



508 Series

Digital Delay Current Generators

Our most capable current generator, the 508 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 508 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 508 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 508 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 508 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 Ethernet computer programming interfaces



SPECIFICATIONS

508 Series

Configurations

508-2C – 2 Output Channels
508-4C – 4 Output Channels

Input Module - Front and Rear Trigger

INTERNAL 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

EXTERNAL TRIGGER INPUTS

function	generate individual pulses(single shot or burst)
front or rear	selectable between front or rear panel inputs
external trigger rate	Min = 5 X Longest Pulse Width Max = 200 Seconds
insertion delay	300 ns
jitter	10 ns
impedance	1K Ω
Slope	rising or falling
trigger filter	filters out unwanted "glitch" or "runt" pulses
range	0.02 μ s to 1 ms
resolution	0.02 μ s
trigger level	2-15 V
level threshold	100 mV

RISE TIMES

rising edge - inductive	4 μ s (1 ohm, 50' cable, 6 A) varies with load
rising edge - resistive	550 ns (1 ohm, 2" cable, 6 A)varies with load

SLEW RATES:

rising edge - inductive (varies with load)	2 A/ μ s @ 6 A 1 A/ μ s @ 3 A 0.30 A/ μ s @ 1 A (1 ohm and 50' cable)
falling edge - inductive (varies with load)	-1.60 A / μ s @ 6 A -0.90 A/ μ s @ 3 A -0.30 A/ μ s @ 1 A (1 ohm and 50' cable)
rising edge - resistive (varies with load)	6.3 A/ μ s @ 6 A 9.5 A/ μ s @ 3 A 2.2 A/ μ s @ 1 A (1 ohm & 2" cable)
falling edge - resistive (varies with load)	-5.2 A/ μ s @ 6 A -4.0 A/ μ s @ 3 A -1.3 A/ μ s @ 1 A (1 ohm & 2" cable)

OUTPUTS

amplitude	0.10 – 6 A
resolution	2 mA
accuracy	+/- 0.5% - 2%
compliance voltage level	19 - 22 Volts
pulse width range	5 μ s – 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 = 1000kHz

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