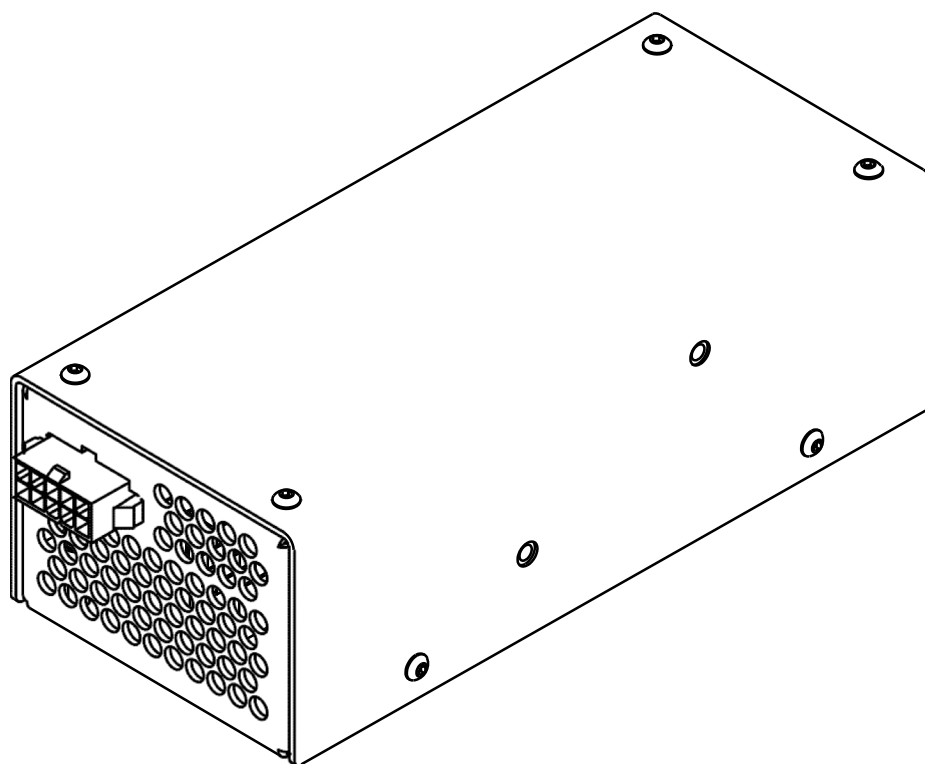


SBZ-3008 simmer module

User manual



Overview / Applications

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

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

Cooling

Simmer module is cooled with embedded fan; no additional cooling is required.

Appearance



Connections, signals, signal descriptions

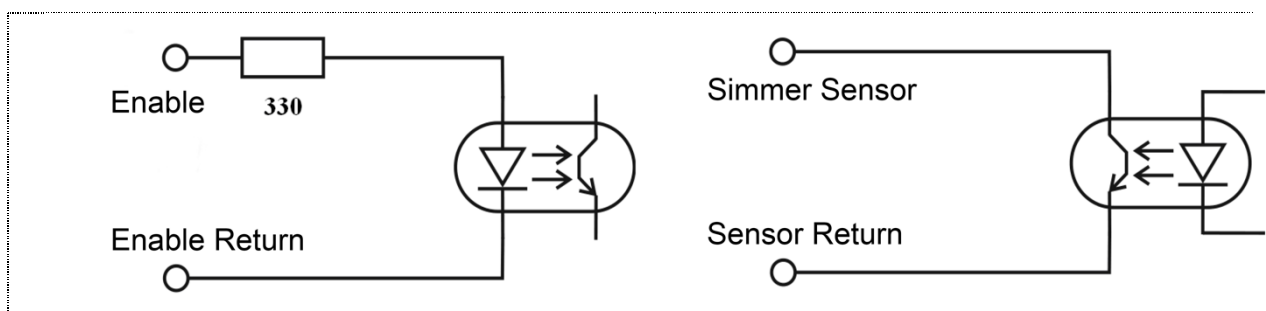
INTERFACES:

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

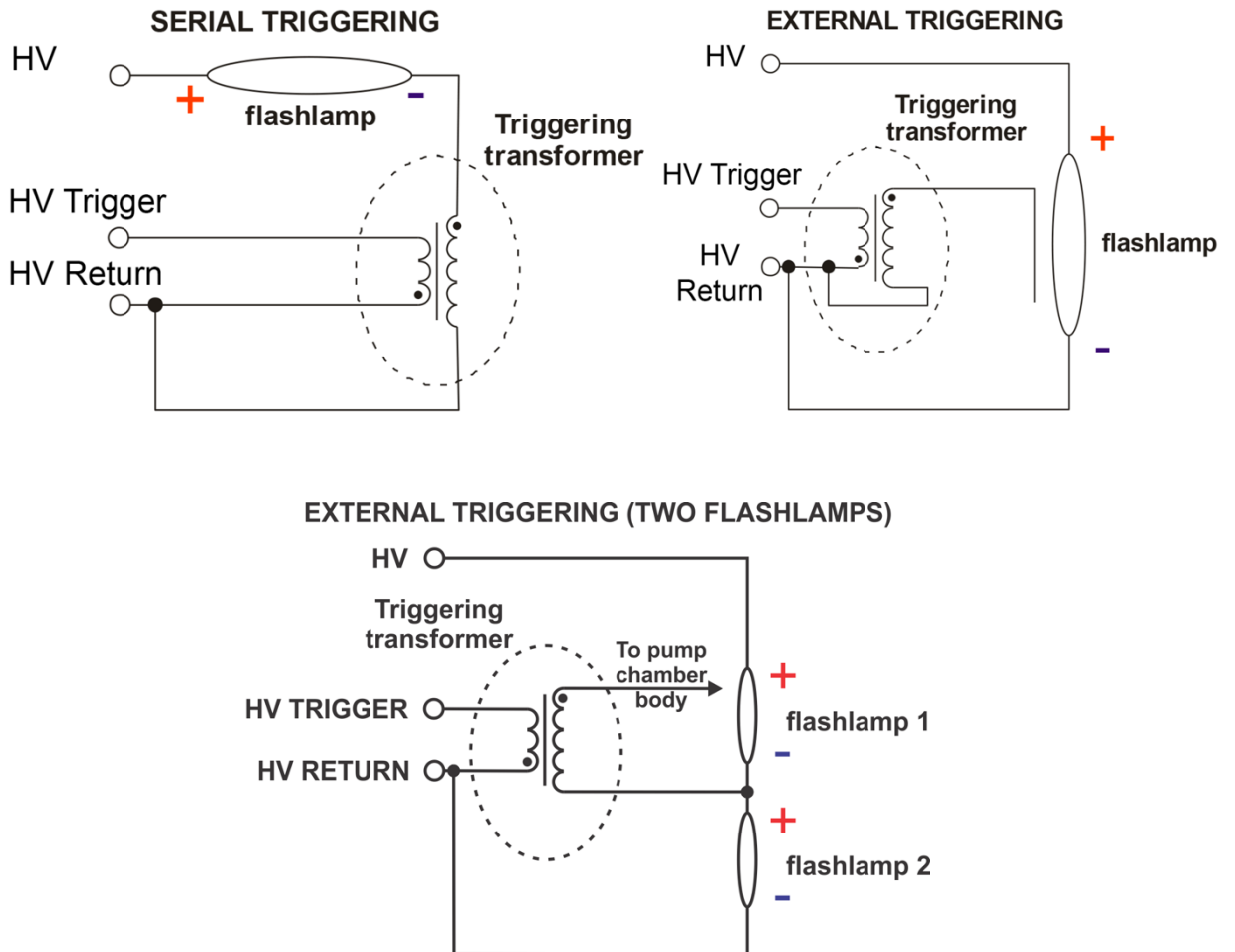
10	9	8	7	6
5	4	3	2	1

PIN (color)	DESIGNATION	DESCRIPTION
1 (red)	+24VDC	Connect to this pin positive wire of 24VDC power supply Input: 24V DC. Max. current 5A/10A (CW/Peak)
2 (black)	+24VDC Return	Return from power supply producing 24VDC
3 (red with blue mark)	HV Trigger	Positive of triggering 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 DC voltage 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 triggering 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 dangerous. Don't be careless around this equipment.

- Disconnect the module from the mains before making or changing electrical or mechanical connections.
- SBZ-3008 is an embedded 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

1. Connect triggering 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 DC* 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

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. Triggering 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	24 VDC
Maximal input current	5A/10A (CW/Peak)
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	
Triggering voltage	1 kV (other on request)
Triggering pulse energy	~150 mJ
Restrike rate	~3 Hz
Protections	- Short circuit at the output - Open circuit (triggering timeout)
Cooling	Embedded 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 maximal output current, or with maximal output voltage, or with maximal output power. In other words, maximal output voltage and maximal output current cannot be achieved at the same time because of maximal output power limitation.

