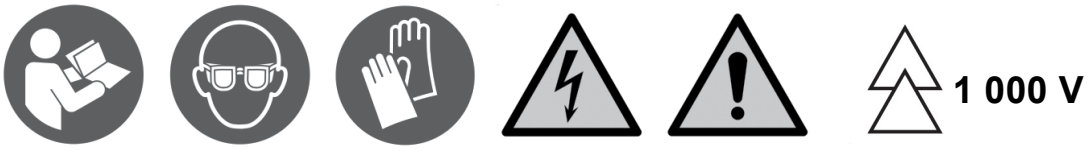
CAT IV 1000V HIGH VOLTAGE TESTER HYBRID VEHICLES

MODEL NO: **PPHY**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer To Instructions | Wear Eye Protection | Wear Protective High Voltage Gloves | Electrical Shock Hazard | Warning!: Use High Voltage Safety Mat | Suitable For Live Working

1. SAFETY

- ❑ **WARNING!** Please read manual carefully before any operation. This manual includes safety warning and safety requirement, which help user to operate the equipment safely.
- ✓ After measuring AC/DC voltage source for 3 minutes, the tester must take a rest for 1 minute.
- × Never measure the voltage beyond specified (1000V).
- × **DO NOT** operate the equipment near flammable gasses.
- × **DO NOT** operating the equipment with wet hands.
- ✓ Keep hands and fingers behind the barriers during measurements.
- × **DO NOT** unlock and open the battery case during measurements.
- ✓ Confirm the function of the equipment with a known source before measure unknown voltage source.
- × **DO NOT** make any measurement when there is abnormal condition, such as broken case or exposed metal parts are present an the instrument, test probes, and cables.
- × **DO NOT** modify the equipment.
- ✓ Take extreme caution when operating with a live circuit.
- ✓ LED only function properly when temperature is between 0 ~ 50°C.
- ✓ Before using a voltage detector with audible indicator at locations with a high background noise level, it has to be determined whether the audible signal is perceptible.

2. INTRODUCTION

Professional two pole voltage tester CAT IV 1000V for checking high voltage on electric/hybrid vehicles. Suitable for checking AC mains and DC power supplies between 6-1000V DC and 24-1000V AC. Can also be used for checking voltage and polarity on car batteries and continuity testing of DC circuits. Includes a self-test function and illumination light. EN61243-3, IP65, CE certified. Requires 2 x AAA 1.5V batteries (not supplied).

3. SPECIFICATION

Model No:	**PPHY**
Accuracy:	+/-(3%+3)V
CAT Category:	CAT IV 1000V
IP Rating:	IP65
Maximum Current:	<3.5mA @ 1000V
Power:	2 x AAA Batteries (not supplied)
Voltage:	6-1000V DC & 24-1000V AC

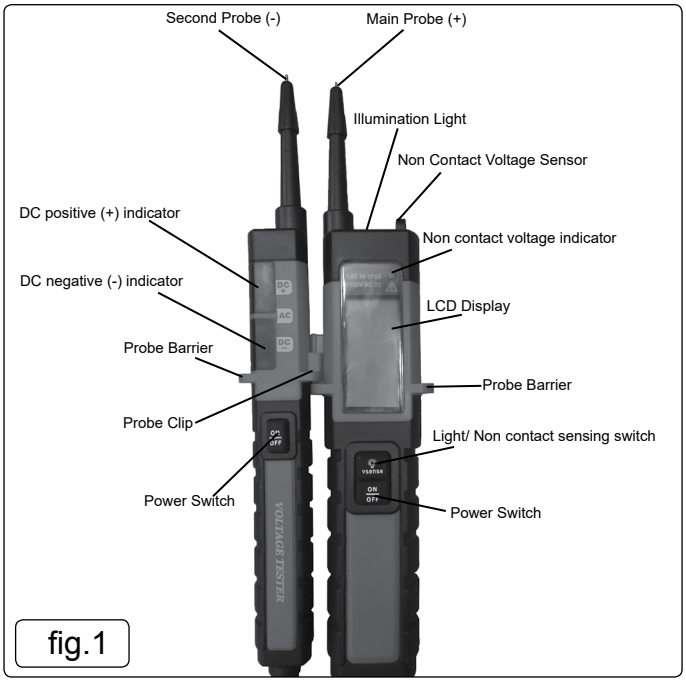


fig.1

4. PREPARATION

4.1. POWER ON/ SELF-DIAGNOSTIC

4.1.1. Press the “ON/ OFF” button on the main probe first and then on the second probe, short the two metal probes (fig.2). The power will automatically turn on, and the equipment start a self-diagnostic test.

4.1.2. All indicators on LCD will light up (fig.3), and buzzer will sound during the normal self-diagnostic test.

× **DO NOT** operate the equipment if any abnormality occurs during the self-diagnostic test.

4.1.3. LCD will flash 5 times when battery power is lower than 2.2 ± 0.1V. Please change the battery.

4.2. TROUBLE SHOOTING

4.2.1. If any of the following happens, open the battery case and close it again after 5 seconds. Conduct a self-diagnostic test after closing the case again see 4.1.

Problems:(1) Cannot perform self-diagnostic test before or after the operation of the equipment.
(2) Cannot auto power off.

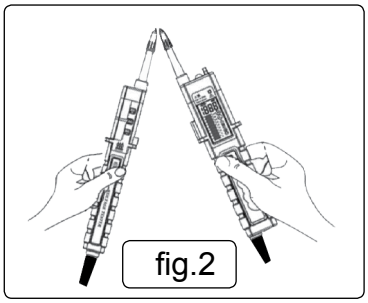


fig.2

Original Language Version

5. OPERATION

5.1. MEASUREMENT

- ❑ **WARNING!** Please read the manual carefully.
- ✓ Perform a self-diagnostic test to insure the LCD and buzzer function properly.
- ✓ Please conform the equipment with a known voltage source.
- ✓ When the device is in use make sure hands are behind the probe barrier.
- ❑ **WARNING!** As the equipment has higher impedance (about 300kΩ), capacitor and inductor voltage may indicate.

5.2. AC/ DC POLARITY MEASUREMENT (ON SECOND PROBE)

5.2.1. Connecting two probes to two ports of the voltage source (fig.4).

5.2.2. Without pressing any button, the polarity of AC/DC (24V- 1000V) will be indicated on the second test probe.

5.2.3. AC: both polarity lights up. (+) DC: DC+ lights up and (-) DC: DC- lights up.

5.2.4. The direction of the main probe will determine (+)DC or (-)DC. If main probe is on the positive port, DC+ lights up, and vice verse.

5.2.5. This function will be cancelled if either of the ON/OFF buttons are pressed.

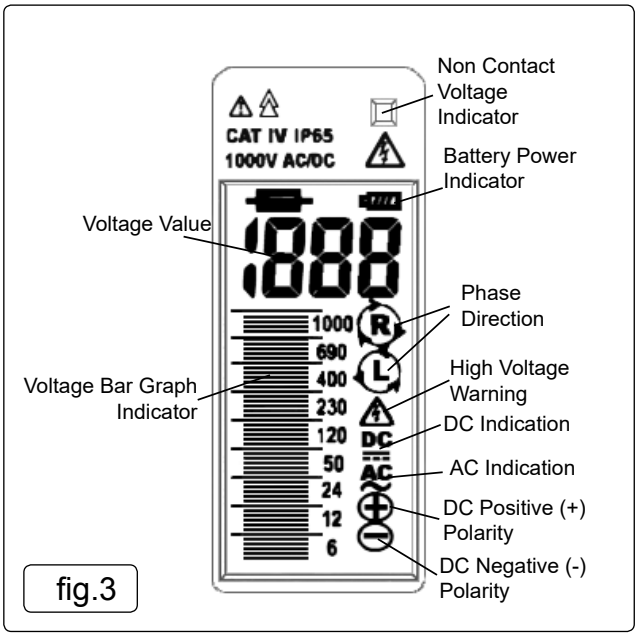


fig.3

5.3. VOLTAGE MEASUREMENT

5.3.1. VOLTAGE AND POLARITY

5.3.2. Connecting two probes to two ports of the voltage source (fig.4).

5.3.3. Press the ON/OFF buttons on both probes at same time. Voltage and polarity will be displayed on the LCD. (DC6-1000V; AC24-1000V; AC/ + DC/-DC).

5.3.4. The direction of the main probe will determine DC+ or DC-. If main probe is on the positive port, DC+ lights up, and vice versa.

- ❑ **WARNING!** If only one of the buttons has pressed, error voltage value AC 23V - AC 55V will be displayed on the LCD when voltage is greater than AC 300V.

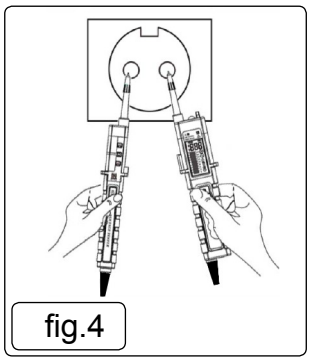


fig.4

5.3.5. HIGH VOLTAGE INDICATION

5.3.6. LCD will display " ⚠ " when voltage source ≥ 100VAC/VDC (fig.5).

5.3.7. PHASE ROTATION

5.3.8. Phase rotation measurement is only for 3 phase (4 lines) system. Using the right hand hold the main probe handle (behind the barrier) properly during the measurement (because one of the sensing areas is on the main probe handle).

5.3.9. LCD will display voltage between phases.

5.3.10. If the rotation is clockwise, LCD will display "R" (fig.6).

5.3.11. If the rotation is counter-clockwise, LCD will display "L" (fig.7).

5.3.12. Testing tips: This measurement use tester as a virtual ground; if equipment or user is not with proper insulation condition, measurement may not function properly.

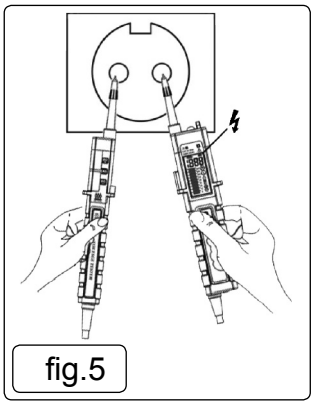


fig.5

5.4. NON-CONTACT VOLTAGE SENSING

5.4.1. To switch on the function, press the "LIGHT/NOT-CONTACT SENSING SWITCH", LCD will display "DE-".

5.4.2. Non-contact voltage indicator " ⚠ " on the top right of the main probe will light up and buzzer will sound when the sensor is near electromagnetic field greater than 90VAC.

5.4.3. Press the "LIGHT/NON-CONTACT SENSING SWITCH" again to switch off the function.

5.4.4. This function will automatically switch off after 3 minutes.

5.5. CONTINUITY

- ❑ **WARNING!** Make sure there is no live voltage in the circuit before testing continuity.

5.5.1. Connecting the two probes to the circuit to be tested, press both 'ON/OFF SWITCH" on two probes, if the circuit has continuity, all indicator on the LCD will flash, and buzzer will sound.

- ❑ **WARNING!** If there is continuity in the circuit, the instrument will perform a self-diagnostic test.

5.6. ILLUMINATION

5.6.1. Long press and hold the "LIGHT/NON-CONTACT VOLTAGE SENSING SWITCH" to switch on the illumination light.

- ❑ **WARNING!** Illumination function and non-contact voltage sensing function share the same button, be aware when using these two functions.

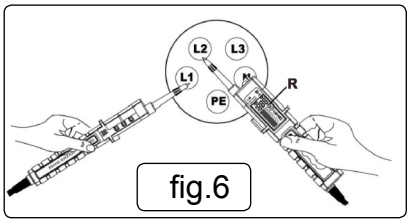


fig.6

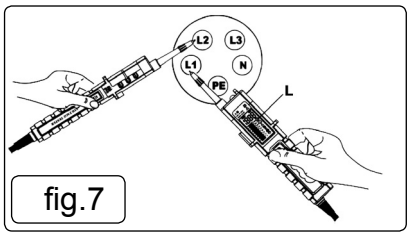


fig.7

6. MAINTENANCE

6.1. BATTERY REPLACEMENT

❑ **WARNING!** Disconnect the device from the voltage source and switch off when replacing the batteries.

6.1.1. If LCD flashes 5 times it will switch off automatically during self diagnostics or voltage measurement, this indicates the equipment has run out of battery. Please change the batteries.

6.1.2. Battery power level will also display on the LCD during the voltage measurement; please note the battery power level when using.

(1) Unlock the battery cap by using a coin.

(2) Open the battery cap and replace the battery. Be aware of the battery polarity (fig.8).

(3) Put back the battery cap and lock it with a coin.

❑ **WARNING!** Please make sure the battery cap is locked before any operation.

6.2. CLEANING & STORAGE

✓ Use a light damp cloth with neutral detergent for cleaning the instrument. **DO NOT** use abrasives or solvent.

× **DO NOT** expose the instrument to direct sun, high temperature, humidity or damp.

✓ Remove batteries when the instrument is not going to be used for a long period.

× **DO NOT** lock the battery cap without batteries.

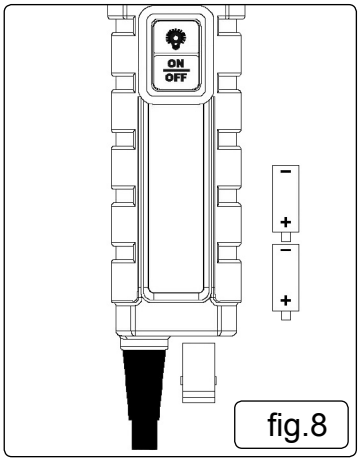


fig.8

ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

BATTERY REMOVAL SEE SECTION 6.1

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations).

Note: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

Important: No Liability is accepted for incorrect use of this product.

Warranty: Guarantee is 12 months from purchase date, proof of which is required for any claim.

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