



Module can be rack-mounted or used as a bench-top system  
\*with the included software - Control Panel

- Reliable, Accurate Current
- 4 Independent Programmable Source Channels
- 96% Efficiency; reduces lifetime electricity costs
- 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 is a high quality instrument developed and optimized for LED characterization, production, 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 200V and current to 8A. With multiple source channels, one SpikeSafe 400 replaces multiple single channel sources. An easy to use software development tool simplifies SS400 integration by allowing your developer to easily build command sequences that can be copied into your custom software application.

## ACCURATE AND REPEATABLE PULSING - 200ns - 3μs Rise Time

For measurement accuracy, precision pulsing and triggering are foundation requirements that the SS400 DCP provides. Digital power enables the SS400 DCP to provide sustained, highly accurate, repeatable pulses with microsecond rise times. Precise digital triggering dramatically reduces measurement variations due to triggering uncertainty. Pulse widths at full power from 10μs to 10s offer unparalleled flexibility. With the SS400 DCP, light measurement and other photometric measurement accuracy may be greatly improved speeding time to market for your products.

## HIGH POWER DENSITY

Offering the highest power density available in the industry, each SS400 DCP source channel supplies up to 6.4W 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 SOURCES

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.

# 200V, 8A MULTI-CHANNEL DC/CONTINUOUS PULSE CURRENT SOURCE

## CONFIGURATION

- 4 CHANNEL/MODULE
- 1 CHANNEL INSTRUMENTS ALSO AVAILABLE

## DRIVE CAPABILITY

- DC/CONTINUOUS PULSE
- 50V, 100V, AND 200V
- To 8A



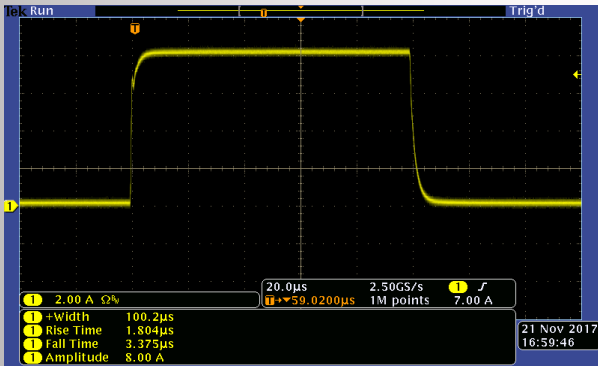
## ACCURATE PULSES TO THE ENDS OF LONG CABLES

Using standard 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.

## 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

## 200V, 8A MULTI-CHANNEL DC/CONTINUOUS PULSE



200V Chip On Board Array Pulsed at 8A

## Precise Pulsing Capability

The SS400 DCP uses a 90 MHz timing system to provide precise pulses from 10µs to 10s. Dynamic pulse control allows the controlling application to change pulse width, duty cycle and amplitude while the output is running –essential for rapid characterization tests or sweeps. Rise times in the 1-5µs range reduce LED heating prior to measurements. Programmable load tuning adjusts internal drive circuitry to maintain pulse fidelity and fast transition times to accommodate a variety of load conditions. Unlike other fixed impedance sources, the SS400 DCP can drive clean pulses over simple twisted pair cables as long as 20 meters.

## SPIKESAFE 400 DC/CONTINUOUS PULSE MODEL NUMBERS

MODELS	8A
200V	SS400-DCP-200-8-M4
100V	SS400-DCP-100-8-M4
50V	SS400-DCP-50-8-M4

## CURRENT SOURCE PERFORMANCE

Modes	DC/Continuous Pulse
Output Current	To 8A
Maximum Compliance Voltage	Models to: 50V, 100V, and 200V
Output Power	6.4kW/module, 1.6kW/channel
Setpoint Resolution	11.8mA to 400mA: 10µA 401mA to 8A: 200µA
Output Current Accuracy	11.8mA to 400mA: 0.04% + 350µA; 401mA to 8A: 0.08% + 2mA
Calibration Interval	2 years after being put into service
Device Protection	2 <sup>nd</sup> generation SpikeSafe protection including high speed over current shut down, slow start up, leakage detection and other protection algorithms
Nominal Current Ripple	< 1A: 0.03% + 300µA > 1A: 0.012% + 1mA

## 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
Particulate Level	Clean lab conditions

## OUTPUT CONFIGURATION

Current Sources	4 independent source channels
Type	Differential drive (anode and cathode driven)

## REMOTE CONTROL

Physical	Ethernet
Protocol	TCP/IP
Command Set	SCPI
Trigger Output	TTL Signal aligned with output pulse. Polarity selectable.

## MONITORING SYSTEM

Type	Built-in data acquisition system monitors voltage, current and fault conditions.
Voltage Measure Accuracy	3% + 1V
Current Measure Accuracy	11.8mA to 400mA: 0.1% + 2mA 401mA to 8A: 0.4% + 10mA

## PULSE PERFORMANCE

Time Base Accuracy	+/- 50ppm
Pulse Width Range	10µs to 10s
Pulse Width Resolution	1µs
Pulse Width Accuracy	1µs
Pulse Period Range	30µs – 20s
Duty Cycle Range	0 - 100%
Typical Pulse Width Jitter	<30ns
Pulse Rise/Fall Time	200ns - 3µs

## ISOLATED CONTROL INPUTS

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