



MANUFACTURERS OF SPECIALIST TEST EQUIPMENT

# Calibration Pro'

## Operating Instructions

English Version



**Please read carefully before use**

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## Description

The Calibration Pro' comes complete with batteries, a high voltage lead and an earthing lead. The meter is housed in a robust aluminium case.

On the front panel of the case there is:

- Rotary ON/OFF and range changing switch.
- LCD digital voltage display.
- On the back panel of the case there is:
- Earth return socket (4mm).
- Battery drawer containing 4 x AA batteries.

The High Voltage input to the meter is applied via the red connector on the top of the case.

## Unpacking

The Calibration Pro' and the various leads should be removed from their packaging and checked for damage. If any part is damaged, the carrier and supplier should be notified immediately. All packing material should be kept for inspection and the Calibration Pro' should not be used.

The package contains the following items:

- Calibration Pro' Unit.
- High Voltage Connector Lead.
- 2m Earth Lead.

If any of these are missing, contact your supplier immediately.

The packaging should be retained for the future to be used if the unit needs to be sent back for repair, or needs to be stored. All items should be put in plastic bags before being placed in the carton.

## Technical Specifications

Operating temperature range:	0 to +30°C
Storage temperature range:	-10 to +40°C
Supply voltage:	6V DC. (Battery - see rear panel of unit)
Battery Type:	4 x 1.5V Type AA (LR6)
Estimated Running Time:	2000+ Hours (Using Duracell Alkaline Batteries)
Measurement Range:	0 - 40kV (DC only) Measurement Accuracy: +/-
1% +/- 1 Digit Net Weight:	1.9 Kg
Dimensions:	120 x 280 x 215mm
Altitude:	Up to 2000m
Relative Humidity:	Maximum 80% (Non-Condensing)
Installation Category:	Category II (over-voltage transients)

## Safety Precautions

Below is a list of markings that are used on the unit:



**CAUTION:** Refer to accompanying documents



**CAUTION:** Risk of Electric Shock



**WARNINGS:** Denotes hazards to the operator

Read the information in this manual before using the equipment.

**Note:** The works safety officer should approve the usage of this equipment.

The Buckleys Calibration Pro' is intended to be used for measuring very high voltages and therefore should only be used by responsible and authorised personnel that have read and understood this manual.

**WARNING:** High Voltage equipment should not be used in any combustible atmosphere as the high voltage will cause a spark, and an explosion could result.

The design of the Calibration Pro' will protect the operator from receiving a dangerous electric shock. When in use, the meter should be secured to a good earth connection at all times.

**WARNING:** High Voltage equipment should not be used in a situation where it would be exposed to damp or wet conditions or where the amount of conductive dust is greater than would occur in a normal situation.

The high voltage supply must not be switched on until both ends of the HV lead have been securely fastened to the HV supply and the meter, and both have been earthed.

**WARNING:** This equipment **MUST** be earthed. To not do so may result in electric shock.

Position the HV supply and the Calibration Pro' so that the **[ON/OFF]** switches are easily accessible to the operator whilst the unit is in use.

**WARNING:** This equipment is only intended for use with a smoothed DC supply. It should NOT be connected to equipment that generates a high frequency AC or pulsed DC output.

# Operation

**WARNING:** The equipment should not be operated if any part is in a damaged condition.

Ensure that the high voltage supply is switched off and is connected to a secure earth.

Connect the Calibration Pro' to earth via the connector on the rear panel and the supplied 2m black earth lead.

**WARNING:** Do NOT connect or disconnect the high voltage lead to the supply when the supply is switched ON.

Check that the HV supply is switched off and that its output control is set to minimum.

Connect the Calibration Pro' to the HV supply using the supplied red high voltage lead and switch the Calibration Pro' to the correct range (20kV or 40kV full scale deflection).

Switch on the HV supply and slowly increase the output so that the display of the Calibration Pro' is set to half the maximum. (i.e. a 20kV supply should be set to 10kV).

If the Calibration Pro's digital display does not rise as the HV supply is increased switch both units OFF and check the connecting leads and/or the batteries in the unit.

Once the HV supply is set to half of maximum (read on the Calibration Pro') carefully adjust the calibration controls on the HV supply (instructions to do this should be supplied by the equipment manufacturer) until the display on the HV supply reads the same as the display on the Calibration Pro'.

Using the output adjustment control, set the HV supply to minimum and check that the display on the Calibration Pro's reads the same (within acceptable tolerances) as the display on the HV supply. Repeat the test, this time with the HV supply set to maximum.

This completes calibration of the HV supply. Finally the HV supply should be switched off, leads removed and an appropriate 'Calibration Sticker' applied.

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# Maintenance & Calibration

The Buckleys Calibration Pro' requires no maintenance by the user except battery replacement. If the batteries should begin to fail (indicated by a low battery symbol in the top left of the digital display) replacement should be carried out immediately. Ensure that the unit is switched off and is not connected to any high voltage supply. Squeeze the sides of the battery compartment (located on the rear panel of the meter) and remove the drawer.

Replace the old batteries with 4 x 1.5V Type AA (LR6) batteries, ensuring that the correct polarity is maintained. Replace the battery drawer and make sure that the old batteries are disposed of safely.

The Calibration Pro' should be inspected before use on every occasion to check that the case, high voltage cable and earth lead have not been damaged. If damage is found, the unit must not be used, and must be returned to the manufacturer for repair.

Buckleys' policy for re-calibration of the Calibration Pro' is 12 months. (See Calibration Certificate) You may send the unit back to Buckleys for calibration, you may wish to do this yourself or send it to a test house. The test should always be traceable to national standards.

# Risk Assessment

It the user's responsibility to complete a risk assessment before using Buckleys equipment. The following points offer some guidance but must not be assumed to be complete or sufficient.

## Personal safety

- Have all users been trained in the correct and safe use of the instruments?
- Are they aware that the instrument produces high voltages, and can give electric shocks if used incorrectly?
- Is the instrument in good condition, undamaged? Is the instrument dry? Are the accessories similarly in good condition, dry and undamaged?
- Is it possible to ensure that persons with pacemakers, cochlear implants or trans-dermal implants of any kind are sufficiently far from the instrument & test site to be safe?
- Ozone is an irritant gas which will be produced when the instrument produces sparks – is the test outdoors, or is there sufficient, suitable ventilation in place to ensure that this is not hazardous?
- Is the access route to the area of the test safe? Is fall protection necessary? If so, is it in place?
- Has the instrument been properly grounded to a metallic grounding point?
- Should you use the anti-static wristband to prevent static charge build-up

## Explosion & Fire Risk

- Buckleys high-voltage instruments will produce sparks - Are you certain that there is no risk of an explosive atmosphere?
- Have all easily-ignited and/or flammable materials been removed from the area to be tested?

## EMC & RFI

- Buckleys high-voltage instruments will produce sparks which may create interference in nearby electronic apparatus, particularly communication and computer equipment.
- Are you certain that there is no risk of such interference causing a danger to others – particularly medical or life support equipment?
- Are you sure that there is no risk of such interference causing costs or inconvenience to others – eg industrial processes, measuring equipment, scientific apparatus, domestic radio and TV?



### Other Risks

- Have you checked that there are no ongoing processes in the area (eg below the roof you're working on) that may be dangerous – X-ray machines, other radiation?
- Are you certain that the instrument has not been immersed, dropped or otherwise damaged in a way that is not obvious?
- Have you verified that the ground connection is actually grounded?
- Is the person responsible for site safety aware of / fully understanding the testing you are going to do, and has it been reviewed in line with the site procedures?

**NOTE: Wherever you are intending to use equipment of this type, on your site or on a customer's, always obtain clearance from the company safety officer.**

## Disposal information

Producer registration number: WEE/HJ0051TQ



This Product must be disposed of in accordance with UK WEEE Producer Responsibility Regulations, or in accordance with your local WEEE guidance.

For further information on UK WEEE regulations click on:

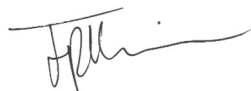
<http://www.gov.uk/government/collections/producer-responsibility-regulations>

## EC Declaration of conformity

We, Buckleys (UVRAL) Ltd., as manufacturer of the apparatus listed, declare that the product **Calibration Pro** is manufactured in conformity with the following directives: **2014/30/EU**, **2014/35/EU**, **2015/863/EU** and **2011/65/EU (RoHS)**.

Date: 01/07/2021

Authorised by:



J P Hoveman

CEO, Buckleys (UVRAL) Ltd.



## UKCA Declaration of Conformity

We, Buckleys (UVRAL) Ltd., as manufacturer of the apparatus listed, declare that the product **Calibration Pro** is manufactured in conformity with the following UK legislation: **Electronic Compatibility Regulations 2016**, **The Electrical Equipment (Safety) Regulations 2016** and **Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012**.

Date: 01/07/2021

Authorised by:



J P Hoveman

CEO, Buckleys (UVRAL) Ltd.



# Contact details

**Manufacturer:** Buckleys (UVRAL) Ltd

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# Distributor details

# Product registration

Thank you for choosing a Buckleys product, we are sure it will provide you with many years of reliable service.

Please register this product via Buckleys' website and download the Warranty Registration Certificate.

Register your product in 5 minutes

Once your product is registered, you will receive the following benefits:

- **FREE** annual service & calibration reminders by email
- **Latest** industry news relating to your product
- Be the **first** to hear about our new products

We strive to improve the quality of our products and service.

Registering your product helps us monitor overall quality of our products, service and dealer network. Additionally, if we ever need to contact you regarding your product, we are able to do so immediately.

We will also send you annual service/calibration reminders by email to help ensure your product is always in perfect working order.

To register your product, simply visit:

[www.buckleysinternational.com/registration](http://www.buckleysinternational.com/registration)

Complete the online form and click on SUBMIT.

