



# 9730 Current Pulse Generator

The Model 9730 Series is designed for airbag and pyrotechnic initiator testing and represents the latest in current pulse generating capabilities with compelling features that provide users with time-saving characteristics of adjustability, simple operation and programmability.

The 9730 comes in a 19" 2U form factor as a 2 or 4 channel model with current sensing and resistance measurement capabilities. This unit is ideal for applications that require a high level of accuracy and repeatability.

The 9730 also comes with advanced safety and testing capabilities that include remote interlock, pre and post measurements and keyed enable switch so the unit fires only when all safety criteria are met.

High functionality, safety and a rapid return-on-investment are the hallmarks of this new fireset for pyrotechnic initiators. The Model 9730 provides multiple firing channels: all-fire, no-fire, resistance measurement, DC current, capacitor discharge, Bruceton, Neyer, and high current.

The performance and advanced features of the 9730 current pulse generator make it ideal for applications such as air bag deployment testing (squib detonation) or igniter deployment that can be done reliably, safely and with repeatability.

## Key Features

- Up to 4 individual outputs with fully individual programming and control.
- Up to 6A output per channel.
- Front and rear external trigger inputs.
- Current monitor – Current out of the unit is monitored and the waveform is presented at a front panel connector.
- Voltage monitor provides a signal at the 9730 that replicates the voltage at the load; measure instantaneous power and total energy.
- SAFETY - Keyed front panel fire enable, mechanical and software interlocks.
- Complete channel and system setup stored in memory. Provides 12 memory storage slots.
- Meets Bruceton and Neyer requirements
- Analog signals depicting current and voltage

## Advanced Features/Options

- Integrated 4-wire resistance measurement for each channel with pre and post testing features. Ability to set the mean and upper/lower limits to determine what construes a resistance fault
- Current and voltage monitor outputs.
- Front and rear sync outputs.
- Safety features including remote interlock and removable keyed enable switch.
- RS232, USB, and Ethernet computer programming interfaces



## 9730 Current Pulse Generator Specifications

### I/O CONFIGURATION

Outputs Modules	9732 – 2 Output Channels 9734 – 4 Output Channels
Input Module	Front and Rear Trigger

### INTERNAL RATE GENERATOR

Rate	0.01Hz to 100KHz
Resolution	100ns
Accuracy	20ns
Jitter	10ns RMS
Burst Mode	1 to 250 pulses
Output Modes	Single Pulse, Burst
Control Modes	Internal Rate Generator, External Trigger

### External Trigger Inputs

Function	Generate individual pulses (single shot or burst)
Front or Rear	Selectable between front or rear panel inputs
Rate	DC to 1/(330ns + longest active pulse)
Insertion Delay	330ns
Jitter	10ns
Impedance	1K
Slope	Rising or Falling
Trigger Filter	Filters out unwanted "glitch" or "runt" pulses
Range	0.02us to 1ms
Resolution	0.02us
Trigger Level	2-15V
Level Threshold Resolution	100mV

### OUTPUTS

Amplitude	0.10 – 6A
Resolution	1mA
Accuracy	2mA Typical
Voltage Level	>20V
Slew Rates:	
Rising Edge - Inductive (Varies With Load)	2A/us @ 6A 1A/us @ 3A 0.30A/us @ 1A (1 ohm and 50' cable)
Falling Edge - Inductive (Varies With Load)	-1.60A/us @ 6A -0.90A/us @ 3A -0.30A/us @ 1A (1 ohm and 50' cable)

Rising Edge - Resistive (Varies With Load)	6.3A/us @ 6A 9.5A/us @ 3A 2.2A/us @ 1A (1 ohm & 2" cable)
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Falling Edge - Resistive (Varies With Load)	-5.2A/us @ 6A -4.0A/us @ 3A -1.3A/us @ 1A (1 ohm & 2" cable)
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### RISE TIMES

Rising Edge - Inductive (Varies With Load)	4us (1 ohm, 50' cable, 6A)
Rising Edge - Resistive (Varies With Load)	550ns (1 ohm, 2" cable, 6A)
Pulse Width Range	5us – 100s*
Error	+/-0.1%
Resolution	100ns
Delay Range	0-1s
Error	+/-0.1%
Resolution	100ns

### MONITOR OUTPUTS

Voltage Monitor (Isolated)	1V/V
Current Monitor (Isolated)	1V/A
Error	<4%
Bandwidth	150KHz

### RESISTANCE MEASUREMENT

Range	0.1 to 150 Ohms
Resolution	.01 Ohms
Error .5 to 15 Ohms	<4%
Error 16 to 150 Ohms	<10%
Measurement Current	100mA Max.

### SYNC OUTPUTS

Front and Rear	T0, Channels A through D
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### SAFETY

Remote Interlock	Shorting interlock
Arming Key Switch	Removable keyswitch

### COMMUNICATIONS

RS232	115200, 57600, 38400, 19200, 9600, 4800 baud
USB	Serial Bridge

### Ethernet

### SIZE

19" 2U x 10" Rack Mount
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### ELECTRICAL

100/240V, 50-60Hz
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