

TESTER WITH OUTPUT CONTACT Installation, Operation and Maintenance



Figure 1. 222521 tester.

Description

The tester used in this test station is fitted with an output contact that can be used to connect to a door latch, beacon or other apparatus. There is a contact for each LED and a signal to indicate that a test is in progress. The 222521 is capable of testing both wrist strap and conductive footwear. The instrument will indicate whether the resistance is in the ranges specified in EN 61340-5. The tester is factory set to open the relay when the EN61340-5 limits are satisfied.

"Wrist straps shall be checked before use. Each check shall be made with the wrist band worn in contact with the wearer's skin and with the ground cord attached to the appropriate tester." (EN 61340 5 1 paragraph 9.6 Daily checks, paragraph 9.6.2 Wrist strap) "Where toe and heel straps are used as ESID footwear, once these are worn outside the EPA [ESD protected area], particularly on carpets, they are likely to accumulate fluff and become ineffective; this requires that they be checked or replaced on every visit to the EPA. ...When ESD footwear is used, it should be noted that ESD footwear alone cannot achieve protection, but needs to be used in conjunction with a suitable ESID floor." (EN 61340-5-2 Paragraph 5.2.8 Footwear) "All wearers shall check that their heel and toe straps meet

requirements [of Table 1 NOTE 2 – 'When the footwear/floor systems are used as the primary means of grounding personnel, the resistance of the combination shall be determined by the ESD co-ordinator, and is recommended to be between $7,5 \times 10^5$ ohms¹ and $3,5 \times 10^7$ ohms¹]. The check shall be made before entering the EPA." (EN 61340 5-1 Daily checks, paragraph 9.6.3 Non-permanent footwear)

Inspection

Remove the test unit from the carton and inspect for shipping damages. Each unit includes the following:

- 1 Calibration unit, item #222521
- 1 Output connection lead
- 1 Footwear test plate
- 1 Wall panel
- 1 Power supply UK

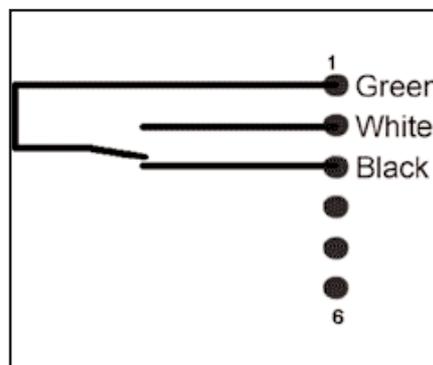


Figure 2. RJ12 socket.

Installation

1. Mount wall panel near the EPA.
2. Connect the external circuit to the output contact connector on the right hand side of the tester.
3. Install a battery in the tester.
4. Put the foot test plate on the floor below the panel. Connect it to the cord of the tester.
5. Mount tester on the wall panel.

Connection to external circuit

The unit is fitted with an RJ12 socket, which can be connected to an external circuit such as an entry gate or similar device. A 1.5m long lead is supplied with colour-coded connectors. The diagram on the right shows the connections and notes the colours on the supplied lead. The relay switches when either of the two green LEDs light up. The connection between pin 1 and 2 is complete during a pass and the connection between pins 1 and 3 is broken during a pass.

Procedure to test wrist strap

1. Wear wristband. Choose one that fits snugly or adjust it to do so.
2. Connect the ground cord securely to the band using the snap connector.
3. Connect the other end of the cord to a matching termination on the tester.
4. Push the round metal button in the centre of the tester with one finger. The tester will now indicate whether the total resistance is within the acceptable range.
5. Green light and buzzer indicate that the total resistance is either less than $10M\Omega$ or less than $35M\Omega$.

Green = OK

6. A red light indicates non-conformance.

Red = FAIL

- Do not proceed in the usual manner but contact your supervisor or follow your company procedure.
7. Contact your supervisor if the battery low light comes on.

Procedure to test footwear

1. Wear shoes or heel grounders as prescribed.
2. Place each foot in turn on footwear test plate.
3. Push the contact plate on the tester with one or two fingers. The tester will now indicate whether the total resistance is within the acceptable range.

4. Green light and buzzer indicate that the total resistance is either less than 10M Ω or less than 35M Ω .

Green = OK

5. A red light indicates non-conformance.

Red = FAIL

Do not proceed in the usual manner but contact your supervisor or follow your company procedure.

7. Contact your supervisor if the battery low light comes on.

In case of non-conformance

The instrument measures the resistance of the external circuit between the metal contact button and the cord connectors or the foot test plate. The wristband and cords, the plate and the footwear, the connection to the operator, the operator's body resistance and the fingertip button contact are all part of the circuit. In case of a failure being indicated, determine whether the wriststrap or the footwear alone is failing by ensuring that the other elements of the circuit are sound.

Note:

If 'battery low' light comes on, insert a new 9volt alkaline PP3 battery. The 'battery low' threshold is factory set at 6.5 volt.

Calibration

All resistances are in-built using matched fixed resistors. They are measured using an ohmmeter, which is of known accuracy and standards used are traceable to UKAS. No variable resistors e.g. potentiometers are used. The resistances should

nonetheless be re-checked once a year.

Use a calibration unit such as our product code 223002.

The potentiometers are accessible through the two holes on the left-hand side of the case. The upper hole allows the upper limit to be adjusted, the lower hole the lower limit. Follow the procedure described on TB-7543. Alternatively, we offer a calibration service.

Specifications

Resistance Limits

Wrist straps: Low - 0.75M Ω
High - 10 and 35M Ω

Foot wear: Low - 0.1M Ω
High - 10 and 35M Ω

Accuracy $\pm 5\%$

Weight 0.1kg excluding battery

Dimensions 145 x 90 x 32mm

Power supply 1 x 9 volt PP3 cell, preferably alkaline

Battery life typical 500 tests (5s per test)

Test voltage maximum 24V

Short circuit current 12 μ A max

Limited Warranty

Vermason expressly warrants that for a period of one (1) year from the date of purchase, Vermason Testers with Output Contacts will be free of defects in material (parts) and workmanship (labour). Within the warranty period, a unit will be tested, repaired or replaced at Vermason's option, free of charge. Call Customer Service at 0044 (0) 1462 672005 for a Return Material Authorisation (RMA) and for proper shipping instructions and address. Any unit under warranty should be shipped prepaid to the Vermason factory. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Warranty repairs will take approximately two weeks.

If your unit is out of warranty, Vermason will quote repair charges necessary to bring your unit to factory standards. Call Customer Service at 0044 (0) 1462 672005 for a Return Material Authorisation (RMA) and proper shipping instructions and address.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of liability

In no event will Vermason or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.