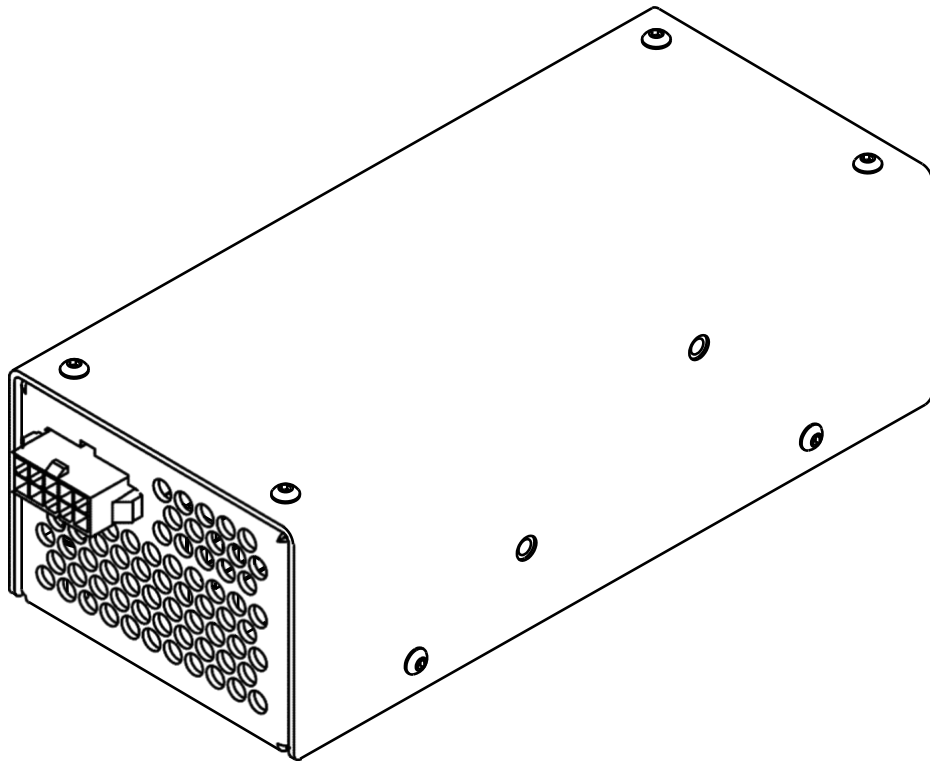


SCA-3008 simmer module

User manual



Overview / Applications

SCA-3008 simmer supply is a device that triggers and maintains low-current discharge in the flashlamp in order to increase lifetime and operation stability of the lamp.

Input voltage – 230V AC, max. output voltage – 300V, max. output current – 800mA, max. output power – 100W. High output power and output voltage available allow SCA-3008 to drive a pretty long flashlamp or two standard flashlamps connected in series.

SCA-3008 may be used in systems with serial triggering as well as in systems with external and parallel triggering.

Cooling

Simmer module contains a fan for active cooling, no additional cooling is required.

Appearance



Connections, signals, signal descriptions

MAINS:

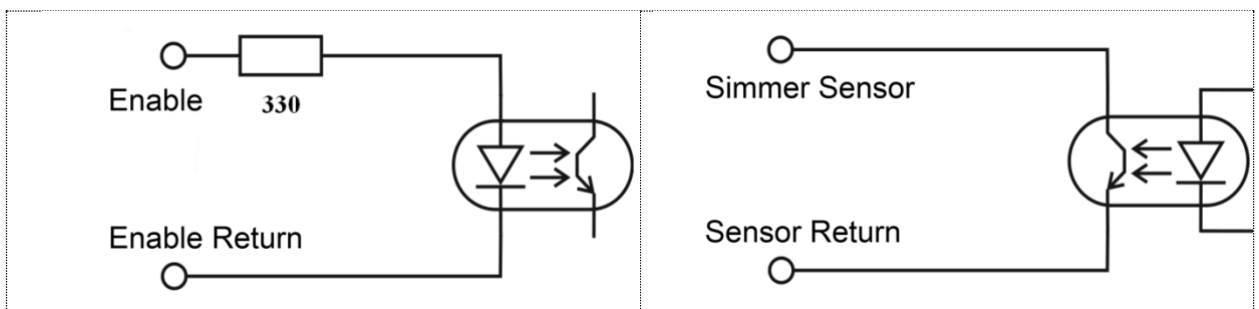
Blue wires (2pcs) – 230V AC 50/60Hz input

INTERFACE / OUTPUT:

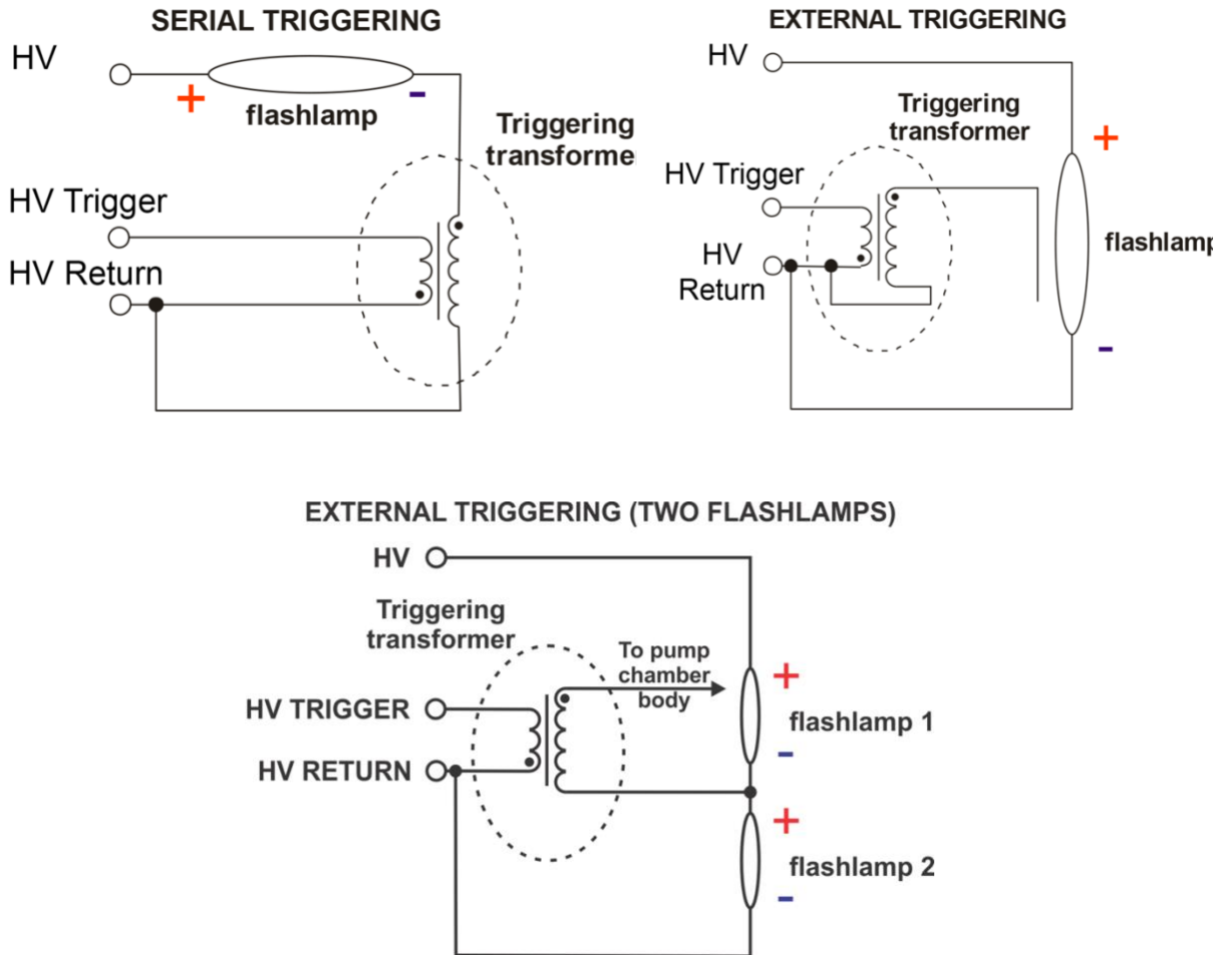
10	9	8	7	6
5	4	3	2	1

PIN (color)	DESIGNATION	DESCRIPTION
1, 2	N/C	-
3 (red wire with blue mark)	HV Trigger	Positive of trigger transformer primary winding
4 (violet)	Sensor Return	Return of <i>Simmer Sensor</i> signal
5 (yellow)	Simmer Sensor	<i>Simmer Sensor</i> circuit is closed while simmer current flows through flashlamp and is opened when simmer current is absent
6 (orange)	Enable	Once +5V TTL signal is applied to this pin simmer supply tries to strike and maintain low-current discharge (simmer) in the flashlamp. If flashlamp triggering is failed simmer supply module tries to trigger it again with approx. 3Hz repetition rate. If simmer discharge isn't established in approx. 4s, simmer module stops operations, to continue it must be disabled, then enabled again. After successful triggering the simmer supply will maintain flashlamp current till 5V are removed from <i>PIN6</i> .
7 (green/yellow)	Case Ground	Connected to the external enclosure of simmer module
8 (blue)	HV Return	Flashlamp cathode (-), Negative of trigger transformer primary winding
9 (white)	Enable return	Return of <i>Enable</i> signal
10 (red)	HV	Flashlamp anode (+)

INTERFACE CIRCUITS:



TRIGGERING:



Grounding policy

HV Return is not connected to the Case ground.
In the case of need the customer can interconnect them by himself.
Other grounding policies are available on request.

Safety

Warning! This equipment produces high voltages that can be very dangerous. Be careful around the device.

- Disconnect the module from the mains before making or changing electrical or mechanical connections.
- SCA-3008 is a built-in module. It is the user's responsibility to ensure that personnel are prevented from accidentally contacting the SCA-3008.

Casual contact could be fatal!

Operations

1. Connect trigger transformer and flashlamp to SCA-3008 simmer supply
2. *Disable* simmer supply (*PIN6* of *INTERFACE*)
3. Apply *230V AC* power to the module
4. *Enable* simmer supply (set +5V TTL on *PIN6* of *INTERFACE*)
5. Wait 5-10 seconds for *Simmer Sensor*. If it fails shut down your system

To power down SCA-3008

1. Remove *230V AC* power from the module or *DISABLE* it.

Faults / protections

There are next protections available:

1. From short-circuit at the output – simmer module considers short-circuit at the output as one of normal regimes of operations
2. Trigger timeout – after simmer module is enabled it tries to trigger flashlamp. If triggering fails in approx. 4s, simmer module stops automatically. To continue it must be disabled, then enabled again

Warning

Simmer module isn't protected from voltage of reverse polarity applied to the output which would appear as a result of transient process after the flash. The cause of oscillation is inductance of wires and flashlamp itself and cannot be completely eliminated. To suppress pulses of reverse polarity, recuperative diodes must be included in schematics of your discharge circuit. Please consult us if you have further questions.

Specification

INPUT	
Input voltage	230 V AC, 50/60 Hz
Maximum input current	0.5 A
Fuse	1 A
SIMMER PARAMETERS	
Output current	500 mA is set by default (other on request) *
Output voltage	Is set automatically in accordance with current set point and V/A curve of your flashlamp
Max. output voltage	300 V *
Max. output power	> 100 W *
Open circuit voltage	1400 V (1500V on request)
TRIGGERING PARAMETERS	
Trigger voltage	1 kV (other on request)
Trigger pulse energy	~150 mJ
Restrike rate	~3 Hz
Protections	- Short circuit at the output - Open circuit (trigger timeout)
Cooling	Integrated fan, No additional cooling is required
Environment:	
Operation temperature	-20 ... +45 °C
Storage temperature	-40 ... +85 °C
Humidity	90%, non-condensing
Size (LxWxH)	178x81x57 mm
Weight	0.5 kg

(*) The performance of simmer module is limited with maximum output current, or with maximum output voltage, or with maximum output power. In other words, maximum output voltage and maximum output current cannot be achieved at the same time because of maximum output power limitation.

