

H29723 Benchmark Coulombmeter

NFU151i

Purpose

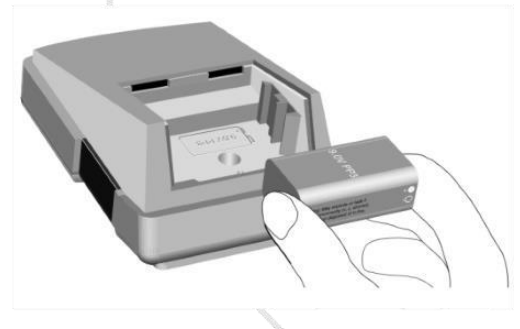
Digital coulombmeter: ± 0 to 1999 nanocoulombs

One of a range of digital instruments specially designed for educational applications. The units provide the user with accurate measurement of a range of physical quantities.

Apparatus details

Fitting the battery

All Benchmark units require 9V PP3 type batteries. Open the battery compartment by pressing the battery cover at the top end of the case. This releases the battery cover catch, allowing the cover to be lifted. Check the polarity, press the battery into place and replace the cover.

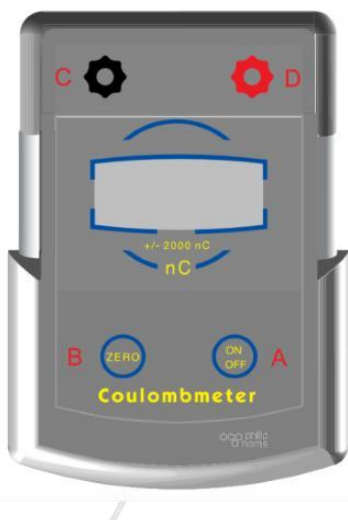


Auto Switch-off

To help prolong battery life, all Benchmark instruments incorporate automatic switch-off. All the electrical meters switch off after 50 minutes. The instruments may be reactivated by pressing the ON/OFF keypad. They may also be switched off manually before this time by pressing the same keypad.

Operating procedures

All meters are switched on by pressing the ON/OFF keypad (A). The coulombmeter will accept charges of either polarity. If this polarity corresponds with the black (-) and red (+) input sockets (C and D), the display will simply show the figures. If the input polarity is reversed in relation to the input sockets, the figures will be preceded by a minus sign.



The instrument can be zeroed by pressing the ZERO keypad (B).

The collecting plate should be fitted into the positive socket, leaving the negative socket free for charging by contact. This unit is suitable for charging by induction, spooning charge etc.

The coulombmeter has an input capacitance of $1\mu\text{F}$. Charge can only be measured simply for objects with a capacitance of less than $0.01\mu\text{F}$. The capacitance of an object connected to the coulombmeter must be many times less than that of the coulombmeter, and only a negligible fraction of the original charge remains of the object. This is because the test object

and the internal capacitance of the coulombmeter will be connected in parallel and thus will share the charge. For example, if the test object's capacitance is also $1\mu\text{F}$, the reading will only be half that expected.

version H29723.15.03

Specification: Coulombmeter

Range: $\pm 1999\text{nC}$
Overload capacity: $\pm 100\text{V}$
Internal capacitance: $1\mu\text{F}$
Accuracy: $\pm 10\%$ of full scale

Display:

3.5 digit liquid crystal
13mm characters
Low battery and polarity indication.



Internal battery:

9V type PP3 or equivalent
Expected battery life 5000 hours from alkaline PP3.



Automatic Switch-Off:

Operates after approximately 50 minutes.



Dimensions:

130 x 92 x 55mm (length x width x depth)



The Benchmark range

d.c. Ammeter	H27726
d.c. Milliammeter	H29097
d.c. Microammeter	H29139
d.c. Voltmeter	H27763
d.c. Millivoltmeter	H29164
a.c. Ammeter	H28342
a.c. Voltmeter	H29954
Coulombmeter	H29723
Stopclock	H28603

Safety advice

For your safety, this product should be used in accordance with these instructions; otherwise, the protection provided may be impaired.

version H29723.15.03

This unit is intended for use in DRY conditions. Avoid spillage of water and other liquids on to the unit. There is no specific requirement for insulation of external circuits as they cannot become hazardous live, as a result of connection to this unit

Disclaimer

If the equipment is used in a way not specified by Philip Harris, then the protection provided may be impaired.


Warranty, repairs and spare parts

The product is guaranteed for a period of one year from the date of delivery to the customer. This warranty does not apply to defects resulting from the action of a user such as misuse, improper wiring, any operations outside of its specification, improper maintenance or repair, or unauthorized modification.

Our liability is limited to repair or replacement of the product. Any failure during the warranty period should be referred to Customer Services.

In the event of a fault, the product should be referred to the Philip Harris recommended repair agent.

Disposal of Waste Electrical and Electronic Equipment (WEEE)



Do not dispose of this product with household waste

- For the proper treatment, recovery and recycling please take this product to an appropriate collection point.
- If you are unsure where this is, contact your Local Authority.
- By disposing of this product correctly you will be providing positive help to the environment.

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version H29723.15.03