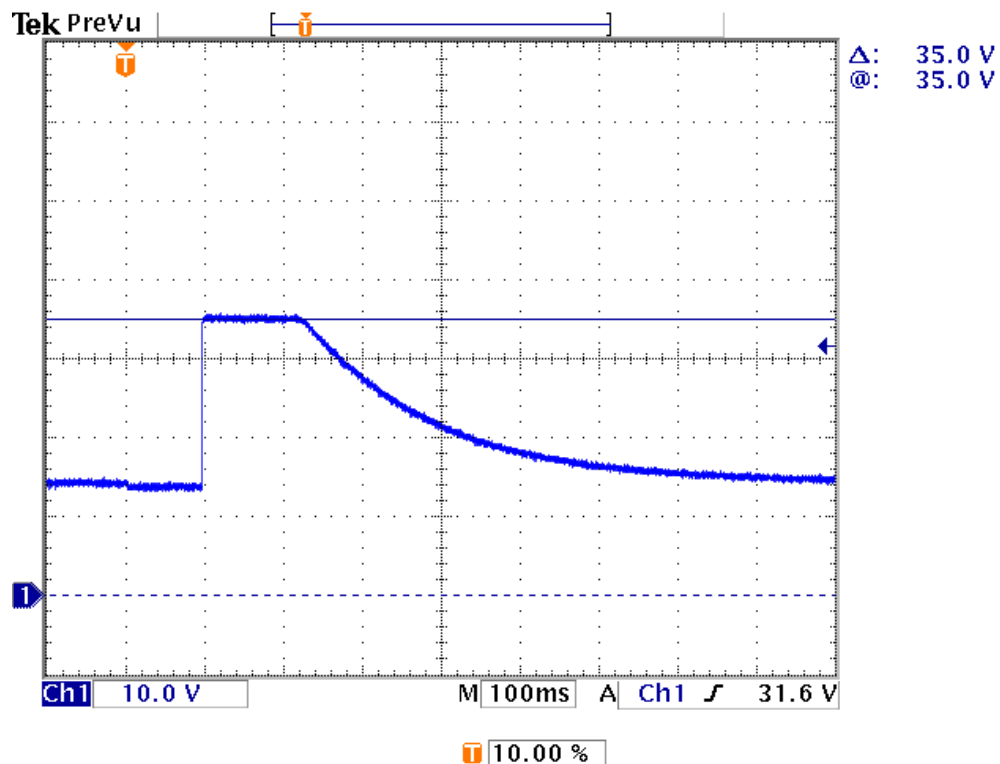
Software parameters of the LDS application software

Test options:

Parameter	Value	Unit
UA	14	V
US	101	V
US*	35	V
Uend	14	V
t0 (one time)	1	s
tr	10	ms
td	400	ms
Ri	4	Ω
Pulses intervals	1	min
Number of cycles	5	
Use an alternative voltage source	<input type="checkbox"/>	



Measurement of the ISO pulse with the above parameters



TECHNICAL DATA

Type	LDS 100	LDS 200
Idle output voltage	$U_{0,max}: 250V$	
Pulses		
Pulse width	$t_{dmax}: 0.4F \cdot R_i$ (load condition)	
Max. energy	$W_{max}: U_0^2 \cdot 22mF$	
Repetition rate	min. 10s	
Source resistance	$0.4\Omega \dots 12.5\Omega$	
Integrated suppressor network	integrated adjustable diode suppression network	
Battery supply		
Max. voltage	70V	70V
Cont. current	100A	200A
Interface	Ethernet 100M	
Power supply		
Supply voltage	230V ($\pm 10\%$, 50Hz ... 60Hz)	
Contactor type	safety-plug	
Ambient temperature	$0^\circ C \dots +40^\circ C$	
Housing	19"-plug-in unit (7U), colour light grey (RAL 7035)	
Dimensions (mm)	approx. 267x483x700	
Weight	approx. 60kg	

Main menu
Control

Profile
ISO 16750-2 (12V-System)
 R_i
2 Ω
Delete

U_A
0 V
 U_S^*
110 V

Open circuit conditions
Loaded conditions
Save

U_S
100 V
 U_S
50 V

t_d
400 ms
 t_d
200 ms

t_r
7.5 ms
 t_r
4 ms
Start

U: 0.036 V Charged: ● Range: +225 V I-Limit: ● Remote

I: 0.043 A Pulse Active: ● Overload: ●

LDS touch panel screenshot