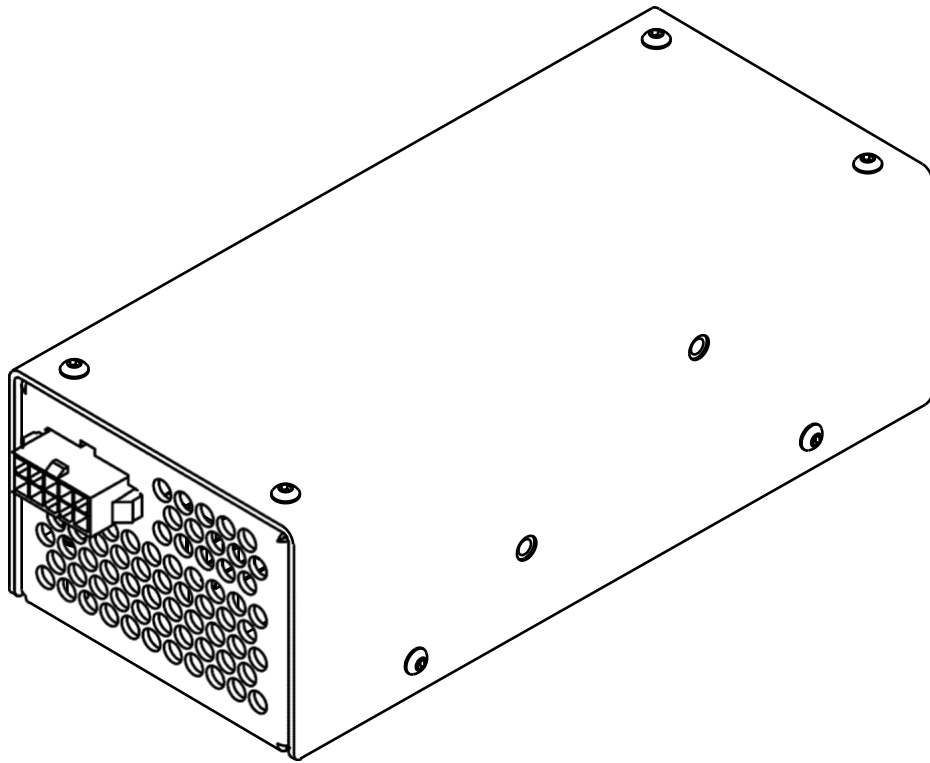


## **SBZ-3008 simmer module**

### **User manual**



## Overview / Applications

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

Input voltage – 24V DC, max. output voltage – 300V, max. output current – 800mA, max. output power – 100W. High output power and output voltage allow SBZ-3008 to drive a pretty long flashlamp or two standard flashlamps connected in series.

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

## Cooling

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

## Appearance

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## Connections, signals, signal descriptions

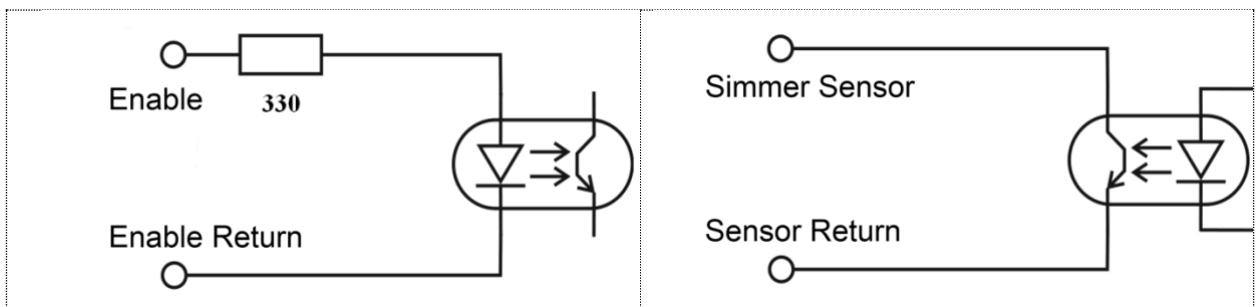
### INTERFACES:

There is the only connector onboard realizing all the communications, incl. input, output and control.

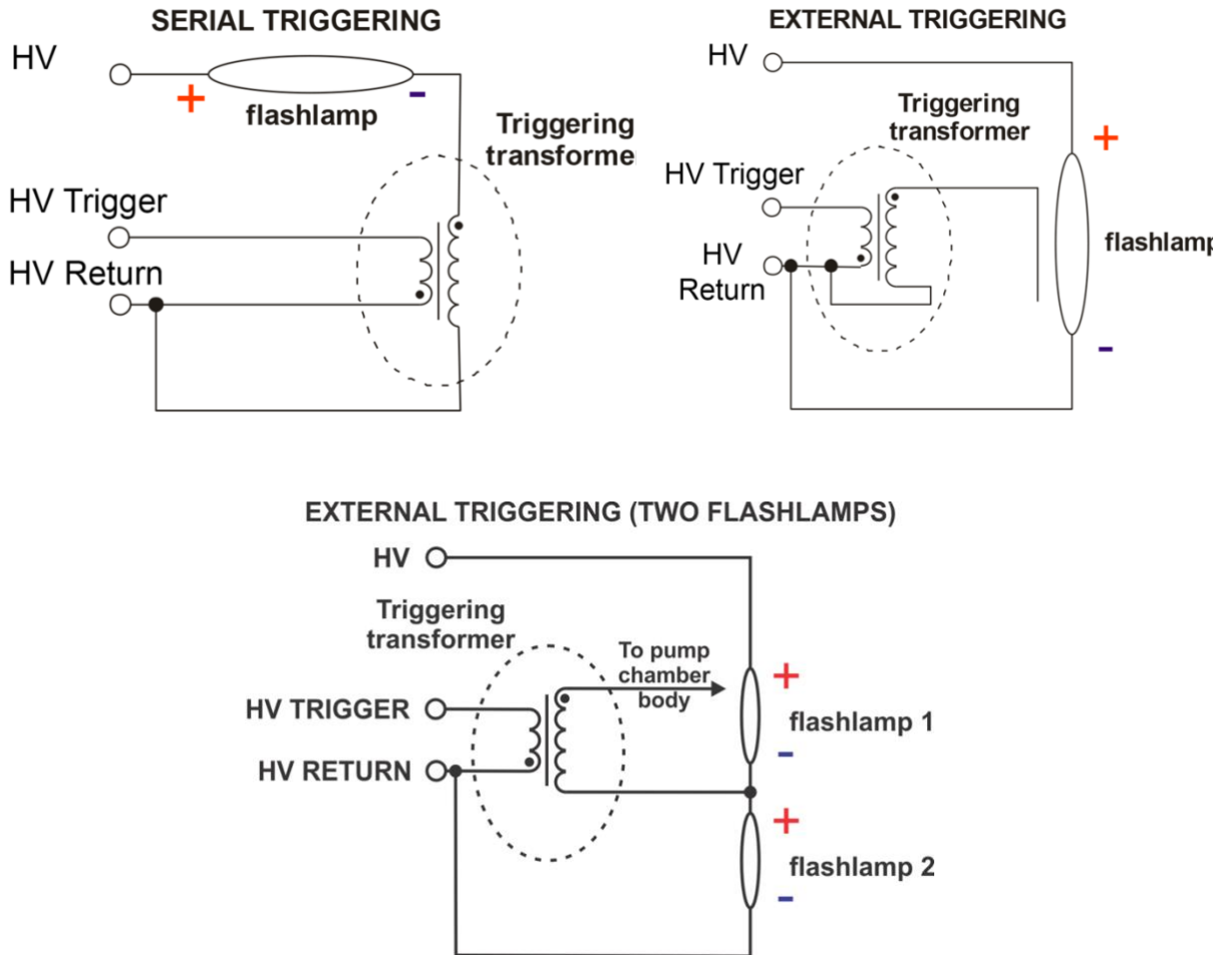
10	9	8	7	6
5	4	3	2	1

PIN (color)	DESIGNATION	DESCRIPTION
<b>1 (red)</b>	<b>+24V DC</b>	Connect to this pin positive wire of 24V DC power supply Input: 24V DC. Max. current 5A/10A (CW/Peak)
<b>2 (black)</b>	<b>+24V DC Return</b>	Return from power supply producing 24V DC
<b>3 (red with blue mark)</b>	<b>HV Trigger</b>	Positive of trigger transformer primary winding
<b>4 (violet)</b>	<b>Sensor Return</b>	Return of <i>Simmer Sensor</i> signal
<b>5 (yellow)</b>	<b>Simmer Sensor</b>	<i>Simmer Sensor</i> circuit is closed while simmer current flows through flashlamp and is opened when simmer current is absent
<b>6 (orange)</b>	<b>Enable</b>	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> .
<b>7 (green/yellow)</b>	<b>Case Ground</b>	Connected to the external enclosure of simmer module
<b>8 (blue)</b>	<b>HV Return</b>	Flashlamp cathode (-), Negative of trigger transformer primary winding
<b>9 (white)</b>	<b>Enable return</b>	Return of <i>Enable</i> signal
<b>10 (red)</b>	<b>HV</b>	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

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

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

**Casual contact could be fatal!**

## Operations

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1. Connect trigger transformer and flashlamp to SBZ-3008 simmer supply
2. *Disable* simmer supply (*PIN6* of *INTERFACE*)
3. Apply *24V DC* power to the module
4. *Enable* simmer supply (set *+5V TTL* on *PIN6* of *INTERFACE*)
5. Wait *5-7 seconds* for *Simmer Sensor*. If it fails shut down your system

To power down SBZ-3008

1. Remove *24V DC* power from the module or *DISABLE* it.

## Faults / protections

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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

<b>INPUT</b>	
Input voltage	24 V DC
Maximum input current	5 A / 10 A (CW / Peak)
<b>SIMMER PARAMETERS</b>	
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)
<b>TRIGGERING PARAMETERS</b>	
Trigger voltage	1 kV (other on request)
Trigger pulse energy	~150 mJ
Restrike rate	~3 Hz
<b>Protections</b>	- Short circuit at the output - Open circuit (trigger timeout)
<b>Cooling</b>	Integrated fan, No additional cooling is required
<b>Environment:</b>	
Operation temperature	-20 ... +45 °C
Storage temperature	-40 ... +85 °C
Humidity	90%, non-condensing
<b>Size (LxWxH)</b>	178x81x57 mm
<b>Weight</b>	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.

# Dimensions

