

# 9730 Series Digital Delay Current Generators

Our most capable current generator, the 9730 series provides users with the ability to generate highly precise current pulses, making this unit ideal for applications that require a high level of accuracy and repeatability. Advanced safety features provide user assurance.

# **Basic Specifications**

- 200 ns Timing Resolution
- 2 or 4 Channel Outputs
- 6 Amps Per Channel
- Easy Programming Interface
- Integrated Bridgewire Resistance Measurement
- Safety Interlocks and Keyed Front Panel Interface





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#### **Product Information**

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.

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.

#### **Standard 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 The current output from the unit is monitored and a voltage representation the waveform is presented at a front panel BNC connector.
- Voltage monitor- The voltage across the load being driven is monitored and a voltage representation is present at a front panel BNC connector.
- \*Instantaneous power and total energy may be derived with the aid of both the current and voltage monitors.
- 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 include remote interlock, removable keyed enable switch and internal error checking.
- RS232, USB, and optional Ethernet computer programming interfaces











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prifigurations 9732 – 2 Output Channels 9734 – 4 Output Channels input module - front and rear trigger TERNAL RATE GENERATOR rate 0.01 Hz to 40 KHz resolution 100 ns accuracy 20 ns jitter 10 ns RMS burst mode 2 to 250 pulses output modes single pulse, burst control modes internal rate generator, external trigger TERNAL TRIGGER INPUTS function generate individual pulses (single shot or bu		
9732 - 2 Output Channels   input module - front and rear trigger     9734 - 4 Output Channels   input module - front and rear trigger     TERNAL RATE GENERATOR   100 ns     rate   0.01 Hz to 40 KHz     resolution   100 ns     accuracy   20 ns     jitter   10 ns RMS     burst mode   2 to 250 pulses     output modes   single pulse, burst     control modes   internal rate generator, external trigger     TERNAL TRIGGER INPUTS   Function     function   generate individual pulses (single shot or bu     front or rear   selectable between front or rear panel input:     external trigger rate   Min = 5 X Longest Pulse Width     max = 200 Seconds   insertion delay     jitter   10 ns     impedance   1K Ω     Slope   rising or falling     trigger filter   filters out unwanted "glitch" or "runt" pulses     range   0.02 us to 1 ms     resolution   0.02 us     trigger level   2-15 V     level threshold   100 mV     SE TIMES   fising edge - inductive     rising edge - resistive	SPECIFICATIONS	9730 Series
rate   0.01 Hz to 40 KHz     resolution   100 ns     accuracy   20 ns     jitter   10 ns RMS     burst mode   2 to 250 pulses     output modes   single pulse, burst     control modes   internal rate generator, external trigger     TERNAL TRIGGER INPUTS   Function     function   generate individual pulses (single shot or bu selectable between front or rear panel input: waternal trigger rate     Min = 5 X Longest Pulse Width   Max = 200 Seconds     insertion delay   300 ns     jitter   10 ns     impedance   1K Ω     Slope   rising of falling     trigger filter   filters out unwanted "glitch" or "runt" pulses     range   0.02 us to 1 ms     resolution   0.02 us to 1 ms     resolution   0.02 us to 1 ms     rising edge - inductive   4 us (1 ohm, 50' cable, 6 A) varies with load     rising edge - inductive   2 A/us @ 6 A     (varies with load)   0.30 A/us @ 1 A     (1 ohm and 50' cable)   1A     (varies with load)   -0.30 A/us @ 3 A     -0.30 A/us @ 1 A   -0.30 A/us @ 1 A     <	9732 – 2 Output Channels	input module - front and rear trigger
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	(valies with load)	-
(1 ohm & 2" cable)		
falling edge - resistive -5.2 A/us @ 6 A	falling edge - resistive	
(varies with load) -4.0 A/us @ 3 A		
-1.3 A/us @ 1 A	· ·	
(1 ohm & 2″ cable)		(1 ohm & 2″ cable)





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SPEC	'IFI	CA	TIC	N
JILC				

9730 Series

## OUTPUTS

amplitude	0.10 – 6 A
resolution	2 mA
accuracy	+/- 0.5% - 2%
compliance voltage level	19 - 22 Volts
pulse width range	5 us – 100 s*
error	+/- 0.1 %
resolution	100 ns
delay range	0-30 s
error	+/- 0.1 %

\* Maximum pulse width is limited by current amplitude. 1A can go up to 100 s and 6 A is limited to 300 ms.

#### MONITOR OUTPUTS

voltage monitor (isolated)	0.2 V/V	
current monitor (isolated)	0.5 V/A	
error	<4%	
bandwidth	Min = 100 kHz	
	Max = 1000 kHz	

#### **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	100 mA max.

#### GENERAL

synch outputs, front and rear	T0, channels A through D
standard communications	usb (serial bridge), RS232 (115200, 57600, 38400 19200,
	9600, 4800 baud)
size	9″ 2 U x 10″ 2U size rack mount
electrical	100-240 V, 50-60 Hz

### SAFETY

remote interlock	shorting interlock	
arming key switch	removable keyswitch	
internal error checking	checks control circuit for errors	

#### OPTIONS

E- ethernet



