rev 1.02/ 2009 03 18

SBZ-2008 Simmer supply

User Manual

Overview / Applications

SBZ-2008 simmer supply is the device that strikes and maintains low-current discharge in the flashlamp in order to increase lifetime and operation stability of the lamp.

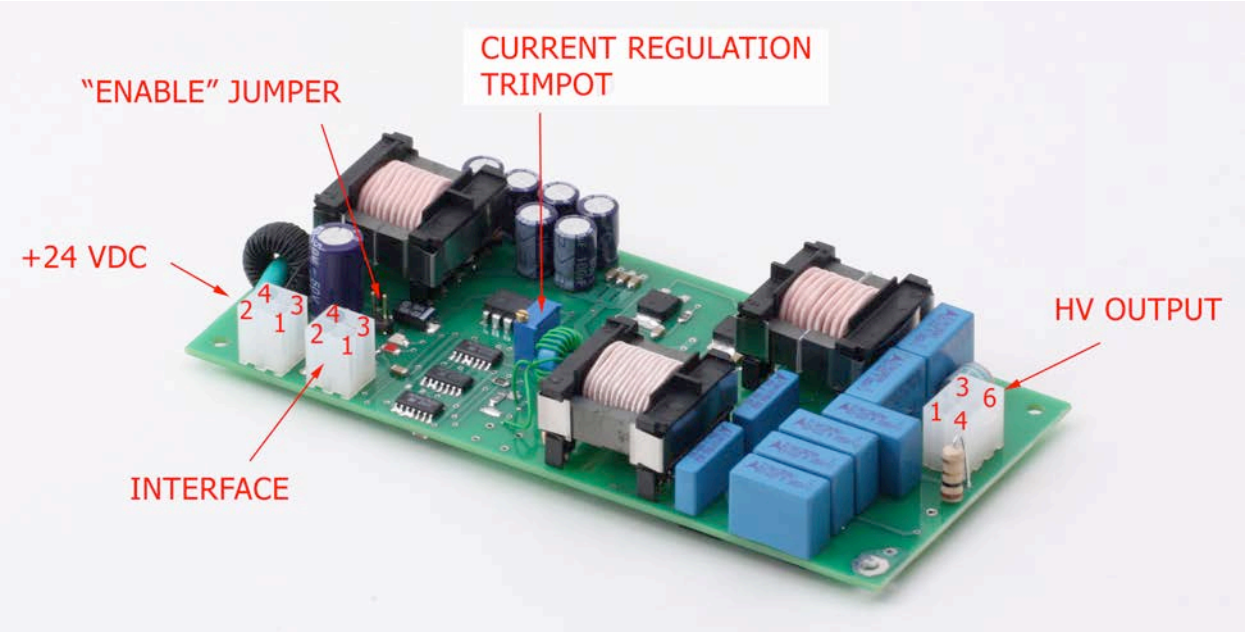
Input voltage – 24 VDC, max. output voltage – 200V, max. output current – 800mA, max. output power – 70W. Restrike rate is approximately 30 Hz.

SBZ-2008 may be used in laser systems with serial triggering as well as in laser systems with external triggering.

Cooling

No external cooling is required.

Appearance



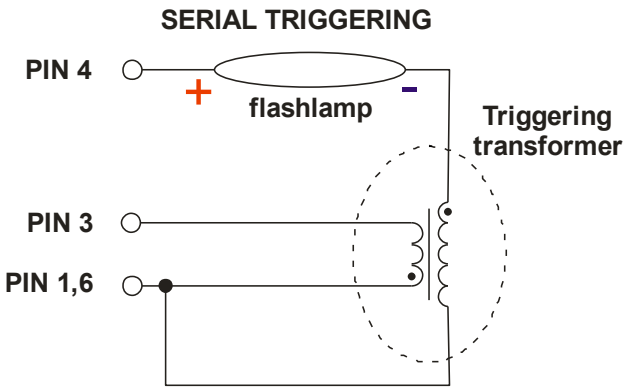
Connections, signals, signal descriptions

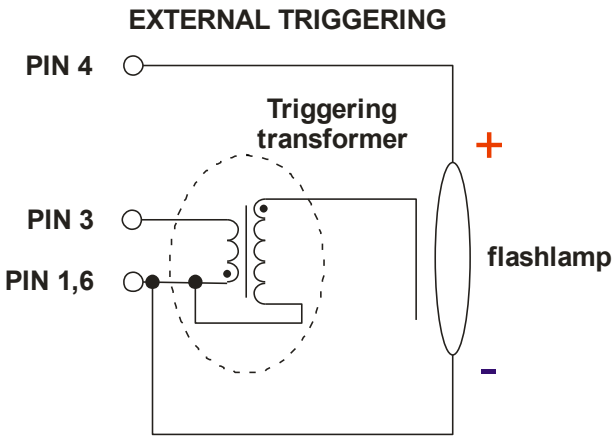
+24 VDC (TO +24V POWER SUPPLY MODULE): Molex 39-30-1040

PIN (color)	DESIGNATION	DESCRIPTION
2 (red)	**+24V DC**	Connect to these pins positive wire of 24V DC power supply Input: 17 ÷ 31V DC. Max. current 4A
3 (blue)	**+24V DC Return**	Return from power supply producing 24V DC

OUTPUT (TO TRIGGERING TRANSFORMER AND LAMP): Molex 39-30-1060

PIN (color)	DESIGNATION	DESCRIPTION
1, 6 (black)	**OUTPUT Ground**	Negative of triggering transformer primary winding
3 (blue)	**OUTPUT Negative**	Positive of triggering transformer primary winding
4 (red)	**OUTPUT Positive**	Flashlamp anode (+)

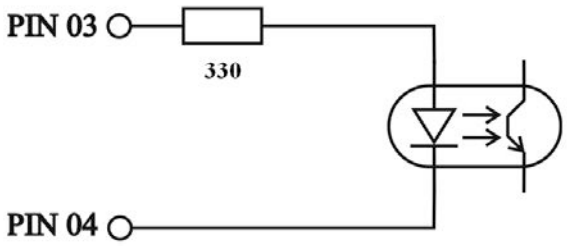
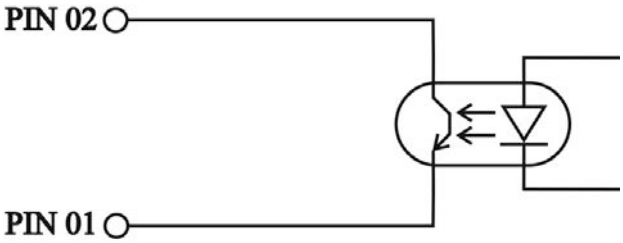




INTERFACE (SIMMER SUPPLY CONTROL): Molex 39-30-1040

PIN (color)	DESIGNATION	DESCRIPTION
1 (violet)	Sensor Return	Return *Simmer Sensor* signal
2 (yellow)	Simmer Sensor	*Simmer Sensor* circuit is closed while simmer current flows through flashlamp and is open while simmer current is absent
3 (red)	Enable	Since +5V DC voltage is applied to *PIN3* 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 approximately 30 Hz repetition rate. After successful triggering the simmer supply can support up to 800mA flashlamp current (500mA is set by default). Simmer will be maintained until 0V is applied to *PIN3*.
4 (black)	Enable Return	Return *Simmer Enable* signal

INTERFACE CIRCUITS:

INTERFACE: Enable	
INTERFACE: Simmer Sensor	

CURRENT REGULATION TRIMPOT

Simmer current is regulated by this trimpot (trimming potentiometer). Value by default is about 500mA.

"ENABLE" JUMPER:

Use this jumper instead of *ENABLE* pin of *INTERFACE*.
Don't use *ENABLE* pin and *"ENABLE" JUMPER* at the same time!

Safety

Warning! This equipment produces high voltages that can be very dangerous. Don't be careless around this equipment.

- Disconnect the module from the DC power source before making or changing electrical or mechanical connections.
- SBZ-2008 simmer supply is designed to be installed inside a properly grounded metal. It is the user's responsibility to ensure that personnel are prevented from accidentally contacting the SBZ-2008. **Casual contact could be fatal!**

Operations

1. Connect +24V DC power supply, triggering transformer and flashlamp to SBZ-2008 simmer supply
2. *Disable* simmer supply (*PIN3* of *INTERFACE*)
3. Apply *+24V DC* power to the module
4. *Enable* simmer supply (set +5V DC on *PIN3* of *INTERFACE* or use *"ENABLE" JUMPER*)
5. Wait 5-10 seconds for *Simmer Sensor*. If it fails shut down your system

To power down SBZ-2008

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

Specification

+24VDC:	
Voltage regulations	+24V +/– 7V DC
Maximal power consumption	4 A
SIMMER PARAMETERS	
Output current	300-800 mA (regulated)
Output voltage	depends on flashlamp type
Max. output voltage	200 V
Max. output power	70 W
Open circuit voltage	up to 1350 V
TRIGGERING PARAMETERS	
Voltage	1 kV
Pulse width	~1 us
Pulse energy	~110 mJ
Restrike rate	~30 Hz
Protections	Turn on with short circuit
Cooling	No external cooling is required
Environment:	
Operation temperature	-20 … +45 °C
Storage temperature	-40 … +85 °C
Humidity	90%, non-condensing
Size (LxWxH)	152x70x38 mm
Weight	0.2 kg