

PYROIS
TECH

TAKHI-series User Manual

Fiber coupled
Halogen Light Source
VIS-NIR



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The specifications indicated in this manual are subject to change without prior notice.

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0. Introduction

Thank you for purchasing this TAKHI light source from Pyroistech.SL. This document describes the TAKHI light source and provides you with instructions for its correct operation. Please do not hesitate to contact us through **info@pyroistech.com** if you have any questions or doubts about this manual.

The TAKHI series comprises high power halogen light sources with a spectrum that range from VIS to NIR (350-2250nm). They are conceived as user friendly, compact tools and being ideal for spectroscopy and general optical fiber illumination applications. These light sources have been designed to obtain a high coupling efficiency to optical fiber through a SMA connector.



1. Technical Specifications

Pyroistech counts with 2 models of its TAKHI halogen light source: **TAKHI-HP** (more powerful) and **TAKHI MP** (longer lifetime). The specifications of both models are:

Optical characteristics	HP	MP
Output connector	SMA 905	
Spectral range	350 - 2250 nm	
Typical optical power output (1)	9.3 mW	6.2 mW

(1) Measured with an optical fiber (core Ø 600µm) and a Si photodiode (OPHIR™)

Light bulb specifications	HP	MP
Power	12V/50W DC	
Useful life (2)	50 h	2000 h
Color T	3300 K	2900 K
Luminous Flux	1500 lm	930 lm
Lamp holder	G6.35	GY6.35

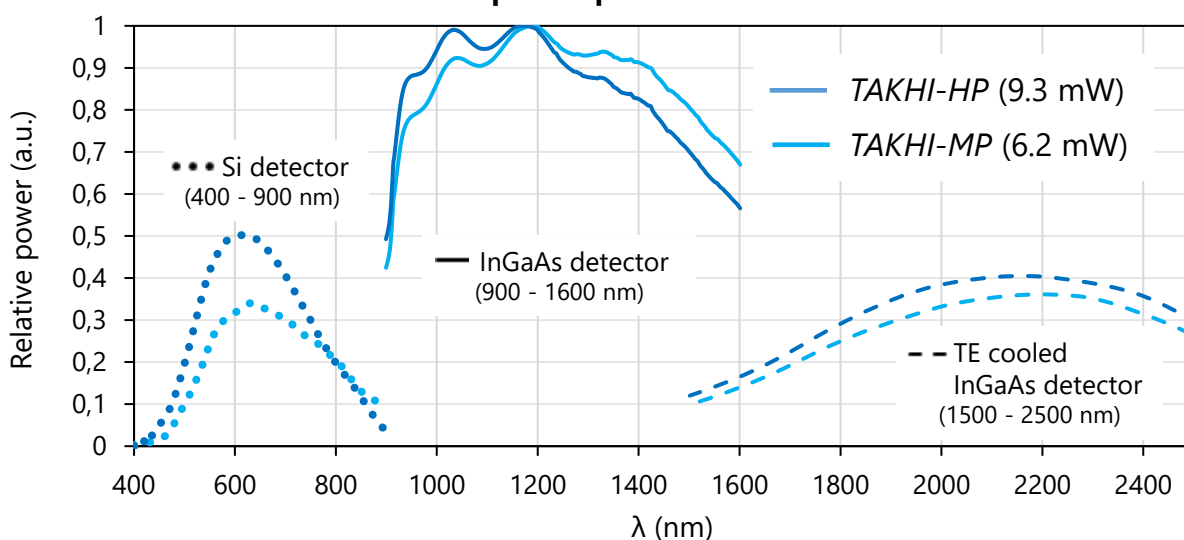
(2) To get replacement light bulbs, contact us through info@pyroistech.com

Electrical characteristics		
Power input (3)	Input Voltage	12 V
	Input Current	4.5 A max
	Connector type	DC female 2.1mm

(3) AC/DC adapter is included with the source. Input 100-240V , 50-60Hz.

Other characteristics	
Working T	15 - 25°C
Humidity	<80% HR
Equipment Surface T	42°C
Stabilization time	25 min typ.
Size	10.5 x 11.5 x 8 cm
Ventilation	2 fans
Weight	500 g

Spectral power distribution*



*Please note that both spectra look similar as the spectrum of each halogen light source has been scaled by dividing by the corresponding maximum. Each of the 3 parts of the spectrum has been measured with a different detector. Remark that the total output power is not same, and differences can also be observed between the spectral power distribution of the 2 models.

2. Operation

2.1 Package Content

- Requested TAKHI light source
- Power source: input 100 - 240 V~, 50 - 60 Hz; output 12 V, 5.5 A; 99 x50 x33 cm, cord length 1.5 m.
- Power cord 1.85 m long
- User's manual

Inspect carefully the devices and make sure there is no damage. On the contrary, do not employ the light source and please contact us through **info@pyroistech.com** for repair or replacement information.

2.2 Operating instructions

Insert the plug of the power cord into the power supply and connect the power cord to the power outlet. Then, introduce the plug of the power supply into the light source power input (DC female type).

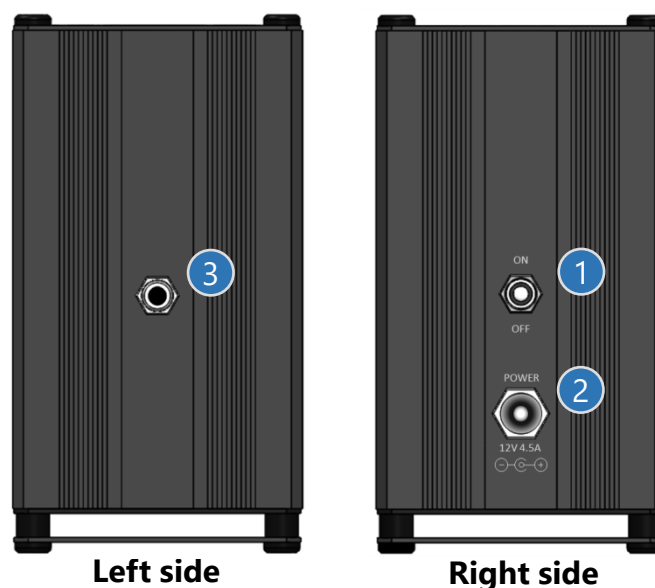
Unscrew the cap of the SMA 905 connector on the front face of the light source and connect the fibre cable. Always do this step before turning on the light source.

Finally, turn on the light source (MODE control switch to the 'ON' position) and wait for 25 minutes until the light source reaches the thermal equilibrium and the output power is stabilized. Now, the TAKHI light source is ready to be used.

In order to turn off the light source, move the switch to the 'OFF' position.

2.3 TAKHI-series diagram

1	MODE (ON-OFF)
2	Power input (12V, 4.5A max)
3	SMA 905 output connector



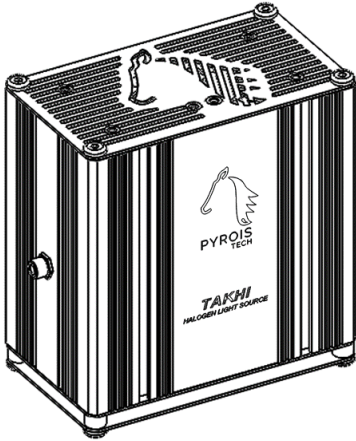
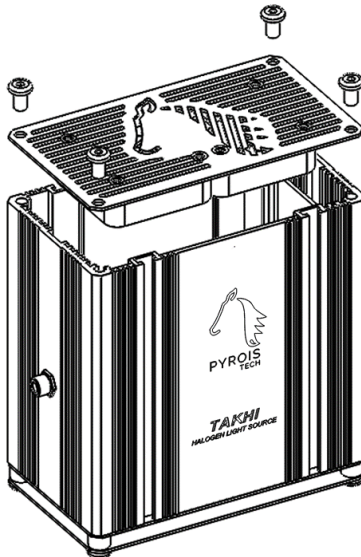
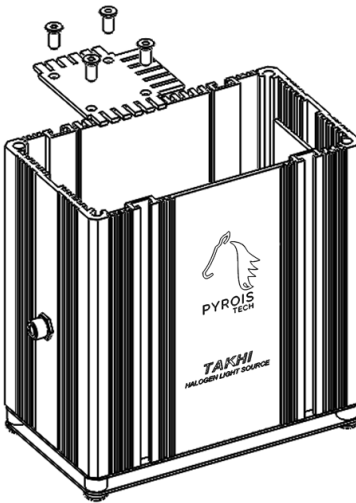
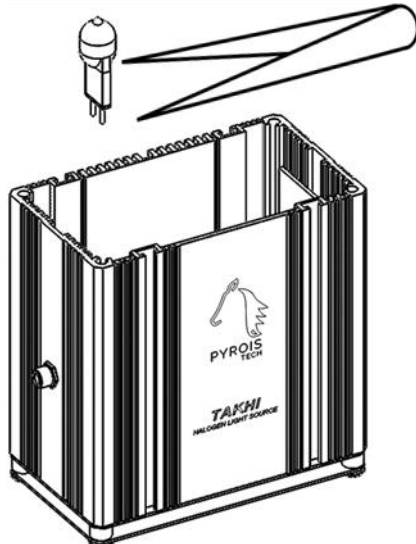
3. Maintenance

3.1 Cleaning of the output connector

The output connector of the light source should be periodically cleaned employing compressed air to remove the dust. It is recommended to have the output connector with the cap on it whenever the light source is not being used. The connector of the fiber used with the light source also has to be clean to ensure the best possible performance.

3.2 Light bulb replacement

To replace the light bulb when it has ended its life cycle, the following process must be done carefully.

	
<p>1) Disconnect the power source. Wait for the light source to cool down if it is hot.</p>	<p>2) Remove the screws using an allen key N°2.5 and remove the top cover carefully without pulling the fan cables.</p>
	
<p>3) Remove the screws using an allen key N°2 in order to have access to the inner box cover.</p>	<p>4) Carefully remove the bulb using tweezers. Install the new bulb (*) without touching it with bare hands. To reassemble, repeat the process in reverse order.</p>

(*) To ensure maximum output power, the light bulb must be carefully aligned with SMA 905 connector.

4. Important Notes

Before operation

- Do not remove or alter any installed safety device on this equipment. Doing so will cancel your warranty and create an unsafe operating environment.
- There are NO user serviceable parts inside. Dangerous currents are present in this device. Only allow qualified personnel to service this unit.
- Inspect this unit and its power supply before using it for the first time. Do not use the unit if it is damaged in any way. Contact us for repair or replacement information.

During operation

- Do not cover the source or obstruct the air flow for its refrigeration. Avoid exposure to direct sun light. A rise in the light source's temperature could affect its operation or even damage its components.

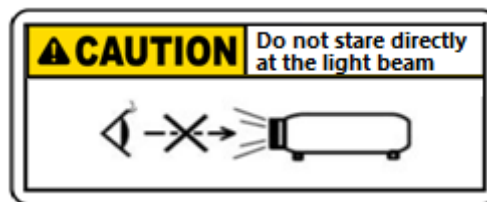
- The output connector of the light source may get hot during operation. After its employment, allow enough time to cool down before handling.



- The equipment should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment should be observed to verify normal operation in the configuration in which it will be used.

Eye safety

- Optical radiation can damage your eyes. Do NOT stare directly at the light beam.



- Non visible infrared light can be hazardous depending on total system configuration (including, but not limited to optics, drive current and temperature). Observe safety precaution given in IEC 62471 when operating these light sources.

Electromagnetic Compatibility

- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of this equipment. Otherwise, degradation of the performance of this equipment could result.
- The use of cables, power supplies, transformers and accessories other than those specified by Pyroistech S.L., in addition to not being covered by the warranty, may lead to increased emissions and/or decreased electromagnetic compatibility.

4. Warranty

Pyroistech's general warranty for a product has a 1 year duration.

This warranty includes repairs and replacement of damaged parts due to a malfunction of the source, as long as said malfunction can be attributed to errors made in the manufacture of it by Pyroistech SL, not to a punctual misuse of the source or to a continued incorrect employment of it by the user, whether conscious or unconscious, due to not having followed the operation recommendations indicated by Pyroistech SL

There is the possibility of extending this guarantee. For more information, contact Pyroistech S.L.

5. Compliance

This device complies the following standards:



EMC 2014/30/EU
RoHS-compliant



Federal
Communications
Commission

Contact Pyroistech S.L. if you require more information about the electromagnetic compatibility of the product.



WEEE
Compliance

If you consider that the product has reached the end of its useful life and you want to dispose of it, you can contact Pyroistech S.L. so that it is in charge of its management.

Version	Date	Description
1.0	16 August 2020	First Document