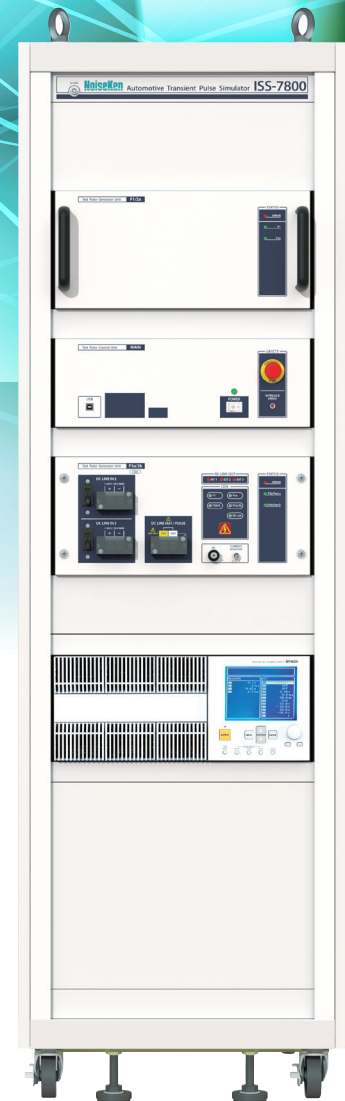


# ISO Standard Compliant Automotive Transient Surge Simulator

## ISS-7800 series



**Make EMC Test Easier !**

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## ISO Standard Automotive Transient Surge Simulator

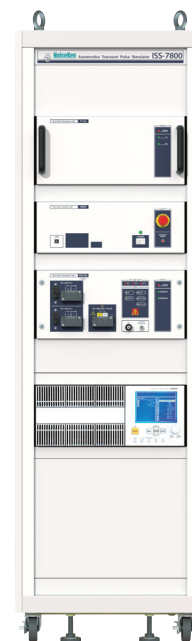
# ISS-7800 Series

## For a secure and safe mobility society

The ISS-7800 series simulators output transient surges required by the International Standard ISO 7637 for verifying the noise immunity tolerance of automotive electronic devices.

- Perform testing in compliance with ISO 7637-2 and ISO 7637-3 Standards.
- Perform tests for 12V / 24V systems.
- Pulses 2b and 4 can be output by incorporating BP4610.
- Compatible with ISO 16750-2 2012 Ed. Load dump Test A/B (ISS-7820/7821).
- Compatible with many individual manufacturer standards.
- Mounted on a space-saving vertical rack.
- A wide range of optional accessories such as coupling clamps and waveform verification equipment is available.
- PC control software (included) allows setting of individual test sequences.
- Integrated PC Software with an intuitive user-friendly interface.

\*Contact our sales representative for more details.



\*Product image is for illustration purpose only.  
Actual product may vary.

### System overview

The ISS-7800 series is a test system with different pulse units mounted on a single rack. Additional pulse units (such as 5a/5b and slow pulse +/-) can be added to the rack if necessary. Sequence testing and report creation is available by controlling the entire system with the PC Software.

MODEL	ISO 7637-2					ISO 7637-3			
	2011 edition			2004 edition		2007 edition			
	Pulse 1/2a	Pulse 2b	Pulse 3a/3b	Pulse 4 ※1	Pulse 5a/5b	Fast Pulse a	Fast Pulse b	Slow Pulse +	Slow Pulse -
ISS-7810	○	○	○	○	—	○	○	—	—
ISS-7820 ※2	○	○	○	○	○	○	○	—	—
ISS-7821 ※3 ※4	○	○	○	○	○	○	○	○	○

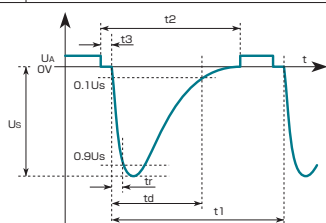
※1: BP4610 is required to output 2b and 4 Pulse waveforms. ※2: Schematic Specifications.Scheduled to ship in fall 2024.

※3: Schematic Specifications.Scheduled to ship in the end of 2024. ※4: ISS-7821 also has Pulse 1bis equipped.

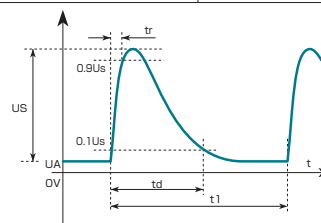
### Specifications

#### Test Pulse Generator Unit P1/2a

Parameter	Specifications		
	Pulse 1 (12V)	Pulse 1 (24V)	Pulse 2a (12V / 24V)
Output voltage (Us)	−10V ~ −330V Step −1V	−20V ~ −600V Step −1V	20V ~ 330V Step 1V *setting available from 12V
Output impedance (Ri)	4、10、20、30、50、90Ω	10、20、30、50、90Ω	2、4、10、20、50、90Ω
Pulse width (td)	1、1.75、2、6ms		0.05、1、2ms
Rise time (tr)	1(+0/-0.5)、2(+0/-1.0)、3(+0/-1.5)μs		1(+0/-0.5)μs
Pulse repetition time (t1)	0.5s ~ 99s Step 0.1s		0.2s ~ 99s Step 0.1s



pulse 1

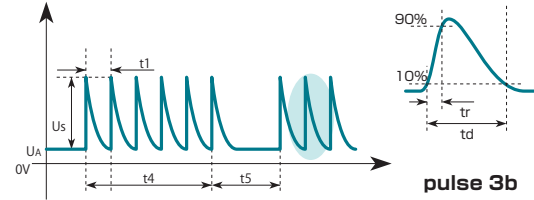
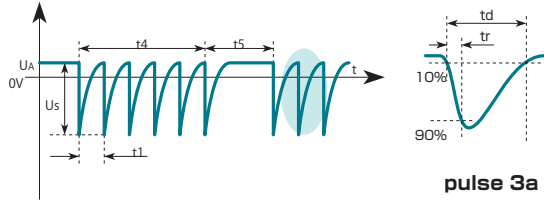


pulse 2

#### Test Pulse Generator Unit P3a/3b & CDN

Parameter	Specifications	
	Pulse 3a (12V・24V)	Pulse 3b (12V / 24V)
Output voltage (Us)	−10V ~ −350V Step −1V	10V ~ 350V Step 1V
Output impedance (Ri)	50Ω	
Pulse width (td)	0.15 (±0.045) μs	
Rise time (tr)	5 (±1.5) ns、3.5ns max	
Pulse repetition time (t1)	10μs ~ 1000μs Step 1μs	
DUT power capacity	DC60V / 50A	

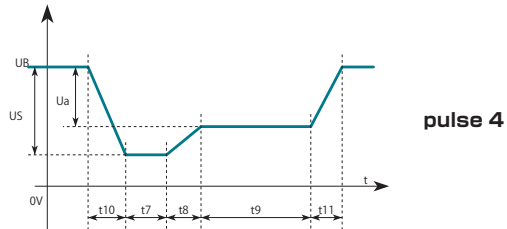
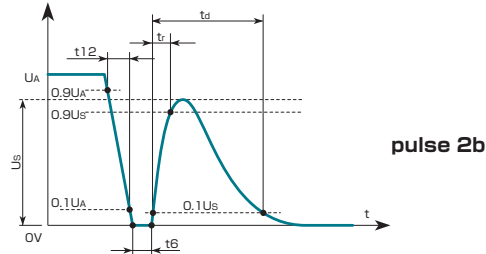
## ISS-7800 series



## Bipolar Power Supply BP4610 P2b/4

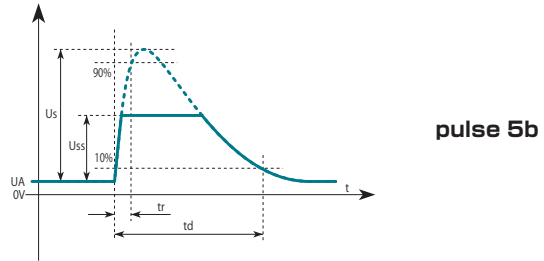
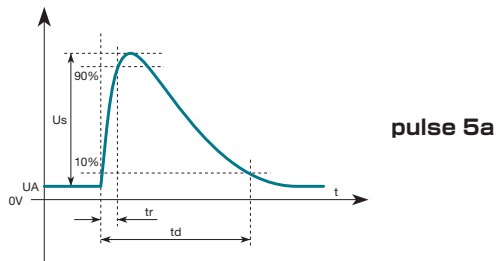
Parameter	Specifications
	Pulse 2b (12V · 24V)
UA, US	0V ~ 60V Step 1V
Ri	0Ω ~ 0.05Ω
td	0.1s, 0.2s, 0.5s, 1s, 2s, 4s
t12, tr, t6	1ms, 2ms, 5ms

Parameter	Specifications
	Pulse 4 (12V · 24V)
UB	0V ~ 60V Step 1V
Us, UA	0V ~ 60V Step 1V (less than UB)
Ri	0Ω ~ 0.02Ω
t7, t8, t10, t11	1ms ~ 999ms Step 1ms
t9	0.1s ~ 99.9s Step 1ms



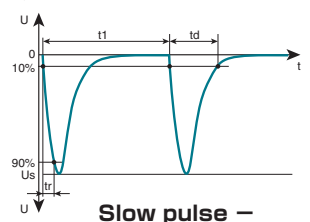
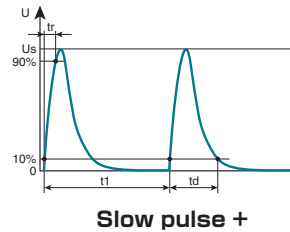
## Test Pulse Generator Unit 5a/5b ※ Schematic Specifications

Parameter	Specifications		
	Pulse 5a (12V)	Pulse 5a (24V)	Pulse 5b (12V / 24V)
Output voltage (Us)	30V ~ 200V		
Output voltage (Uss)	—		15V ~ 100V
Output impedance (Ri)	0.5Ω ~ 40Ω		
Pulse width (td)	40ms ~ 400ms		
Rise time (tr)	5ms ~ 10ms		



## Test Pulse Generator Unit Slow pulse +/- ※ Schematic Specifications

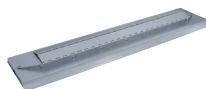
Parameter	Specifications	
	Slow Pulse +	Slow Pulse -
Output voltage (Us)	5V ~ 100V	-5V ~ -100V
Output impedance (Ri)	2Ω	
Pulse width (td)	50μs	
Rise time (tr)	1(+0/-0.5)μs	



\*Contact our sales representative for more details.

## ISS-7800 series option

### Coupling Clamp MODEL : ISS-7630-Cup



Coupling clamp for testing for lines other than supply lines. Capacitively couples 3a and 3b pulses into the lines under test.  
Contents: Coupling clamp, BNC Coaxial cable 0.5m, BNC coaxial cable 0.1 m, 50Ω 5W terminator, Metal fasteners

● Compatible model : ISS-7630, ISS-7800 series

### Waveform Verification Set MODEL : 06-00059B



A set of resistor and attenuator for observing the pulse of Test Pulse 1 / Test Pulse 2a / Test Pulse 2b / Test Pulse 3a / Test Pulse 3b / Test Pulse 5a of ISS-7610, BP4610, ISS-7630, & ISS-7650.

1 Ω resistor, 2 Ω resistor, 10 Ω resistor, 50 Ω resistor, 2.5 k Ω 40 dB ATT, 50 Ω 20 dB ATT × 2

● Compatible models: ISS-7610, ISS-7630, ISS-7650

\* resistors can be purchased separately

### Waveform Verification Attenuator under No Load Conditions Model : 00-00007A



The attenuator for observing high frequency and high voltage pulses of Test Pulse 3a / Test Pulse 3b of ISS-7630.

2.5 k Ω 40 dB ATT (Pulse 3a / Pulse 3b)

● Compatible model: ISS-7630, ISS-7800 series

### DCC BOX



- Inject pulse noise into the I / O signal line through a 100pF coupling capacitor regulated by ISO 7637-3.
- With a check terminal to check the pulse
- The pulse decoupling inductor can be attached to and detached from the sample (hereinafter referred to as EUT1 and EUT2).
- Since the pulse generator to the DCC BOX is a balanced transmission line and the DCC BOX to EUT 1 and EUT 2 is an unbalanced transmission line, a balanced / unbalanced balun is built in to suppress disturbance of the pulse waveform.

### Injection Probe

Clamp used for the Inductive coupling clamp (ICC) test method provided in ISO 7637-3 Standard. Calibration fixture is also available.

### Waveform Verification Set MODEL : 06-00095A



A set of resistor and attenuator for observing the pulse of Test Pulse 1 / Test Pulse 2a / Test Pulse 2b / Test Pulse 3a / Test Pulse 3b / Test Pulse 5a of ISS-7800 series.

1 Ω resistor, 2 Ω resistor, 10 Ω resistor, 50 Ω resistor, 2.5 k Ω 40 dB ATT, 50 Ω 20 dB ATT × 2

● Compatible models: ISS-7800 series

### 50Ω Load Waveform Verification Attenuator Model : 00-00006B



The attenuator for observing high frequency and high voltage pulses of Test Pulse 3a / Test Pulse 3b of ISS-7630.

50 Ω 20 dB ATT × 2 (Pulse 3a / Pulse 3b)

● Compatible model: ISS-7630, ISS-7800 series

### Warning Lamp MODEL : 11-00017A

Warning Lamp that can be used with the ISS-7800 series. Allows to alert and call for attention by blinking during the test.

● Compatible model: ISS-7800 series

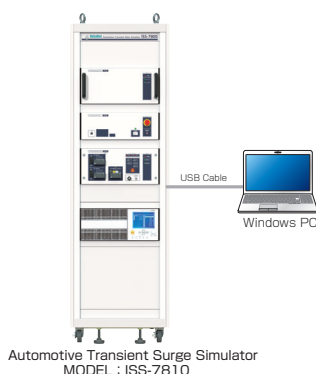
### Tri-color pilot light MODEL : 11-00016A

Three-color indicator light that can be used with the ISS-7800 series. Allows to alert and call for attention by blinking during the test. The lights change in three colors in accordance with the test status.

● Compatible model: ISS-7800 series

### Remote control software

Dedicated software for remote control of ISS-7810 allowing to easily conduct each pulse test required by the Standard. Sequence tests are also available, in which test pulses and test levels are combined in any order, and parameters such as surge voltage, internal impedance, and pulse width can be set to sweep.



Automotive Transient Surge Simulator  
MODEL : ISS-7810



Sequence testing

### ISS-7810 System Image

### Remote control software



Sweep function

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