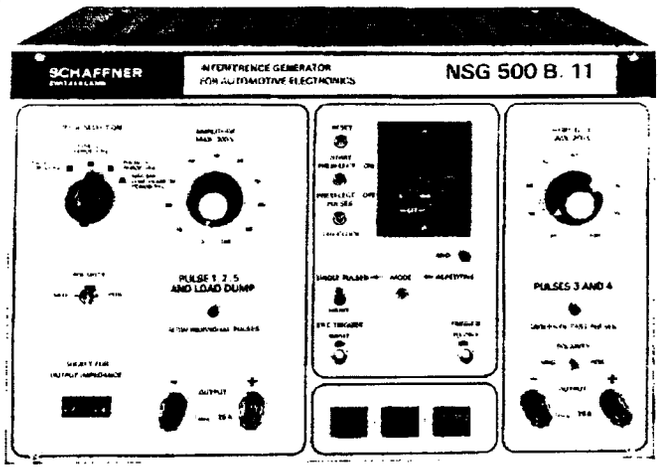
NSG 500B/11



Interference simulator for automotive electronic equipments

Electronic equipment connected to automobile electrical systems can also be susceptible to the interference which is generated by switching of various inductive loads. This causes surge voltages to appear on the supply lines of the vehicle of various amplitudes, energy and rise times. Specifically, when the inductiv loads are disconnected from the battery with a mechanical switch, high energy in the form of interference pulses or groups of pulses are created. The NSG 500B/11 allows the simultation of this interference in the laboratory to enable the design engineer to determine if his products will fall prey to these power line faults. If they do, he can design out the problems before his company tries to market his design.

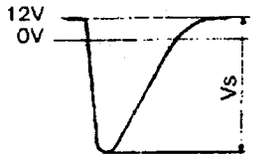
To avoid interference pulses generated by the NSG 500B/11 affecting the battery, a power line filter has been incorporated.

All of the pulse outputs are protected against short circuits. The input and output sockets are floating, so that they can be connected to any desired potential.

The following interference pulses are generated by the NSG 500B/11:

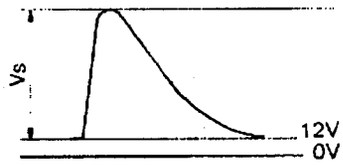
Pulse type 1

± 30V ÷ 300V
Pulse width: 2ms, ± 0,2ms
Rise time: 1µs, ± 0,3µs
Period: 5s
Impedance: 10 Ω or 30 Ω
(By changing the resistance in the front panel)



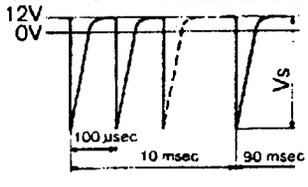
Pulse type 2

± 30V ÷ ± 300V
Pulse width: 50µs, ± 15µs
Rise time: 0,3µs, ± 0,1µs
Period: 0,5s
Impedance: 10 Ω or 30 Ω
(By changing the resistance in the front panel)



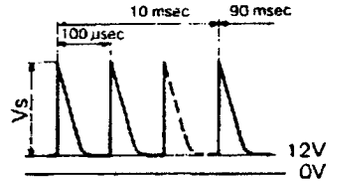
Pulse type 3
(ISO 3a Pulse)

−40V ÷ −200V, continuously variable
Pulse width: 100ns, + 100ns -0ns
Rise time: 5ns, + 3ns - 0ns
Period: 100 µs, 10 µs
Single pulses per pulse sequence: 100, ± 15
Impedance: 50 Ω



Pulse type 4
(ISO 3b Pulse)

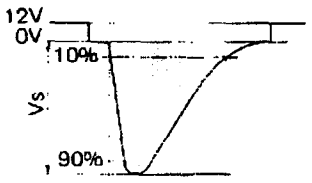
+ 40V ÷ + 200V, continuously variable
Pulse width: 100ns, + 100ns -0ns
Rise time: 5ns, + 3ns -0ns
Period: 100µs, ± 10µs
Single pulses per pulse sequence: 100, ± 15
Impedance: 50 Ω



Publ. 6102E

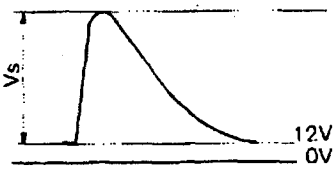
Pulse type 5
(ISO Pulse 6)

± 30V ÷ 300V
Pulse width: 300µs, ± 30µs
Rise time: 60µs, ± 15µs
Period: 15s
Impedance: 10 Ω or 30 Ω
(By changing the resistance in the front panel)



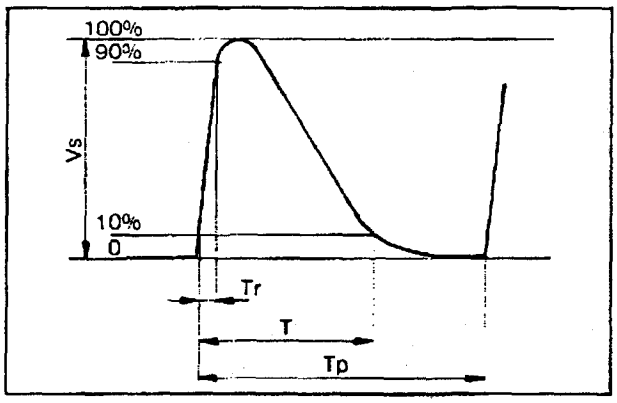
Pulse type 6
(load dump)
with NSG 506
(ISO Pulse 5)

0 ÷ +200V ±10%, continuously variable
Pulse width: 150 ÷ 500ms, ± 10% by 50ms steps
Rise time: 70µs, ± 30%
Period: 5s
Impedance: 2 Ω, ±10%



Pulse shape and definitions

Vs Pulse amplitude
T Pulse width
Tr Rise time



Technical data

Power line voltage: 100V, 60Hz Order no. 400-114
110V, 60Hz Order no. 400-087
220V, 50Hz Order no. 400-113
240V, 50Hz Order no. 400-112

Fuse: 6.3Amps, time-lag fuse

Operation: Continuous or single pulse (Type 1, 2 and 5) or single pulse groups (Type 3 and 4)

Test duration: Duration of test or number of pulses (pulse groups) can be preselected

Battery voltage: 12V ÷ 24V DC

Battery current: max. 25Amps, electromechanical fuse 25Amps, (Voltage drop max. 2.8V)

External trigger input: TTI logic-0 or electromechanical switch

Trigger for CRO: + 10V/1.5 µs

Weigth: 23kg (Exception: NSG 500B/11, 220V: 18kg)

Dimensions: Height 267mm 10.51 inch
Width 430mm 16.93 inch
Depth 305mm 12.0 inch

Accessories: (included)

Order no.	
SL4.31.889	External resistance RI = 4 Ω (NSG 328-4)
SL4.31.890	External resistance RI = 10 Ω (NSG 328-10)
SL402-424	External resistance RI = 30 Ω (NSG 328-30)

Order no.	Power line cables
SL402-188	CH
SL402-187	F/B/D/S/NL/I/E/N/SF
SL402-269	GB
SL402-033	All other countries (without plug)

Change without notice

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