PhoCheck
TIGER SELECT

Instrument User Manual V1.1

Register your instrument online to receive your Extended 5 year Warranty. See page 44 of the Standard TIGER Manual for details.

rt Number: 861489

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Advanced Gas Sensing Technologies

About this Manual

This manual describes the function and operation of the TIGER Select instrument.

It is a supplement to the standard Phocheck Tiger manual (Part number: 861265) and should be used together with the standard manual.

Please read and understand both user manuals completely before operating the TIGER Select instrument.

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Statements

RESPONSIBILITY FOR USE

Inadequate performance of the gas detection equipment described in this manual may not necessarily be self-evident and consequently equipment must be regularly inspected and maintained. Ion Science recommends that personnel responsible for equipment use institute a regime of regular checks to ensure it performs within calibration limits, and that a record be maintained which logs calibration check data. The equipment should be used in accordance with this manual, and in compliance with local safety standards.

LEGAL NOTICE

Whilst every attempt is made to ensure the accuracy of the information contained in this manual, Ion Science accepts no liability for errors or omissions, or any consequences deriving from the use of information contained herein. It is provided "as is" and without any representation, term, condition or warranty of any kind, either express or implied. To the extent permitted by law, Ion Science shall not be liable to any person or entity for any loss or damage which may arise from the use of this manual. We reserve the right at any time and without any notice to remove, amend or vary any of the content which appears herein.

!CAUTION!

It is essential that the PhoCheck TIGER is always used with a supplied PTFE 0.5 micron filter fitted to the front of the instrument. Without a filter, particles of debris and dust can be drawn into the detector inhibiting the function of the instrument. These filters are consumable and should be changed after every 100 hours of use. The frequency of replacement should be increased for dusty or moisture laden environments. Filters are available from your distributor or at www.ionscience.com .

Quality Assurance

PhoCheck TIGER has been manufactured in compliance with ISO9001:2000, which ensures that the equipment supplied to our customers has been designed and assembled reproducibly, from traceable components, and leaves Ion Science calibrated to stated standards.

Disposal

Dispose of PhoCheck TIGER, its components and any used batteries in accordance with all local and national safety and environmental requirements. This includes the European WEEE (Waste Electrical and Electronic Equipment) directive. Ion Science Ltd offers a take back service. Please contact us for more information. The PhoCheck TIGER field case material is recyclable polypropylene.

Calibration Facility

Ion Science Ltd offers a calibration service including the issue of certification confirming calibration with equipment traceable to national standards. A PhoCheck TIGER calibration kit is available from your distributor or service centre or at www.ionscience.com . Ion Science recommends annual return of all instruments for yearly service and calibration.

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Introduction to PhoCheck TIGER Select

Benzene vapour is carcinogenic. Benzene is a constituent of certain types of fuel, and used as a solvent, and in the production of a wide range of chemicals and plastics.

PID technology can easily detect Benzene vapour as well as many of other volatile organic compounds.

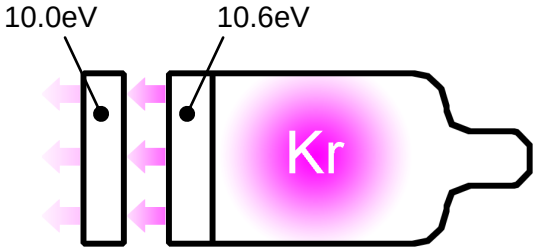
The *Tiger Select* uses a combination of a ultraviolet and chemical filtering to deliver a response to Benzene free from interferents.

When the *Select* upgrade is activated, data logging, H&S mode and ppb automatically become available.

At start up a specific *Select* screen appears however the instrument initially runs like a standard *Tiger*. When in *Select* mode the instrument takes control over many of the standard features.

The *Tiger Select* uses a standard 10.6 eV lamp and a selective 10 eV filter incorporated in the pellet/stack.

The lower eV output prevents sensing many of the gases co-present in Benzene containing atmospheres.



The *Tiger Select* starts up in normal running mode.

Ion Science recommend operating the instrument in the working environment for 10 to 15 minutes before use. This allows the tubes and instrument to acclimatize and ensures the best results.

Ion Science suggest that the TIGER Select is calibrated before each use and a new PID-Pre –Filter Tube is used.

With no tube fitted, the customer can check the general VOC level, if there are no VOC's present then no tube test is required.

Getting started

The TIGER Select has all the features and functions of the standard TIGER instrument with the additional feature of Benzene detection using the PID-Pre-Filter Tube in TIGER Select mode..

This manual describes the operation of the TIGER in the TIGER Select mode indicated by the following symbol.

When first turned on, the TIGER Select will run through a start up routine as described below in 'Understanding the display screen'. The TIGER Select will then run in standard mode with all the standard TIGER functions. All standard functions are described in the Standard TIGER manual (part number 861265).

When in TIGER Select mode the instrument will default to the Benzene calibration.

PID-Pre-Filter Tube for Benzene.
The PID-Pre-Filter Tube is used in a specifically designed way with the TIGER Select. The instructions supplied with the tubes do not affect the operation of the TIGER Select.

Please note:

1. If your TIGER Select has just been calibrated please ensure that a new PID-Pre-Filter Tube is used when in TIGER Select mode.

2. A 10eV filter Pellet is fitted to the TIGER Select is used for Benzene and Isobutylene detection. To revert to the full standard TIGER function with the whole range of gases the 10eV filter should be replaced with a standard 10.6eV pellet. Ensure that the 10.6eV lamp is selected from the Tiger PC Software. A custom calibration should then be carried out.

Understanding the display screen

Start up screens

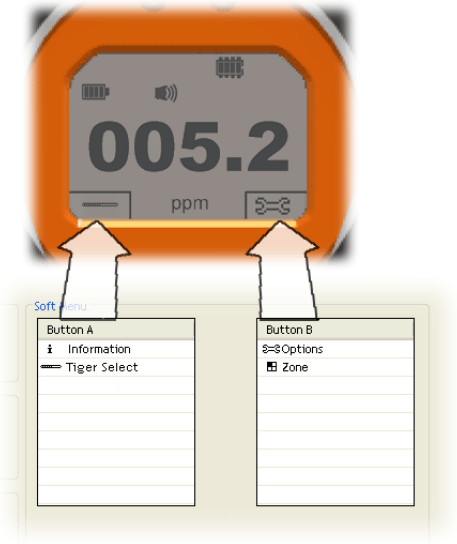
Start up the instrument by pressing the ON/Off key
A sequence of screens will appear displaying the following:-

Screen 1:	Test screen where all fixed icons are shown
Screen 2:	The Ion Science logo is presented
Screen 3	The TIGER Select logo.
Screen 4:	Instrument identification; PhoCheck Tiger (default), IRN number, Firmware version
Screen 5:	Lamp strike routine. Animated dots indicate progress. When the lamp strikes, 'OK' will appear

Soft key areas

The following icons will appear in the soft key areas as soft key options. They are selected using the UP and DOWN keys.

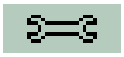
These icons can be reorganised using the TIGER Select PC software (refer to Standard TIGER manual).



Button A

	Information
	Tiger Select mode
	Multiple data logging (optional)
	Gas selection
	Zeroing
	Health & safety (optional)

Button B

	Options
	Average
	Data log (optional)
	Zone(s)
	Sleep
	Peak hold

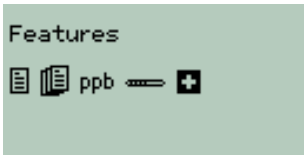
Refer to the Standard TIGER manual for a description of all the soft key functions.

This manual now describes, in detail, the operation of the TIGER Select Function only.

Using your TIGER Select

INFORMATION Pressing the Information soft key allows access to a number of other information screens. Use the DOWN key to scroll through the screens. Press ESCAPE to return to the main screen:

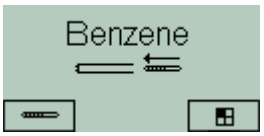
First Screen	Gas selected	
	Response Factor	
	Upper alarm	
	Lower alarm	
Second screen	Lamp selected	
	Date of factory calibration	
	Date of custom calibration	
	Date of benzene calibration	
Third Screen	SPAN 1	(gas concentration set in TIGER PC)
	SPAN 2	(gas concentration set in TIGER PC)
	PID detector	
	A/D reading	
	Temperature	
Fourth Screen	STEL	
	TWA	
	Internal Reference Number (IRN)	
	Firmware version	
	Bootloader version	
	Battery type and status	
Fifth Screen	Memory Status	
	Gas table date.	
	Date and time	
Sixth Screen	Features. An icon will appear for each feature available on this instrument.	



Using your TIGER Select

TIGER Select mode *Please note: If your TIGER Select has just been calibrated please ensure that a new PID-Pre-Filter Tube is used.* Ion Science suggest that the TIGER Select is calibrated before each use.

Press the TIGER Select soft key to display the icon that indicates that the PID-Pre-Filter should be inserted (part number 5/FD-01). Do not insert the PID-Pre-Filter until Both ends of the tube have been removed as below.



Remove both ends of the PID-Pre-Filter tube with the Glass Tube Cutter supplied with your TIGER Select (part number 5/FD-02).

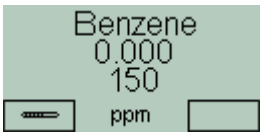
Insert the PID-Pre-Filter tube into the glass tube cutter and turn the tube to cut the glass.

Unscrew the probe and insert the PID-Pre-Filter Tube. Now replace the probe.

Press the Enter button. 

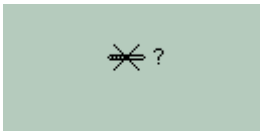
Using your TIGER Select (continued)

The TIGER Select will now take a sample over 150 seconds. During this time the other soft keys will be disabled.

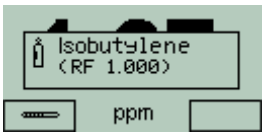


At the end of the sample the display will show the level of Benzene detected in the in the location that the instrument has been sampling.

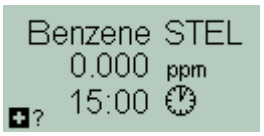
To return to the main screen press Esc and confirm with the Enter button.



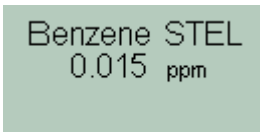
An idication of the gas selected is for normal Tiger operation is then shown.



If the Health & Safety option is enabled (via Tiger PC) the instrument will run for a 15 minutes STEL after the initial Benzene test. The icon in the bottom left corner will flash as indication to the user to press the enter button to observe
the STEL routine.



At the end of the routine the final result will be displayed.



To escape the routine at any time press the Esc button and confirm by pressing the Enter button.

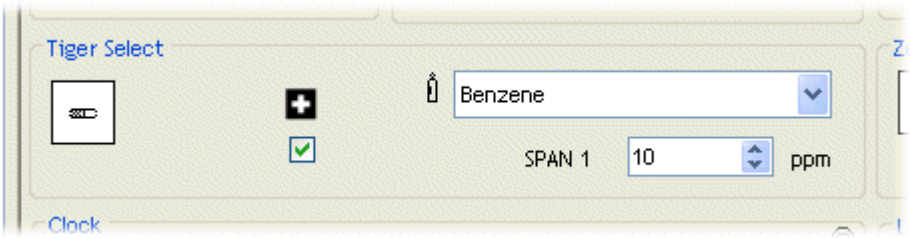
IMPORTANT: Tiger Select STEL.
While the Tiger Select calculates the 15 minute STEL the instrument displays the ongoing STEL as it is calculated. This ongoing calculation is for indication purposes only to allow the user to gauge how the calculation is progressing. Only the final reading at the end of the calculation is logged by the instrument and should be referenced by the user.

TIGER PC Software

Please Refer to the standard TIGER manual for the TIGER PC Software user information.

The TIGER Select Configuration screen will show the window below. The calibration default is 10 ppm benzene.

To run the Health & Safety mode tick the box. This will then allow the option to run a 15 minute STEL calculation after the initial Benzne test.



Maintenance

CALIBRATION ***Please Refer to the standard TIGER manual for Factory and Customer calibration.***

TIGER Select mode will operate against a benzene calibration. Readings taken against unsatisfactory calibrations may be unreliable.

For ***Benzene Calibration***, first set up the parameters in TIGER PC - see page 10.
TIGER Select allows you to custom calibrate using 10ppm Benzene gas. Each cylinder should be regulated for a flow rate above 250ml/min.

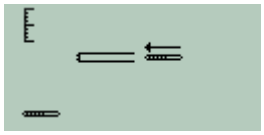
Note: Have on hand the cylinder(s) of gas, regulator(s) and PID-Pre-Filter Benzene Tube before starting the procedure. Please ensure you are familiar with the entire calibration procedure before attempting to calibrate your TIGER Select.

Press the Options soft key on your TIGER Select to access the adjustable features.

Then use the UP or DOWN key to select calibration. Press ENTER to confirm selection.

Select TIGER Select Calibration and press Enter to confirm.

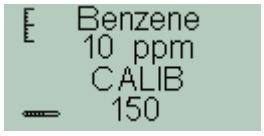
On confirming the selection, the user is presented with a prompt to insert the PID-Pre-Filter Tube (part number 5/FD-01). Remove both ends of the PID-Pre-Filter tube as described on page 9.



Now connect the tube from the gas cylinder to the end of the probe.

Now Press the Enter button. A screen will be shown with a countdown In seconds.

Turn on the gas and press the enter button. The countdown will begin.



When the countdown has finished a tick will indicate that the calibration has finished. Press enter to confirm the calibration.

Maintenance

Probes

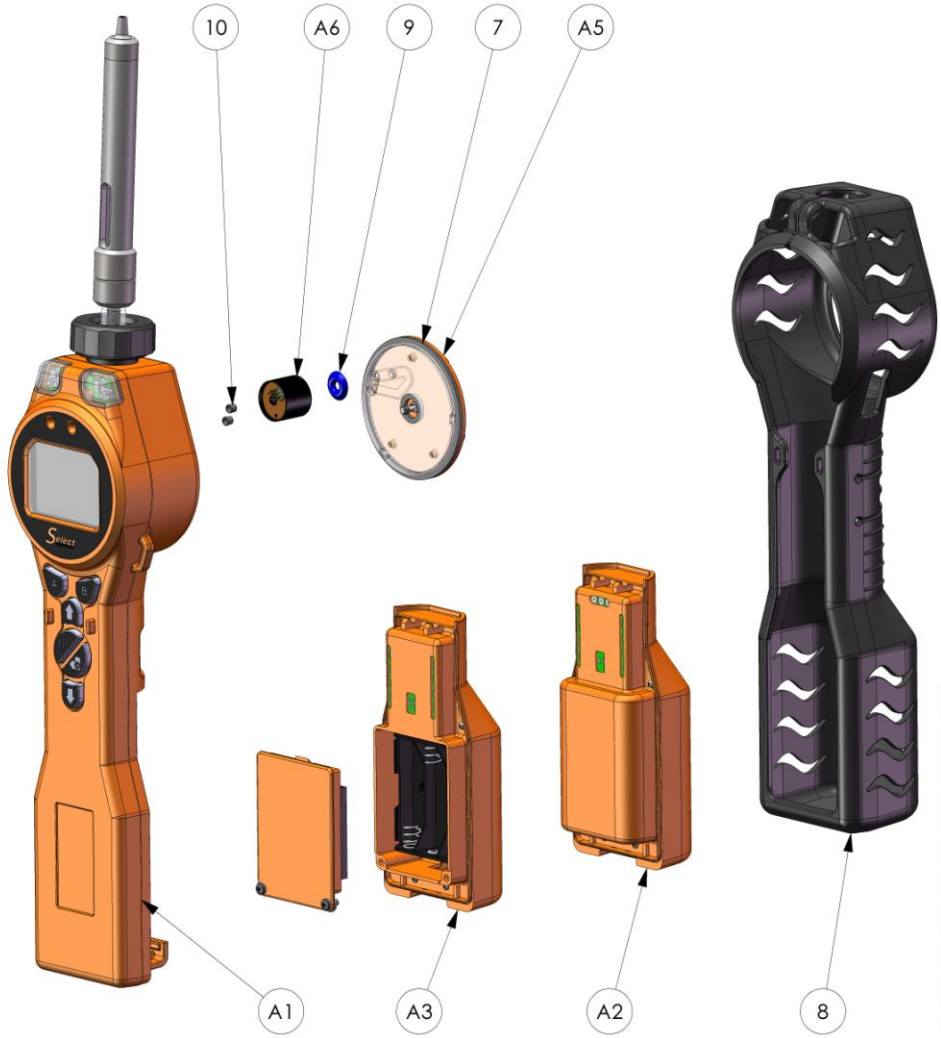
Should the probe become cantaminated or damaged, replacement probes may be obtained from your distributor or from Ion Science Ltd. Please note that a small ‘O ring’ at the base of the probe ensures the probe is sealed, this can be seen in the transparent filter housing when the probe is removed.

The probe can be removed for cleaning or replacement by unscrewing it from the transparent filter housing.

Refit the probe using fingers only, avoid using tools as this may damage the filter housing. To ensure the assembly is sealed, place a finger over the probe to block the flow while the instrument is running. A flow alarm should occur if sealed correctly.

TIGER Select Parts

TIGER Select Main Assembly

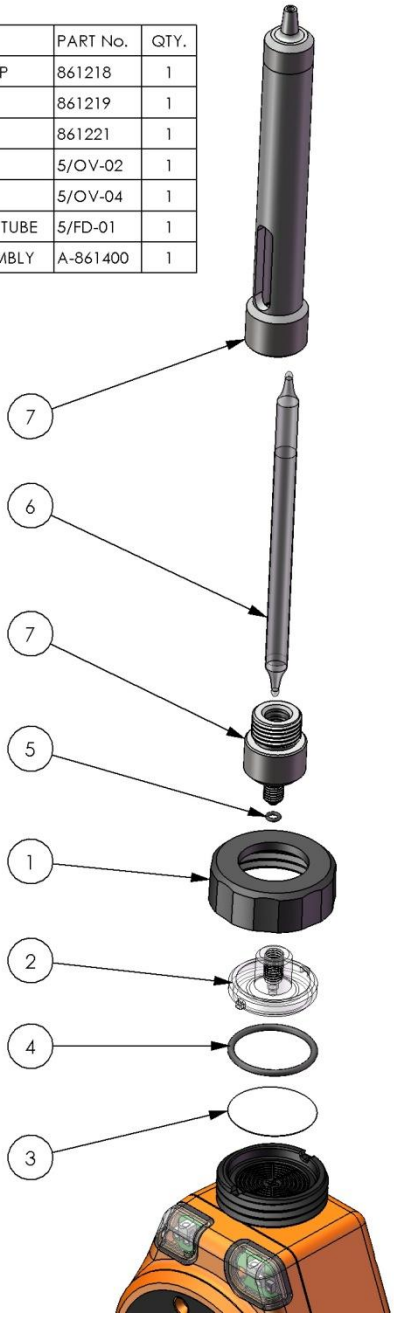


ITEM	DESCRIPTION	PART No.	QTY
A1	BASIC PHOCHECK TIGER SELECT	A-861439	1
A2	RECHARGEABLE BATTERY PACK	A-861240	1
A3	ALKALINE BATTERY PACK	A-861241	1
A4	CHARGER	A-861220	1
A5	SENSOR COVER	A-861259	1
A6	MiniPID SENSOR	A-846219	1
7	SENSOR GASKET	861203-9	1
8	INSTRUMENT BOOT	861205	1
9	SENSOR SEAL	861214	1
10	INLET/OUTLET SEAL	861215	2

TIGER Select Parts

Front End Filter Assembly

ITEM No.	DESCRIPTION	PART No.	QTY.
1	FILTER HOUSING CAP	861218	1
2	FILTER CLAMP	861219	1
3	FILTER DISC	861221	1
4	O-RING	5/OV-02	1
5	O-RING	5/OV-04	1
6	BENZENE PRE-FILTER TUBE	5/FD-01	1
7	TUBE HOLDER ASSEMBLY	A-861400	1



Technical Specifications

Please Refer to the standard TIGER manual for the full specification of the Standard TIGER instrument.

Benzene Detectable Range	0.01 – 40 ppm Benzene.

Manual History

Manual version	Amendment	Issue Date	Instrument Firmware	PC Software
1.0	First issue	27/02/2011	V 0.3.85	V 1.0.0.42
1.1	Front cover issue updated to V1.1 Page 9, Health and Safety mode added. Page 10 Health and Safety mode added.	8/04/2011	V0.3.93	V1.0.0.45

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