



8 Channel module that can be rack-mounted, or used as a bench-top system  
\*shown with the included software - Control Panel

- Reliable, Accurate Current
- 8 Independent Programmable Source Channels
- 96% Efficiency; reduces lifetime electricity costs
- Scalable; easily add to existing SpikeSafe-based systems or build up a new one
- 2nd Generation Patented SpikeSafe LED Protection
- One Module; appropriate for low, mid and high power devices

## OVERVIEW

The SpikeSafe 400 DC/Continuous Pulse current source (DCP) is a high quality instrument developed and optimized for LED reliability and other high performance non-inductive applications. The SS400 DCP differs from competitor sources by providing sustained power to 8kW with no duty cycle limitations, voltages to 400V and current to 2A. With multiple source channels, one SpikeSafe 400 replaces multiple single channel sources. An easy to use software development tool simplifies DCP integration by allowing your developer to easily build command sequences that can be copied into your custom software application.

## ACCURATE AND REPEATABLE PULSING - 200ns - 2μs RISE TIME

Digital power enables the SS400 DCP to provide sustained, highly accurate, repeatable pulses with microsecond rise times. Pulse widths at full power from 10μs to 10s offer unparalleled flexibility.

## HIGH POWER DENSITY

Offering the highest power density available in the industry, each SS400 DCP source channel supplies up to 6.4kW sustained power with no duty cycle limitations. With 400V compliance, the SS400 is ideal for use with high voltage LED devices, arrays, COB, and next generation, super high brightness LEDs. High power density means that one instrument can fulfill requirements that previously required 2 or more instruments.

## INDEPENDENT PROGRAMMABLE SOURCE CHANNELS

The SS400 DCP provides up to 8 independent source channels. Source channels are software controlled with individual settings for current, compliance voltage and SpikeSafe protection parameters. Pulsing may be synchronized across all source channels or not.

# 400V, 2A MULTI-CHANNEL DC/CONTINUOUS PULSE CURRENT SOURCE

## CONFIGURATION

8 CHANNEL/MODULE

## DRIVE CAPABILITY

DC/CONTINUOUS PULSE  
50V, 100V, 200V, 300V, AND 400V  
To 2A



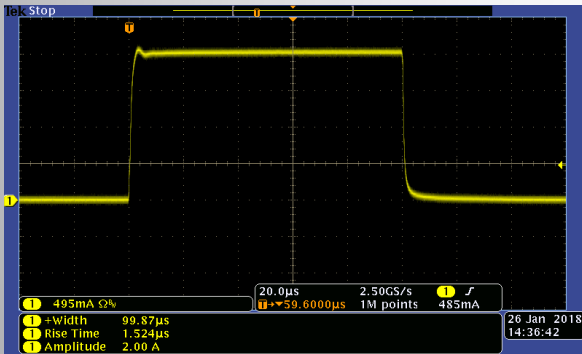
## ACCURATE PULSES TO THE ENDS OF LONG CABLES

Using twisted pair cables, the SS400 DCP pulses are accurate to the ends of 20m cables. Software compensations includes tuning for cable length, load impedance, and rise time. Using longer cables reduces cost and increases flexibility with pulsed applications.

## APPLICATIONS

- LED, DC, reliability and burn in
- Applications requiring multiple source channels
- LM-80, LM-85, LM-79, CIE127
- Quantum efficiency measurement
- Thermal resistance and junction temperature measurements
- Other non-inductive test applications

## 400V, 2A MULTI-CHANNEL DC/CONTINUOUS PULSE



200µs pulse, 1.5A 328V LED load, 1.2µs rise time;  
Single pulse of continuous pulse train shown.

## Precise Pulsing Capability

With the SpikeSafe series DC/Continuous Pulse current source, test designers can perfectly duplicate end application pulse width modulation (PWM) parameters. Digital timing guarantees accurate repeatable pulses from 10µs to 10s. The current source's high output power supports the high currents and duty cycles required for this generation's high power SSL needs. Programmable load tuning enables SpikeSafe to safely support a variety of load conditions without damaging the devices. Unlike other fixed impedance sources, the SpikeSafe series drives accurate current (DC or Continuous Pulse) to the end of long cables (20m).

## SPIKESAFE 400 DC/CONTINUOUS PULSE MODEL NUMBERS

MODELS	2A
400V	SS400-DCP-400-2-M8
300V	SS400-DCP-300-2-M8
200V	SS400-DCP-200-2-M8
100V	SS400-DCP-100-2-M8
50V	SS400-DCP-50-2-M8

## CURRENT SOURCE PERFORMANCE

Mode	DC, Continuous Pulse
Output Current	To 2A
Maximum Compliance Voltage	Models to: 50V, 100V, 200V, 300V, and 400V
Output Power	4kW/module, 800W/channel
Setpoint Resolution	5.9mA to 200mA: 5µA 201mA - 2A: 50µA
Output Current Accuracy	5.9mA to 200mA: 0.04% + 175µA 201mA - 2A: 0.08% + 500µA
Calibration Interval	1 year after being put into service
Nominal Current Ripple	< 1A: 0.03% + 300µA > 1A: 0.06%
Device Protection	2nd generation SpikeSafe protection including high speed over current shut down, slow start up, leakage detection and other protection algorithms

## PHYSICAL AND ENVIRONMENTAL

Available Packages	Chassis suitable for benchtop or rackmount; Circuit card module compatible with Vektrex Systems
Operating Conditions	10 - 35°C, 70%R.H., Air cooled, <2000m altitude
Input Power	Selectable; single and three phase available; 50-60Hz
Particulate Level	Clean lab conditions

## OUTPUT CONFIGURATION

Current Sources	8 independent source channels
Type	Differential drive (anode and cathode driven)

## REMOTE CONTROL

Physical	Ethernet
Protocol	TCP/IP
Command Set	SCPI

## MONITORING SYSTEM

Type	Built-in data acquisition system monitors voltage, current and fault conditions.
Voltage Measure Accuracy	3% + 1V
Current Measure Accuracy	0.4% + 5mA

## PULSE PERFORMANCE

Time Base Accuracy	+/- 50 ppm
Pulse Width Range	10µs - 10s
Pulse Width Resolution	1µs
Pulse Width Accuracy	1.5µs
Pulse Period Range	20µs to 20s
Duty Cycle Range	0 to 100%
Typical Pulse Width Jitter	< 30ns
Pulse Rise/Fall Time	200ns to 2µs

## ISOLATED CONTROL INPUTS

Remote Pause	Optoisolated input, pauses output, selectable polarity
Remote Disable	Optoisolated input, halts output, selectable polarity