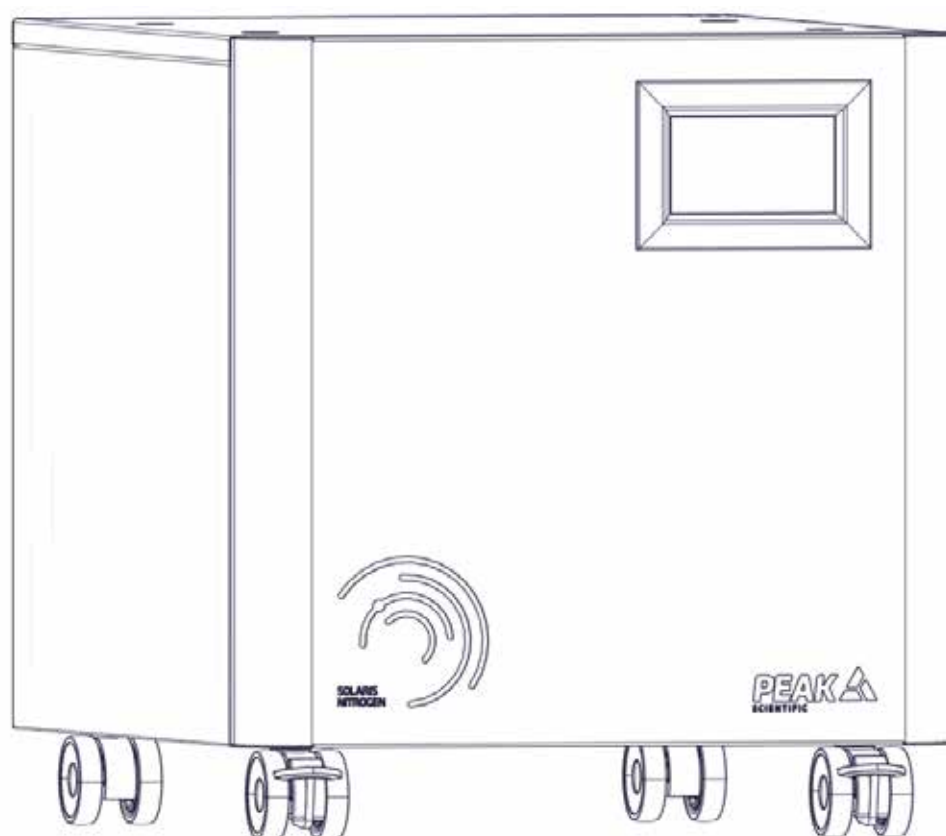


Solaris 1010A

User Manual



PEAK 
SCIENTIFIC

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Change History

Rev	Comment	Name	Date
1	Initial Release	L. Couttie	25/06/2024
2	Purity Update	L. Couttie	17/07/2024
3	Warranty Update	L. Couttie	13/08/2024
4			
5			

How to use this Manual

This manual is intended for end users and has been written as a reference document where you can skip to the relevant information.

Users can refer to the contents page to find the relevant information.

Please review each of the following sections carefully.

Thank you for selecting Peak Scientific to meet your gas generation needs, and should you require any further assistance or support please do not hesitate to contact Peak Scientific or the Peak Partner from which you purchased your generator.

Warranties and Liabilities




Visit: www.peakscientific.com/warranty-statement/

Safety Notices




Peak Scientific Instruments cannot anticipate every possible circumstance which may represent a potential hazard. The warnings detailed within this manual refer to the most likely potential hazards, but by definition cannot be all inclusive. If the user employs an operating procedure, item of equipment or a method of working which is not specifically recommended by Peak Scientific, the user must ensure that the equipment will not be damaged or become hazardous to persons or property.

Symbols

This manual uses the following symbols to highlight specific areas important to the safe and proper use of the generator.

 WARNING	A WARNING notice denotes a hazard. It calls attention to an operating procedure, process or similar, which if not correctly performed or adhered to, could cause personal injury or in the worst case death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood or met.
 CAUTION	A CAUTION notice denotes a hazard. It calls attention to an operating procedure, process or similar, which if not correctly performed or adhered to, could cause damage to the generator or the application. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood or met.
	Caution, risk of electric shock. Ensure power to the generator has been removed before proceeding.

Safety Notice to Users

 WARNING	These instructions must be read thoroughly and understood before installation and operation of your Peak Generator. Use of the generator in a manner not specified by Peak Scientific MAY impair the SAFETY provided by the equipment.
 WARNING	When handling, operating or carrying out any maintenance, personnel must employ safe engineering practices and observe all relevant local health and safety requirements and regulations. The attention of UK users is drawn to the Health and Safety at Work Act 1974, and the Institute of Electrical Engineers regulations.
 WARNING	If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment maybe impaired.

EU Declaration of Conformity

We Peak Scientific Instruments Ltd.
Of Fountain Crescent, Inchinnan, Renfrewshire, PA4 9RE

Hereby declare that, this declaration of conformity is issued under the sole responsibility of the manufacturer.

Equipment Type: Nitrogen Generator
Model Designator: Solaris 1010A Generator 120V & 220-240V

To which this declaration relates, is in conformity with the following applicable EU Directives, harmonized standards, and other normative requirements.

- **Low Voltage Directive 2014/35/EU**
EN 61010-1: 2010+ A1:2019 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use.
- **Electromagnetic Compatibility Directive 2014/30/EU**
EN 61326-1: 2021 Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements. (Class A)
- **Restriction on the use of certain hazardous substances in electronic equipment (RoHS) Directive 2011/65/EU as amended by EU 2015/863.**

Signed for and on behalf of Peak Scientific by

Signed: 

Name: Fraser Dunn

Position: Design Engineering Manager
Peak Scientific Instruments Ltd,
Inchinnan, Renfrew, Scotland, PA4 9RE, UK.

Date: 22nd November 2021



UK Declaration of Conformity

We Peak Scientific Instruments Ltd.
Of Fountain Crescent, Inchinnan, Renfrewshire, PA4 9RE

Hereby declare that, this declaration of conformity is issued under the sole responsibility of the manufacturer.

Equipment Type: Nitrogen Generator
Model Designator: Solaris 1010A Generator 120V & 220-240V

To which this declaration relates, is in conformity with the following applicable UK Statutory Instruments, Standards and other normative requirements.

- **The Electrical Equipment (Safety) Regulations 2016 (SI 2016 / 1101) as amended.**
BS61010-1:2010+ A1:2019 Safety Requirements for Electrical Equipment for Measurement Control and Laboratory Use.
- **The Electromagnetic Compatibility Regulations 2016 (SI 2016 / 1091) as amended.**
BS61326-1:2021 Electrical Equipment for Measurement , Control and Laboratory Use - EMC Requirements. (Class A)
- **The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (SI 2012 / 3032) as amended.**

Signed for and on behalf of Peak Scientific by

Signed: 

Name: Fraser Dunn

Position: Design Engineering Manager
Peak Scientific Instruments Ltd,
Inchinnan, Renfrew, Scotland, PA4 9RE, UK.

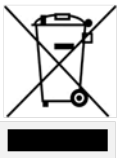
Date: 22nd November 2021



WEEE Compliance Statement

The Waste Electrical and Electronic Equipment (WEEE) Regulations SI 2013 No 3113 and or the Waste Electrical and Electronic Equipment (WEEE) Directive 2012/19/EU apply to all electrical and electronic equipment placed on the market in the UK and EU covered by the scope of regulations which can be found in the Government Guidance Notes (PDF) produced by the Department for Business Innovation and skills for the UK and here for Europe.

All PEAK products that are subject to the WEEE directive are compliant with the WEEE marking requirement. Such products are marked with the “crossed-out wheellie bin” symbol (shown below) in accordance with European standard EN50419. All old electrical equipment can be recycled. Please do not dispose of any electrical equipment (including those marked with this symbol) in general rubbish bins. Please contact your dealer or distributor for clarity.



CSA Compliance Statement

CSA Group (Canadian Standards Authority) is a Nationally Recognised Testing Laboratory (NRTL), headquartered in Toronto Canada.

They are authorised to evaluate product to both their own and Underwriters Laboratory (UL) standards and certify the product to be in compliance to the relevant standards.

Peak products are certified to the current in force revision of the following standards in order to cover both Canadian and United States requirements for “Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use, Part 1: general Requirements”.

Canada: CAN/CSA C22.2 No 61010-1-12

United States: UL 61010-1

As a result the products covered by this statement are certified and listed by CSA accordingly and are entitled to carry the CSA mark with both Canadian and United States subscripts , as shown below on the product rating label.



EMC Class A Compliance Statements

European Union (EU) and United Kingdom (UK) Class A Compliance statement

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Class A Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Industry Canada Class A emission compliance statement

This ISM device complies with Canadian ICES-001 (A).

Cet appareil ISM est conforme à la norme NMB-001 (A) du Canada.

Korea Communications Commission (KCC) statement

이 기기는 업무용(A급)으로 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

(This is electromagnetic wave compatibility equipment for business (Type A). Sellers and users need to pay attention to it. This is for any areas other than home.)

Technical Specification

Solaris 1010A

Environment

	Solaris 1010A
Minimum Operating Ambient Temperature	5°C (41°F)
Maximum Operating Ambient Temperature	35°C (95°F)
Maximum Altitude	2000 m
Maximum Relative Humidity	80% Non-Condensing
Minimum Storage Temperature*	-20°C (-4°F)
Maximum Storage Temperature*	60°C (140°F)

Generator Outlets

Maximum Output Pressure	100 psi / 6.89 bar
Maximum Outlet Flow Rate [†]	10 L/min
Purity	97% at 10 L/min 99.5% at 4 L/min
Particles	<0.01µm
Phthalates	Phthalate & BHT Free
Suspended Liquids	NONE
Gas Outlets	1 x ¼" BSPP & 1 x 6mm push fit
Drain Outlets	1 x ¼" BSPP & 1 x 6mm push fit
Pressure Gauges/Displays	1
Start-Up Time For Purity	5 mins

Electrical Requirements

Voltage	120V±5% / ~220-240V ±10%
Frequency	120V 60Hz / ~220-240V 50/60Hz
Current	5.2A @ 120V / 2.3-2.7A @ ~220-240V
Input Connection	C14 Plug
Power Cord (Supplied)	C13 Socket to Local Connection
Circuit Breakers	C6 & D6
Pollution Degree	2
Installation Category / Transient Over Voltage	II

General

Dimensions cm (inches) WxDxH	453 x 417 x 540 mm (17.8 x 16.4 x 21.3 ")
Generator Weight Kg (lbs)	31.5 (69.5)
Shipping Weight Kg (lbs)	46 (101.5)
Noise Level [‡]	58 dBA

* Note: Please ensure Generator is situated in a well ventilated environment.

† Note: Flows in LPM are expressed as normalised volumes at 101.3 kPa, 20°C

‡ Note: Noise level expressed as SPL (Sound Pressure Level) measured at 1m from source in a reverberant chamber in accordance with ISO 3741:2010.

Unpacking

Although Peak Scientific takes every precaution with safe transit and packaging, it is advisable to fully inspect the unit for any sign of transit damage.

Check 'SHOCKWATCH' label for signs of rough handling prior to unpacking.



Any damage should be reported immediately to the carrier and Peak Scientific or the Peak Partner from where the unit was purchased.

Follow the unpacking instructions posted on the side of the crate. It will require two people to remove the unit from the shipping crate and to manoeuvre the generator onto the bench.

Please save the product packaging for storage or future shipment of the generator.

Note: Included with the generator is a "Fittings Kit" containing mains power leads for UK, EU, JP & US and also all the required fittings and warranty registration card. Be careful not to discard these with the packaging.

Fittings Kit Contents

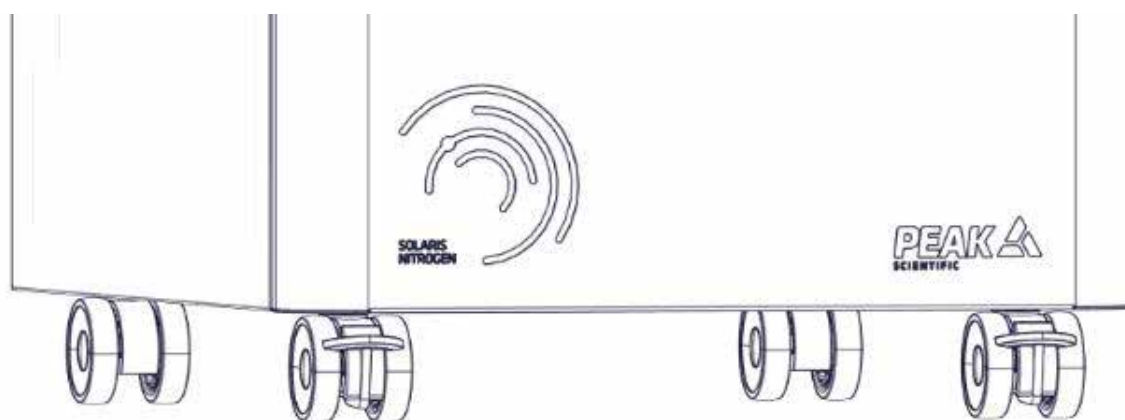
Supplied in the Fittings Kit are all the fittings required to connect the generator to the application. The contents of the Fittings Kit are as follows:

- | | |
|------------------------------------|------|
| 1. Teflon Tubing 1/4" | x 3m |
| 2. PE Tubing 6mm | x 3m |
| 3. 1/4" Compression Fitting | x 2 |
| 4. Tube insert OD 6mm ID 4mm | x 2 |
| 5. 6mm push fit straight | x 2 |
| 6. 2.5mm Hex Key | x 1 |
| 7. UK Mains Power Cable | x 1 |
| 8. EU Mains Power Cable | x 1 |
| 9. US Mains Power Cable (220-240V) | x 1 |
| 10. US Mains Power Cable (120V) | x 1 |

All of the generators output ports are located on the rear panel of the unit.

Unpacking Instructions

If the product has castors fitted, then please ensure that locks are activated once the product has been unpacked and moved to its desired location to prevent any movement or risk of injury. Ensure the product is level and secure in its chosen location.



Installation

Generator Environment

The generator is designed for indoor use only. It should be installed adjacent to the application(s) it is supplying. If this is not convenient then the unit can be sited elsewhere, however, consideration should be made of the lengths of pipe runs as pressure drops can result from extended runs of pipe.

Performance of the generator (like all sophisticated equipment) is affected by ambient conditions. Note should also be taken to the proximity of Air Conditioning outlets. These can sometimes give rise to “pockets” of air with high relative humidity. Operation of the unit within such a pocket could adversely affect its performance.

Consideration should also be given to the air flow around the unit. It is recommended that an air gap of 75mm (3”) should be maintained down both sides and at the rear of the unit. Please refer to the drawing below for the general dimensions of the unit.

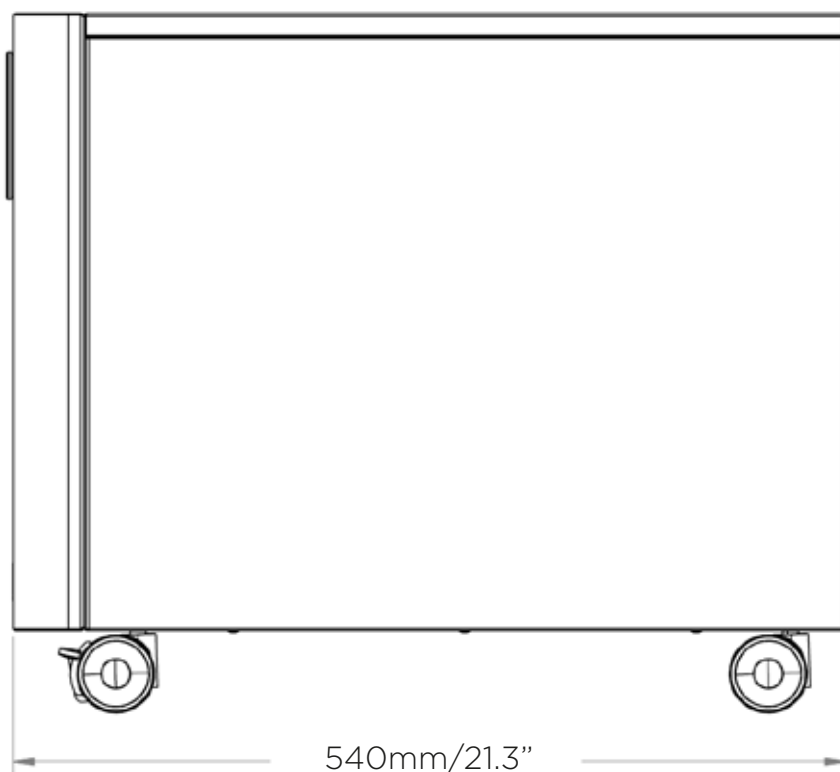
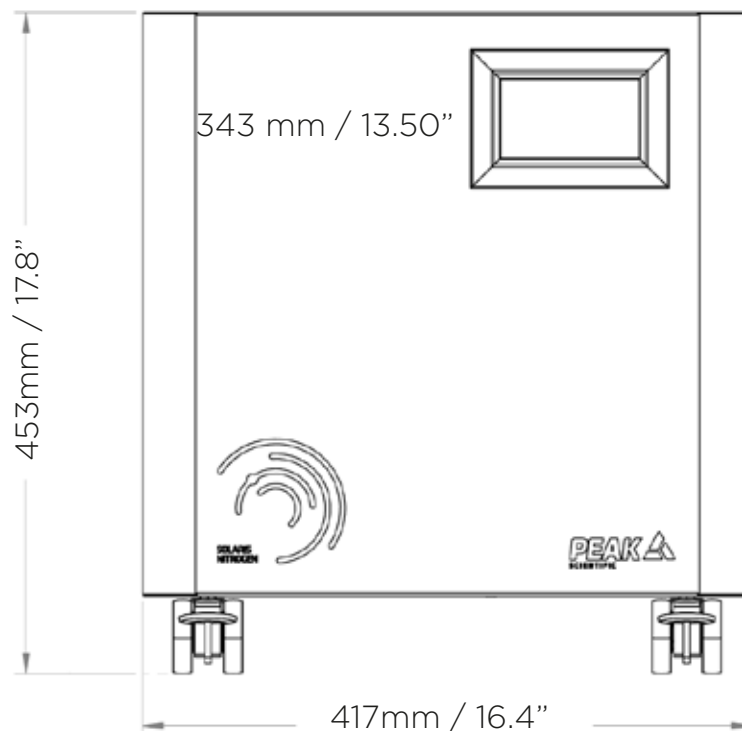
Please ensure the generator is situated in a well-ventilated environment and is positioned to allow easy disconnection from the mains supply if required.

Minimum Operating Ambient Temperature: 5 °C (41 °F)

Maximum Operating Ambient Temperature: 35 °C (95 °F)

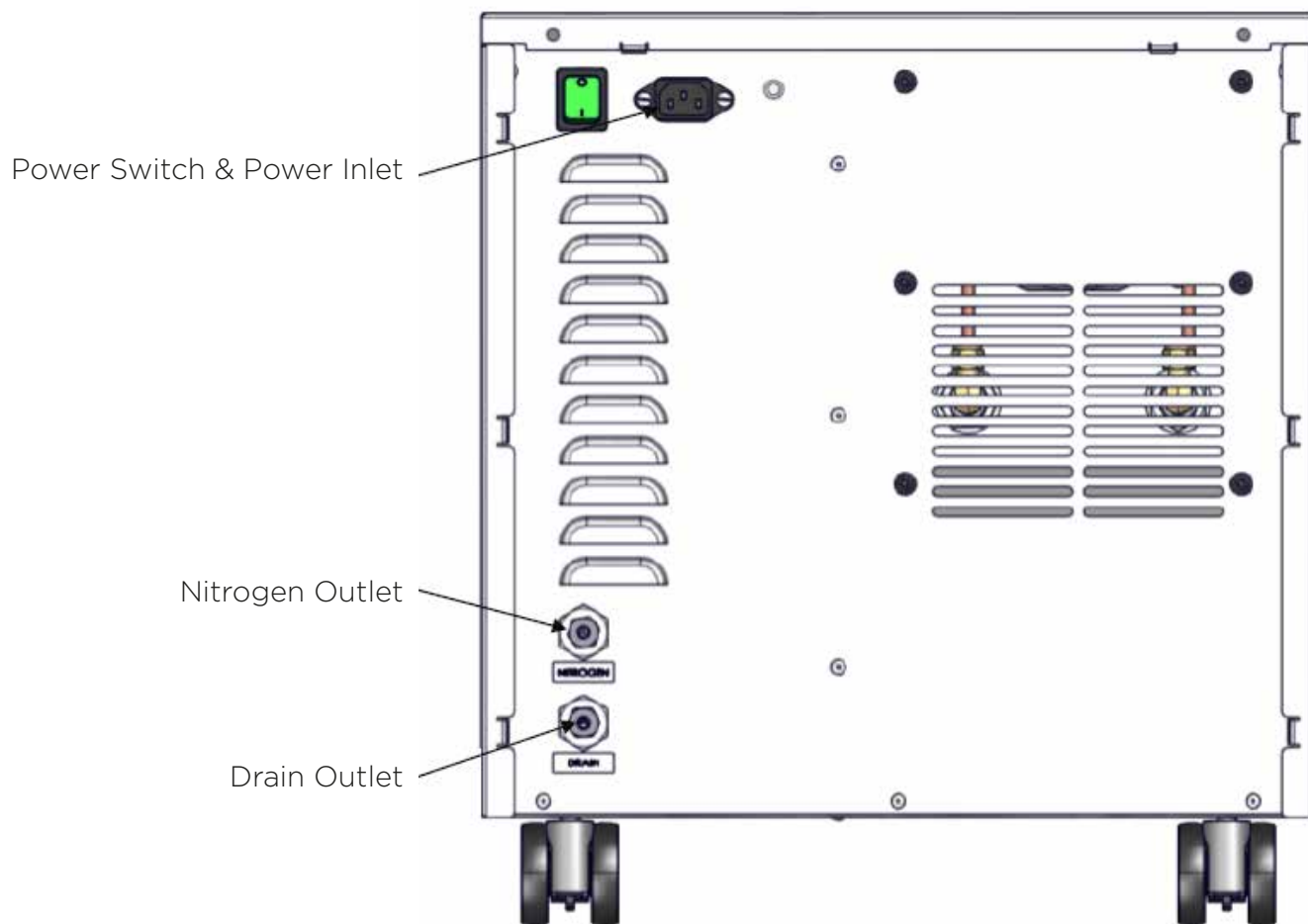
Generator Overview

Solaris 1010A General Dimensions



The generator must always be placed on a flat, level surface with castors locked in position. Failure to do so will affect the performance of the unit.

Solaris 1010A Rear Connections



Ensure outlets are connected to correct sources & applications. Connections should only be carried out by trained personnel.



Generator must be switched off, unplugged and castors locked in position prior to any cleaning or maintenance operations.

Electrical Connection

Connect the generator into an appropriate electricity supply, between either 120V or 220V-240V. Refer to the generator serial plate for input specification and ensure your supply matches the requirements.

If an appropriate mains power cord is not supplied or a substitute one is used then ensure that all components of it - the plug, cord and connector - have adequate ratings for the generator and appropriate approvals for the country of use. Failure to do so could cause damage to the generator or risk overloading of the power cord.



This unit is classified as SAFETY CLASS 1. THIS UNIT MUST BE EARTHED. Before connecting the unit to the mains supply, please check that your electrical supply falls within the specified range, see below.

EARTH/GROUND (E):-	Green & Yellow	or	Green
--------------------	----------------	----	-------

LIVE (L):-	Brown	or	Black
------------	-------	----	-------

Neutral (N):-	Blue	or	White
---------------	------	----	-------

Electrical requirements are nominal +/- 10% depending on chosen model. Extended periods at extremes can have a detrimental effect on the operation and life of the generator.



If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Connecting to the application

Attach the 1/4" compression fitting to the outlet of the generator. Using the 1/4" tubing supplied, connect the outlet of the generator to the inlet on the application.

If you require more tubing than is supplied please refer to the Tubing Lengths section.



CAUTION

Once the tubing is connected to the application, please ensure that it is thoroughly checked for being leak-tight. Even the slightest leak in the gas supply between the generator and the application can CAUTION lead to a reduction in efficiency.

Tubing Lengths



CAUTION

The diameter of the tubing which will be connected to the gas outlet is important and is determined by the length of tubing required. Failure to follow these recommendations could lead to pressure between the generator and its application.

- < 10 meters: Use 1/4" / 3/16" (1/4" O/D, 3/16" I/D) P.T.F.E. tubing.
- > 10 - 40 meters: Use 3/8" / 5/16" (3/8" O/D, 5/16" I/D). Tubing and fittings not supplied in the fittings kit.
- > 40 metres: Please contact Peak Scientific with the relevant distance and we will calculate the flow resistance and the tubing size required.

A combination of 1/4" / 3/16" and 3/8" / 5/16" tubing may be used to ensure that there is no large diameter tubing within the lab (i.e. for the first 20 meters from the generator use 3/8" / 5/16" and the final 10 meters to the application use 1/4" / 3/16" tubing). Keep the connections and bends to a minimum.

Product Registration

Before the generator will start-up for the first time the user must enter a unique 4-digit PIN code.

To receive your generator's unique PIN code, please register on the Peak website www.peakscientific.com/activate or download the PEAK Gas App from the Google Play Store or Apple App Store. A PIN code may also be requested by phoning the Peak helpdesk. This code is only required on the initial start-up of the unit.

Solaris 1010A Registration

1. Press the 'I've got my pin' button on the screen on the front of the generator.



2. Enter your PIN.



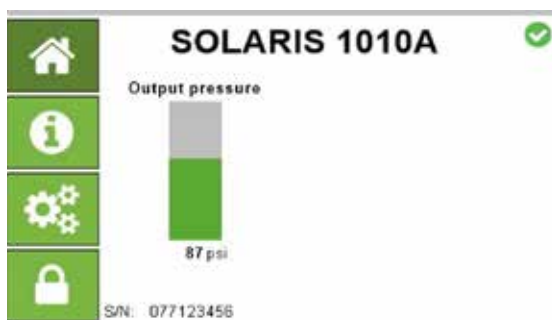
3. Restart the unit.



4. The unit will then go through initialisation phase.



5. Upon completion of the initialisation phase, the screen will display the below, home screen.



Normal Operation

The Solaris 1010A Generator is designed specifically to minimize operator involvement. If the system is installed as described in earlier sections and is serviced in accordance with the specified maintenance recommendations (see Service Requirements), the generator simply needs to be turned on when required.

The generator will automatically produce the factory set flow and pressure of Nitrogen gas as detailed in the Technical Specifications.

On Demand Gas

The Solaris 1010A will start and stop the compressor automatically by detecting how much gas the user is using.

If the user stops using the gas, the compressor will stop and enter a standby mode. Once the user starts to take gas, the compressor will start up again to produce the Nitrogen on demand.

Unusual Operation

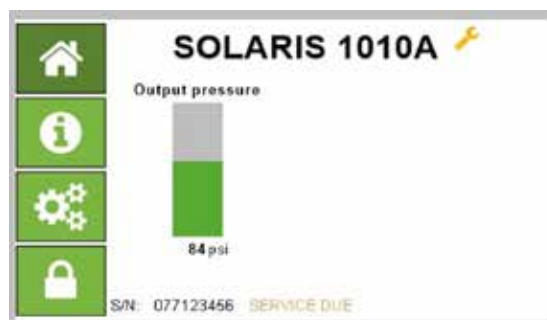
If at any time the generator begins to emit excessive noise or vibration, then it should be switched off and you should contact Peak Scientific or the Peak Partner from which the unit has been purchased.

Service Screens

Service Due Home Screen Warning

This is the main home screen when a service is due displaying a yellow service warning.

The screen will alternate between the home screen and a full screen warning as shown next.



Service Due Warning Screen

This is the full screen warning when service is due.

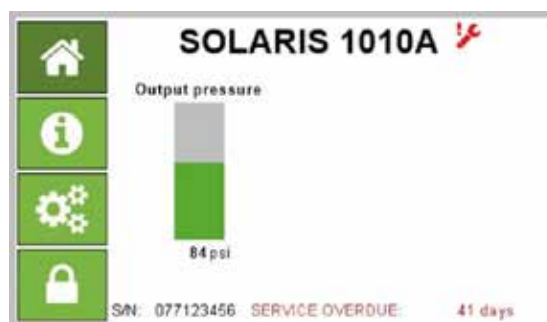
The Confirm button returns the user to the home screen.



Service Overdue Home Screen Warning

This is the main home screen when a service is overdue displaying a red service warning.

The screen shows the date on which the service was due. The screen will alternate between the home screen and a full screen warning as shown next.



Service Overdue Warning Screen

This is the full screen warning when service is overdue.

The Confirm button returns the user to the Home screen



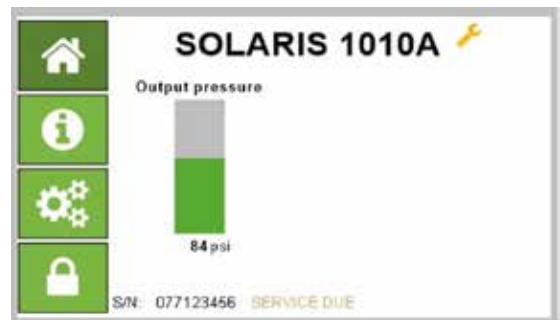
Information Screens

System Info Screen

Displays System Info.

Service Log-in Screen

Allows the Peak Approved Engineer access to the Solaris 1010A service menus.



Service Requirements

Service Schedule

Purchase Interval	Component	Visit	Qty.
12 months	Solaris 1010A Annual Maintenance Kit	www.peakscientific.com/ordering	1
48 months	Solaris 1010A 4 Year Service Kit - 120V*	www.peakscientific.com/ordering	1
48 months	Solaris 1010A 4 Year Service Kit - 220-240V*	www.peakscientific.com/ordering	1

*On the 4th annual service of your Solaris 1010A generator, the compressor needs to be replaced, this is contained within the 48 month service kit.

Please contact your service provider for more information.


Peak Protected

With Peak Scientific you invest in not only a product but peace of mind. With a network of certified Peak engineers stationed throughout the globe, Peak's rapid response team are never far away and our commitment is to keep your generator running day in, day out, protecting your laboratory workflow.

[Peak Protected] can provide...



Installation
A dedicated Peak engineer will visit your lab to install and setup your generator



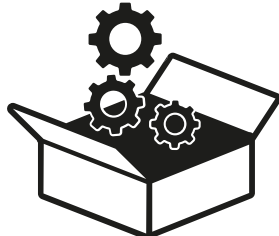
Complete plan
Swift response by a Peak Service Engineer within 72 hours & planned preventative maintenance



Premium Protected
Guaranteed rapid on-site response within 24 hours & planned preventative maintenance



IQ/OQ
Certified assurance for applications requiring documented qualification



Spares
Genuine Peak parts with express delivery, ensuring optimal performance and lifetime



Technical Support Hotline
Around the clock support by phone or online with our global technical helpdesk

To find out more about protecting your investment visit: www.peakscientific.com/protected

Cleaning

clean with a damp cloth, cleaning products including soap should not be used.



Cleaning should only be undertaken with the power switched off and the power cord removed from the rear of the generator.



CAUTION



Under no circumstances should any solvents or abrasive cleaning solutions be used as these can contain fumes that could be harmful to the generator.



CAUTION

Care should be taken with Leak Detections Liquids.

Troubleshooting

Problem	Possible Solution
The generator will not switch on and the power switch does not illuminate.	<ul style="list-style-type: none"> • Ensure power cord is plugged into the generator securely. • Ensure that the power socket is turned on. • Check the fuse in the power cord plug. • Try an alternative power socket. • Contact your service provider. 
The generator will not switch on, but the power switch is illuminated.	<ul style="list-style-type: none"> • Disconnect power cord from the rear of the generator. Open the right-hand panel and check that the circuit breakers are turned on (switch in the up position). Reconnect power cord. • Contact your service provider. 
Compressor is running but pressure is not building.	<ul style="list-style-type: none"> • Contact your service provider.
Service Due indicator is illuminated on the HMI	<ul style="list-style-type: none"> • The compressor is due for service. Contact your service provider. • Refer to Service Indication section of this manual for further information.
Service Overdue indicator is illuminated on the HMI	<ul style="list-style-type: none"> • The compressor is overdue for service. • Contact your service provider urgently. • Refer to Service Indication section of this manual for further information.

Go Online or Complete and Return

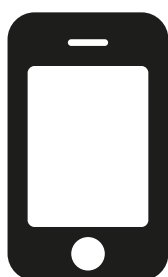
We know that registering any of your recently purchased products is not the first thing on your mind- but it is very important to both of us. Not all warranties are alike and Peak Scientific stand out against other gas suppliers as we offer a comprehensive, quick response, on-site warranty. This means that in the very unlikely case that your gas generator develops a fault we have rapid support teams on-hand around the world who are able to come to your lab and get you back up and running in no time.

Register for your **comprehensive 12 month on-site warranty** with ease online at www.peakscientific.com/protected.

Alternatively, you can send the completed form to Peak Scientific by post or email at warranty@peakscientific.com.



The screenshot shows the 'PEAK' logo at the top left. Below it, the 'Serial number' section includes a 'Generator Serial Number' field with a dropdown arrow and an 'Installation date' field with a calendar icon. The 'Contact details' section contains fields for 'First name', 'Last name', 'Email address', and 'Phone', each with a dropdown arrow. A 'Submit' button is at the bottom right.



The screenshot shows a mobile interface with a green header and the title 'Your Details'. It includes input fields for 'First name', 'Last name', 'Email address', 'Phone number', and 'Address'. A 'City' field is at the bottom. A 'Submit' button is in the bottom right corner.

Important!

You have **1 month to register** your Peak Scientific product from the date of installation. Once registered the warranty will be honoured for a period of 12 months. If you wish to defer the installation of your generator, you must notify Peak Scientific immediately by emailing **warranty@peakscientific.com**. For generators that remain unregistered after 1 month from the shipment date, the warranty will be considered active from the date of factory dispatch.

[**PEAK Protected**]TM

Peak Scientific has highly trained, fully certified Field Service Engineers located in over 20 countries across every continent around the world. This allows us to provide an industry-leading rapid response service to our customers. With **[Peak Protected]**, your laboratory's productivity becomes our top priority.

To discuss Peak Protected generator cover and payment options speak to your local Peak Representative or for further information contact: **protected@peakscientific.com**

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For further information on any of our generator products please contact **marketing@peakscientific.com**

