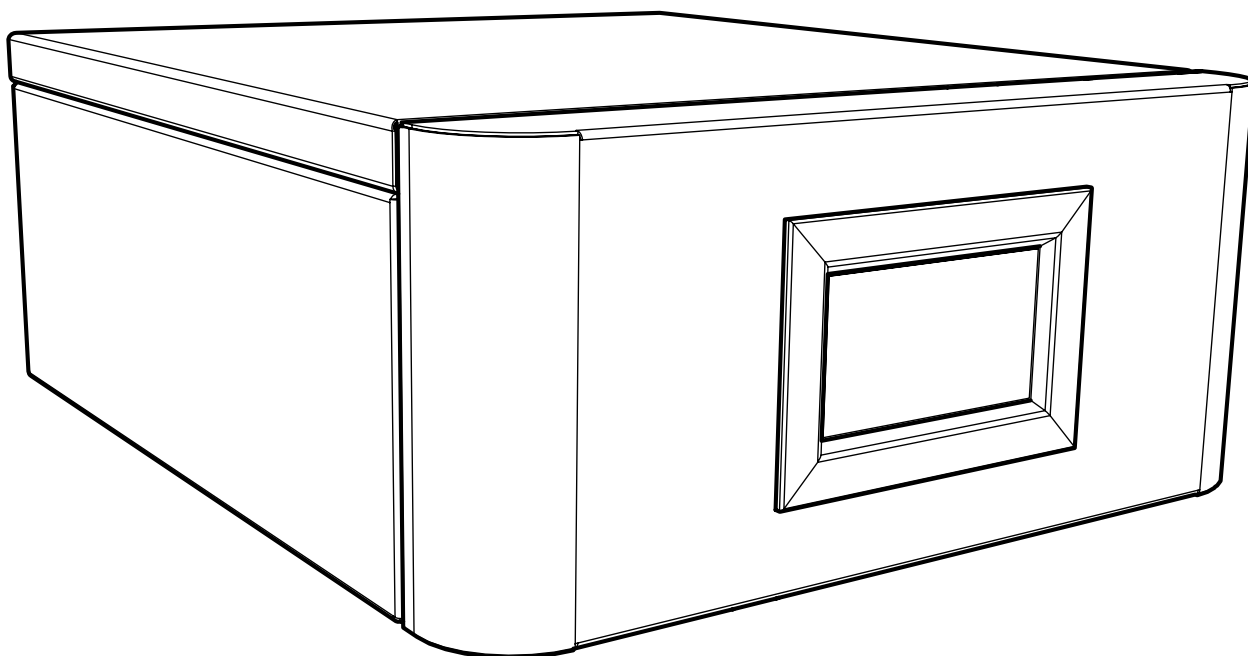


Collision Gas Add-On

User Manual



Register Product to Operate

To begin operation of your unit you will need to register your generator. You can do so by **visiting www.peakscientific.com/activate** or by **downloading the Peak Genius App**.

Registering will activate your **2 year warranty*** - covering every single component in your generator.



Important!

You must register your generator before nitrogen generation can commence. In order to be eligible for warranty your generator must be registered to the end user (not a reseller or distributor). Once registered the warranty will be honoured for a period of 24 months.**

* For terms and conditions please visit www.peakscientific.com/warranty-statement/

** Call out and labour charges may apply where generator was not purchased directly from PEAK

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Change History

Rev	Comment	Name	Date
1	Initial Release	L. Couttie	18/01/2023
2	Declaration Updates	L. Couttie	28/06/2023
3	Parent Generator Updates	C. Denholm	05/07/2024

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

Warranty & Liability Coverage




For full warranty terms and conditions please visit 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



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.



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.



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



This equipment is for indoor use only.

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: Collision Gas Add-On

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**
EN61010-1:2010/A1:2019 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use.
- **Electromagnetic Compatibility Directive 2014/30/EU**
EN61326-1:2021 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: 18th February 2023



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: Collision Gas Add-On

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.
- **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: 18th February 2023



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

Environment

	Collision Gas
Minimum Operating Ambient Temperature	5°C (41°F)
Maximum Operating Ambient Temperature	35°C (95°F)
Maximum Altitude	3000 m
Maximum Relative Humidity	80% Non-Condensing
Minimum Storage Temperature*	-20°C (-4°F)
Maximum Storage Temperature*	60°C (140°F)

*NOTE - When taken out of storage the Generator should be allowed to acclimatize at room temperature for a minimum of 3 hours before operation.

Generator Outlets

Output Flow	200cc/min
Output Purity	up to 99.999%
Output Pressure	up to 80psi
Required Inlet Flow	minimum 4L/min, N2 @ 95%
Required Inlet Pressure	116 psi
Particles	<0.01µm
Phthalates	NONE
Suspended Liquids	NONE
Gas Outlets	1 x ¼" BSPP

Electrical Requirements

Voltage	100-240V
Frequency	50/60 Hz
Current	0.5A
Input Connection	C14 Plug
Power Cord	C13 socket to local connection
Pollution Degree	2
Installation / Over Voltage Category	II

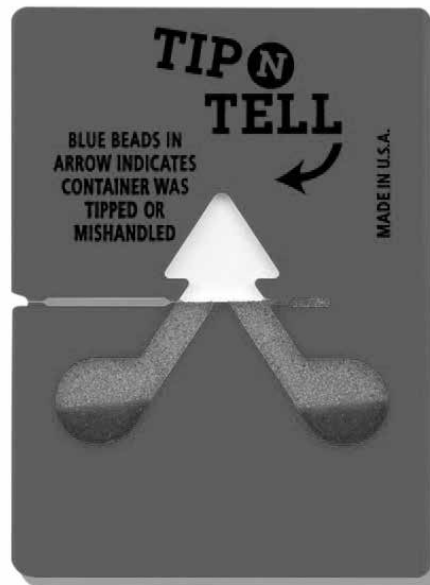
General

Dimensions cm (inches) HxWxD	165 x 360 x 415 mm (6.5 x 14.2 x 16.5")
Generator Weight Kg (lbs)	13.7kg (30.2lbs)
Shipping Weight Kg (lbs)	17 Kg

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' and 'TIP-N-TELL' labels 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.

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 & US and also all the required fittings and warranty registration card. Be careful not to discard these with the packaging.

Fittings Kit Contents

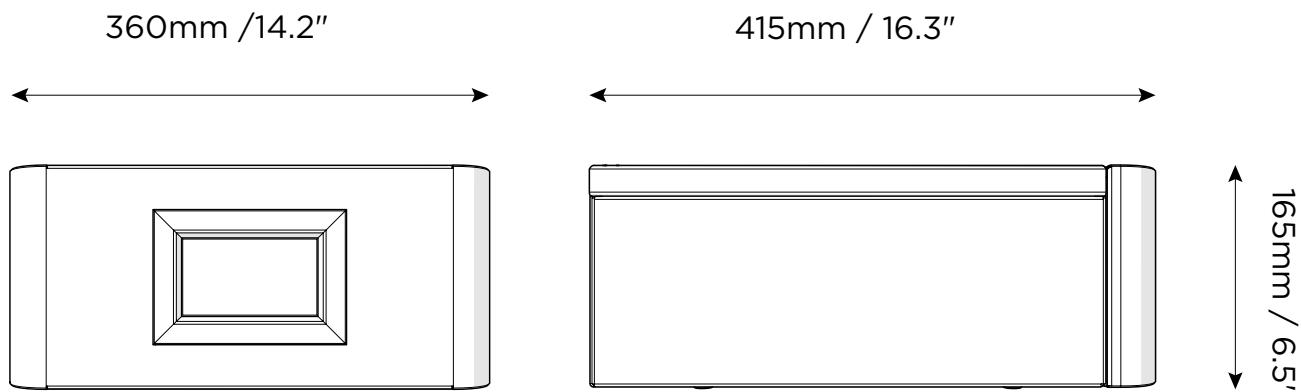
Supplied in the Fittings Kit are all the fittings required to connect the generator to the application. The contents of the Fittings Kit are as follows:

1. 1/4" Teflon Tubing x 3m	x 1
2. 6mm FEP Tubing x 3m	x 2
3. 1/4" Compression Fitting	x 1
4. 6mm Push-Fit Fitting	x 2
5. Output Split Assembly	x 1
6. UK Mains Power Cable 230v	x 1
7. EU Mains Power Cable 230v	x 1
8. US Mains Power Cable 110v	x 1
9. US Mains Power Cable 230v	x 1

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

Generator Overview

General Dimensions

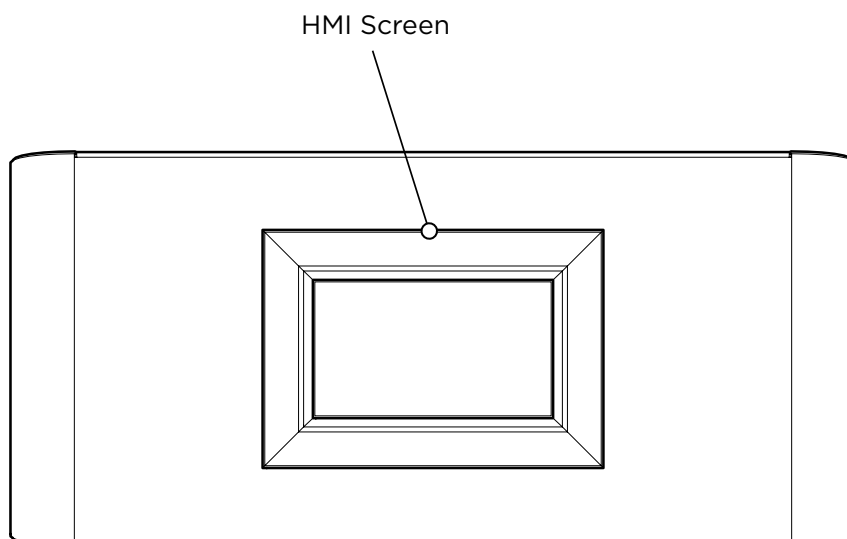


The generator must always be placed on a flat, level surface. Failure to do so will affect the performance of the generator. It can be also placed on the top of Genius XE35/XE70

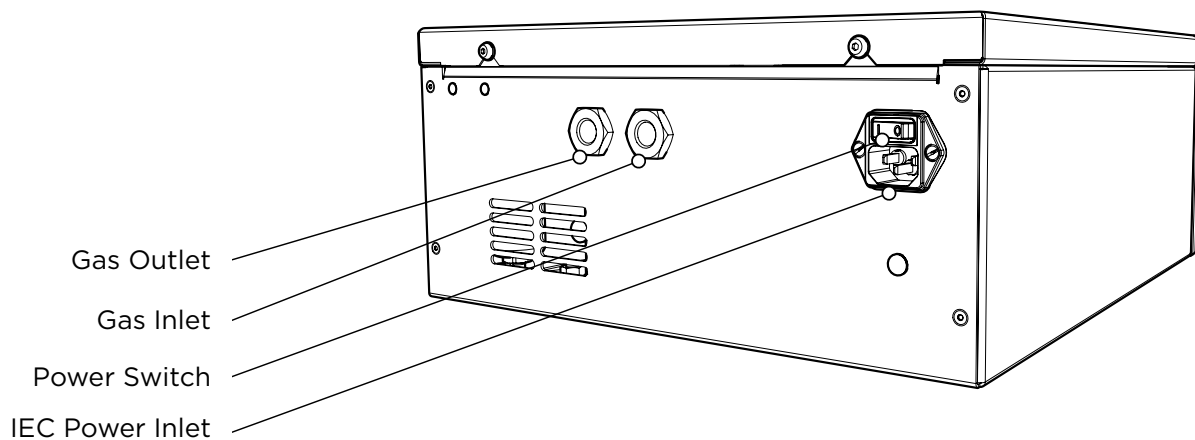


The generator should be situated in a well ventilated environment, with at least 75mm (3") air gap all around it and should be positioned such that it can be easily disconnect from the mains supply if required.

Unit Controls



Collision Gas Add-On Rear Connections



Ensure all inlets and outlets are connected to correct sources and applications



All Connections should only be carried out by trained personnel



Generator must be switched off and unplugged prior to any cleaning or maintenance operations

Installation

Generator Environment

The generator is designed for indoor use only. It should be installed adjacent to the application(s) it is supplying and close as possible to the gas supply (Genius XE35/XE70. If this is not convenient then the unit can be sited elsewhere. Consideration should be made of the lengths of pipe runs as pressure drops can result from extended runs of pipe. See page 20 for guidance on tubing lengths greater than 3m.

The vent should not be blocked or restricted in any way. An air gap of 75mm (3") should be maintained down both sides and 100mm (4") at the rear of the unit. Please refer to the drawing on page 13 for the general dimensions of the unit.

Please ensure generator is situated in a well ventilated environment and is positioned to permit easy disconnection if required.

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

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

Electrical Connection

Connect the generator to an appropriate single-phase supply, refer to the generator serial plate for input specification and ensure your supply matches the requirements.

If an appropriate mains power cords 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 the information on the serial plate. The mains supply must be of the stated AC voltage and frequency.

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

LIVE (L):- Brown or Black

Neutral (N):- Blue or White

Electrical requirements are 240VAC / 100VAC nominal +/- 10%. Running at voltages outwith this is not recommended. 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 maybe impaired.

Start-Up Sequence

Refer to installation guide on how to connect the Collision Gas unit to the gas supply source (Genius XE35/XE70).



Switch the unit on using the power switch on the rear panel of the generator - do not connect it to the application for 30 minutes to allow the system to purge.

Collision Gas add-on unit will then go through Product Registration. This is detailed on the next page.

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 mobile app from the Google Play Store or Apple App Store. A PIN code may also be requested by phoning the PEAK helpdesk.

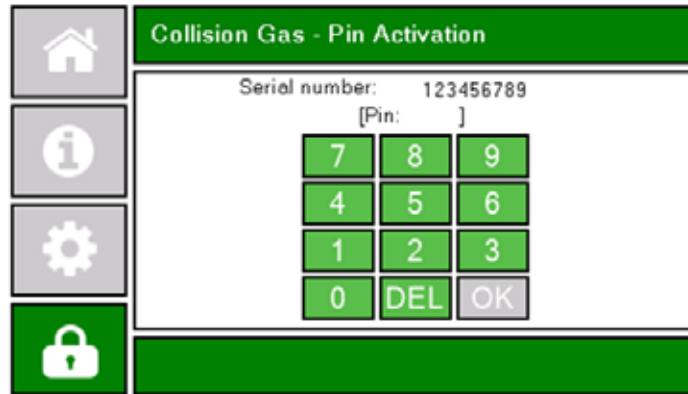
This code is only required on the initial start-up of the unit.

Collision Gas Add-On Registration

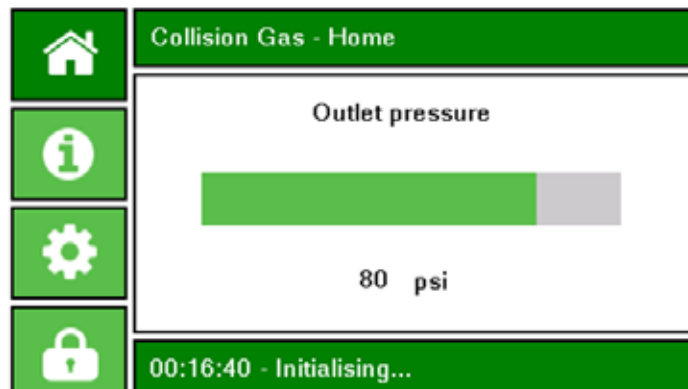
1. Press the 'I've got my pin' button and select the language on the screen on the front of the generator.



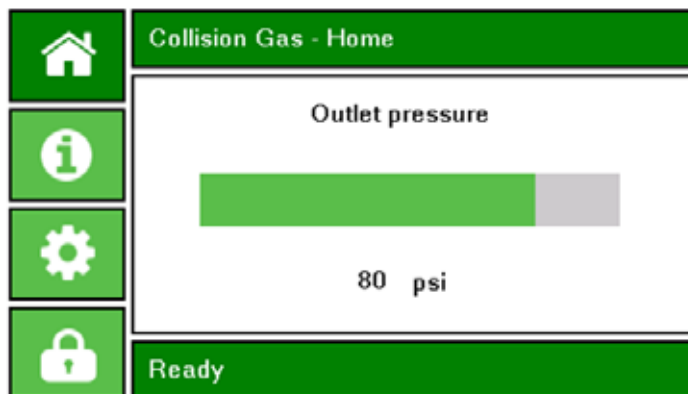
2. Enter your **PIN**.



3. The unit will then go through **initialisation phase** for 3 hours.



4. Upon completion of the initialisation phase, the screen will display the below, **home screen**. **Status** on the bottom of the screen should display **Ready**.



Connecting to the application

Once the initial purge run of 30 minutes has completed, generator can be connected to the application. Please note that this generator requires 3 hours to reach the purity.

After this time, gas will be delivered to the outlet port. Attach the 1/4" compression fittings to the outlet of the generator. Using suitable tubing, connect the outlets of the generator to the inlets on the application.

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

For connection to GC applications, we would recommend laboratory grade copper or stainless steel tubing.



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 lead to a reduction in efficiency.

Tubing Lengths



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

For connection between Nitrogen generator and Collision Gas Add-on unit:

<3 meters: Use 6mm OD / 4mm ID FEP tubing.

Tubing length between the nitrogen source and Collision Gas unit should be no longer than 3 meters.

For connection between Collision Gas Add-on and the application:

<3 meters: Use 6mm OD / 4mm ID FEP or 1/4" OD / 3/16" ID PTFE or 1/8" copper / stainless steel tubing (1/8" tubing or fittings not supplied in the fittings kit).

< 10 meters: Use 6mm OD / 4mm ID FEP or 1/4" OD / 3/16" ID PTFE

>10 metres: Please contact PEAK Scientific with the relevant distance and we will calculate the flow resistance and the tubing size required.

Keep the connections and bends to a minimum.

Normal Operation

The Collision Gas add-on is specifically designed to minimize operator involvement. The generator will produce Nitrogen with the purity <5PPM at the flow and pressure specified in the Technical specification section of the user manual.

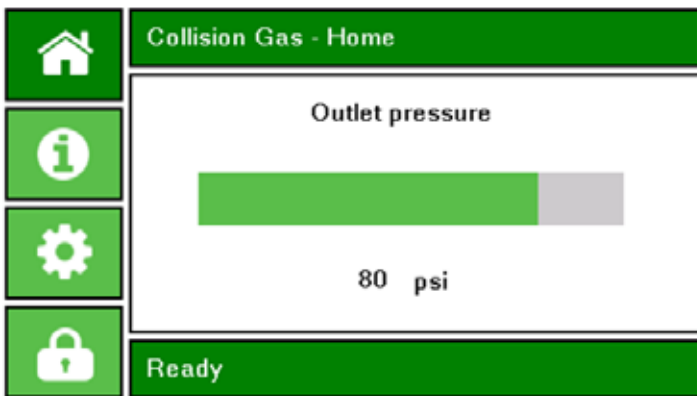
To ensure that the generator operates optimally, it should be installed and maintained according to information provided in this user manual.

Collision Gas Add-on generator input gas must be supplied by Genius XE35/XE70 PEAK nitrogen generator and cannot operate as stand alone unit.

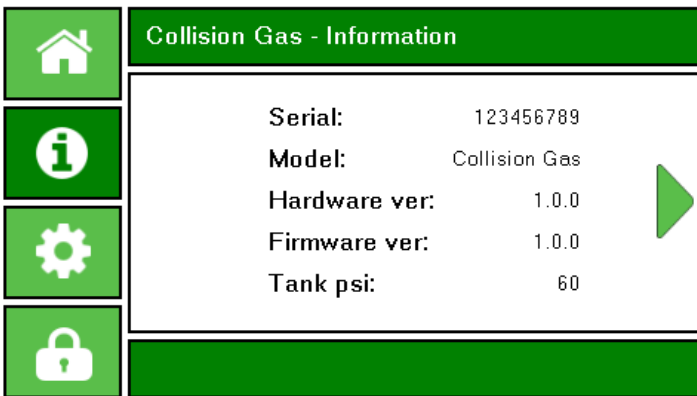
The generator will automatically produce the factory set pressure as detailed in the technical Specifications. The outlet flow rate is 0.2LPM and cannot be changed

Normal Operation Information Screens

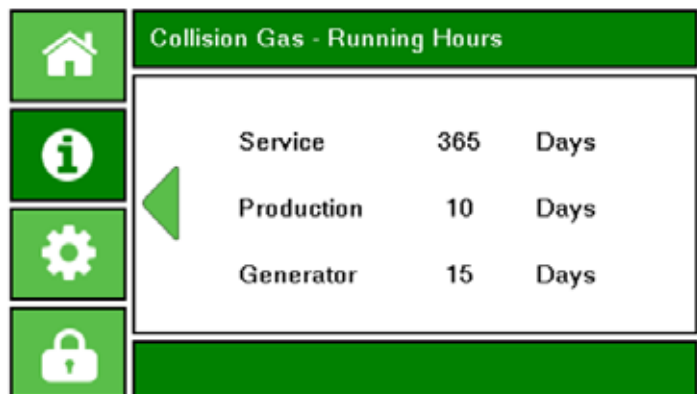
Normal Operation Home Screen



Unit Information Screen



Running Hours Information Screen

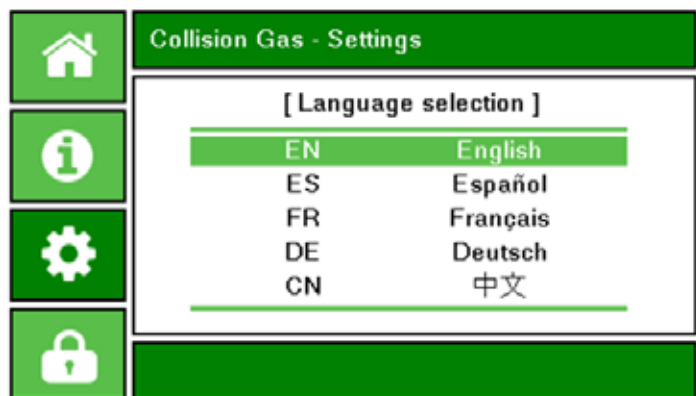


Service - number of day left till next service

Production - number of nitrogen generation days

Generator - number of days that the generator is powered on

Language Selection Screen



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 your local representative or PEAK Scientific as soon as possible.

Service Requirements

Service Schedule

Purchase Interval	Component	Visit
48 Months	Collision Gas Add-on 48 Month Service Kit*	www.peakscientific.com/ordering

* Please quote your generator serial number when ordering your Maintenance Kit to ensure selection of the appropriate kit for your generator.

Service Indication

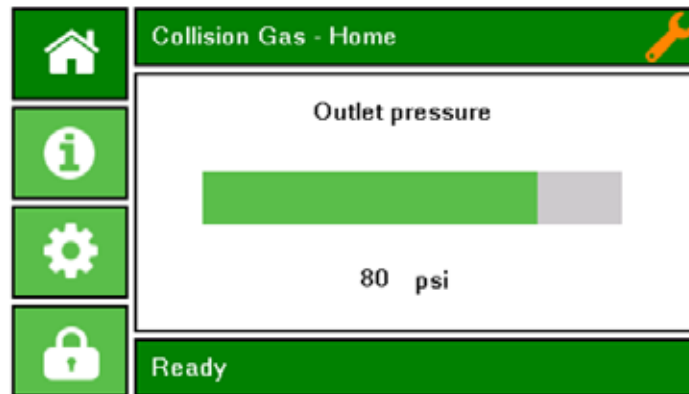
The generator will notify the user of the service interval.

The generator has the following Service Indication Stages:-

Stage 1

11 months after installation, the **orange** service indicator will show on the display.

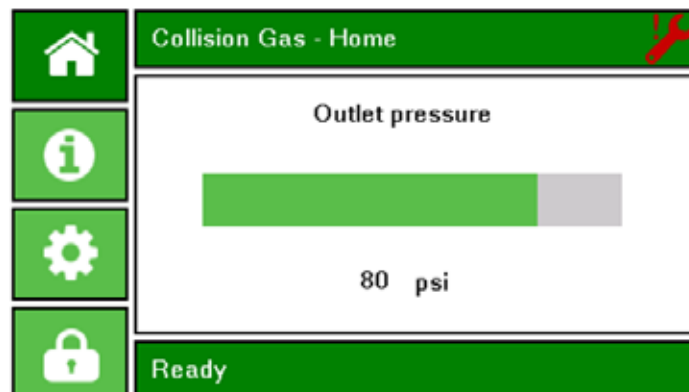
This is to make the user aware that a service of the generator is due and should be planned at the earliest convenience. The generator will continue to operate as normal with the service indicator on.



Stage 2

If the service is not completed, the generator will continue to run. After 4 weeks, the service overdue indicator will change to red.

This is to make the user aware that the service of the generator is now overdue and must be completed immediately to ensure the continuous trouble free operation of the generator.



Service Indication Reset

Once the service has been completed the Service Indication can be reset through the service interface. This will be performed by the PEAK Service Engineer or trained service representative that completes the service operation.


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



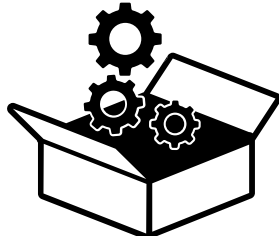
Complete plan
Swift response by a Peak Service Engineer within 72 hours & planned preventative maintenance



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 the outside of the generator only using warm soapy water and a clean damp cloth. Ensure all excess fluid is thoroughly removed from the cloth prior to use.



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
<p>The Generator will not switch on.</p>	<ul style="list-style-type: none"> • Ensure power cord is plugged into the Generator and that the power socket is turned on. • Check the fuse in the power cord plug. • Contact your service provider. 
<p>Purity isn't reached.</p>	<ul style="list-style-type: none"> • Check for leaks between generator and instrument • Contact your service provider
<p>The application is reporting low pressure.</p>	<ul style="list-style-type: none"> • Check output pressure gauge on Genius XE35/ XE70. • Check for leaks between the the supply and the generator but also between generator outputs and consuming instrument. • Contact your service provider.
<p>Service indicator on the screen is active 🛠️</p>	<ul style="list-style-type: none"> • The generator is due for service. Contact your service provider. • Refer to Service Indication section of this manual for further information.
<p>Overdue service indicator on the screen is active !🛠️</p>	<ul style="list-style-type: none"> • The generator is overdue for service. • Contact your service provider urgently. • Refer to Service Indication section of this manual for further information.

[**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