



INSTRUCTION MANUAL CZ5000

PATROL

Portable Appliance Tester (PAT)

With Internal
Function,
“Self Check”



The tests performed by
this unit conform with
AS/NZS3760:2003

CZ05079-10

Congratulations on your purchase of an Aegis Pty Ltd
Patrol, Portable Appliance Tester.

We are sure you will be satisfied with its performance and reliability. Please read these instruction carefully before using your Patrol and refer to these notes from time to time to ensure you are always familiar with it's operation



Safety Warning

Testing of Appliances and Extension leads must be conducted by a competent and appropriately trained person.

Care must be taken at all times to ensure personal safety.

Aegis Pty Ltd can also supply many instruments for a number of applications to support installation and maintenance of cabling for the telecommunications, Data and Electrical industries.

If you require further information on any of these instruments, please contact us by way of the phone, fax or e-mail.

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1. SAFETY WARNINGS

At initial start up the Patrol will perform a “Self Check”. Although this self check can be performed with or without an appliance plugged into the Patrol, it is considered good practice, that no appliance or leads be plugged into the Patrol until the self check is completed.

Refer to the “Self Check” section, for further details on this operation.

The Patrol must only be used for the purpose, and in a manner, as described in these instructions.

Failing to do so may impair the protection provided by the equipment.

There are three warnings to be noted when operating the Patrol.

Each relates to the connection sockets on the front panel and is highlighted by either of the following symbols on the panel label:-



1. Refer to Note in this handbook.
(Warning Note, See Section 1.1)



2. High Test Voltages may be present at this socket
(Warning High Test Voltages, See Section 1.2)

1.1. Warning Note

The **Lead/Probe Socket** is to be used only for the attachment of the Extension Lead adaptor for testing extension leads and multi-way power boards, as well as the attachment of the **Test Probe lead** when testing Class 1 & Class 2 Appliances.

Under no circumstances is live mains 240 volt power to be connected to this socket.

If live mains 240 volt power is inadvertently connected to the Active and Neutral terminals of this socket, the Red LED will light and the Patrol will be isolated and inhibited from performing any further tests until the power is removed from this socket.

See Figure 1.1-1

1.2. Warning High Test Voltages

To perform the tests, appliances are plugged into the **Appliance Socket**. This allows the Patrol to apply test voltages to the appliance via the connection lead. Some of the tests conducted by the Patrol involve the application of up to 500 volts DC, therefore the operator must ensure only the appliance under test is plugged into the **Appliance Socket**. All appliances must be visually checked to ensure they are free from obvious defects before being electrically tested. Do not plug any other lead into this socket or tamper with it in any way other than as directed by these instructions

See Figure 1.2-1



Figure 1.1-1 Warning notice on Lead/Probe Socket



Figure 1.2-1 High Test Voltage at Appliance Socket

2. INTRODUCTION

2.1. Intended use of the Patrol

The PATROL is an easy-to-use, low cost, yet effective Portable Appliance Tester. It has been designed for simple, electrical testing and verification of Portable Appliances and Extension Leads.

It performs essential insulation and conductor continuity tests on portable electrical appliances and extension leads, in particular the Earth conductor.

Insulation Tests are performed at 250Vdc & 500Vdc and the conductor continuity is tested at 200mA.

All tests are designed to meet the requirements of AS/NZS 3760 : 2003

Major features of the PATROL are:

- Designed to meet the requirements of AS/NZS 3760 : 2003
- Ease of use – two buttons, “Select Test” and “Start Test”
- Durable construction
- Mains and Battery Powered and Easily Portable
- Low Cost, on the spot, Test & Tag process

2.2. Abbreviations and Definitions

| | |
|-------------------|-------------------------|
| MOV | Metal Oxide Varistor |
| Class 1 Appliance | Earthed |
| Class 2 Appliance | Double Insulated |
| LED | Light Emitting Diode |
| RCD | Residual Current Device |

3. GENERAL INSPECTION AND TESTING REQUIREMENTS

3.1. The Standard AS/NZS3760:2003

The standard on “In-service Safety Inspection & Testing of Electrical Equipment”, specifies procedures to ensure the safety of electrical equipment, for full details refer to “Standards Australia, AS/NZS3760:2003. Please note, the following must not be taken as a replacement for the standard, however the essential requirements of the standard can be listed as:-

1. Inspection
2. Electrical Testing
 - a. Earth Conductor Continuity Verification
 - b. Insulation Integrity, between live operational and other normally non-energised, conductive parts of an appliance.
3. Correct Operation of safety switch devices, (RCDs)
4. Electrical Safety of Extension Leads and Power boards.

These requirements are to be applied to Portable Appliances, which are Electrical Items that can be moved during operation or can be easily relocated whilst still connected to the mains power system.

3.2. Tests Conducted by the Patrol

The PATROL performs two basic groups of tests; Continuity and Insulation tests.

The Insulation test is performed by commoning the Active & Neutral conductors, internally within the Patrol at the Appliance Socket, and then testing the insulation resistance between these, and the earth conductor of the Lead/Probe Socket, via the Probe or Clip.

To fully test an appliance, it must be switched on. This is normally a simple task, however there are some appliances that require 240Vac to allow the switch to operate or latch in the on position.

As defined in AS/NZS3760:2003 these appliances must undergo a Leakage Current Test.

The Patrol does not support this test method.

For purchase of a Leakage Current Measurement device contact Aegis Pty Ltd.

(Details inside front cover)

Continuity Tests

- **Earth** – For **Extension Lead** test and **Class 1** Appliance Tests, the earth conductor is checked for continuity, (at 200mA) and conductor resistance, prior to Insulation testing. The lead must prove to be less than one ohm, (1Ω)
- **Active & Neutral** - After the Earth Continuity is checked in an extension lead, both the Active and Neutral continuity is checked at 200mA. This also verifies the polarity of the lead connections.

Insulation Tests

- 250 Volt with an accepted minimum of One Megohm (1MΩ) - this is performed for all lead and appliance tests prior to the 500volt test, to ensure a correct reading if a MOV is present in the appliance under test as per AS/NZS 3760:2003.
- 500 Volt with an accepted minimum of One Megohm, (1MΩ) as per AS/NZS3760:2003.
- 500 Volt with an accepted minimum of Ten Megohm, (10MΩ) as per NSW Code of Practice, *Electrical Practice for Construction Work*

3.3. Panel Layout

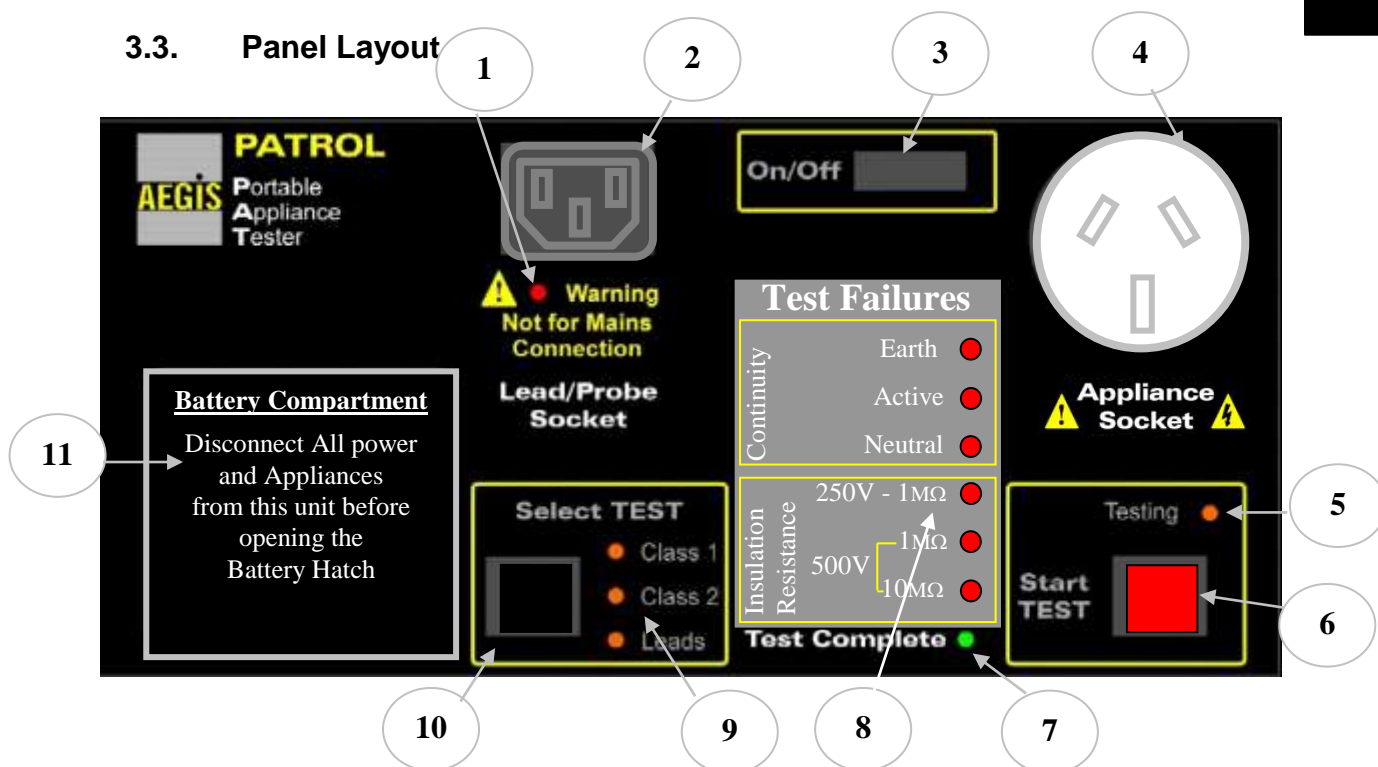


Figure 3.2-1 Controls and fittings of the PATROL

1. LED: This lights as a warning if 240V ac is inadvertently connected to the Lead/Probe Socket.
2. Lead/Probe Socket: The Test clip and Probe Lead, is plugged into this socket when testing Class 1 and Class 2 Appliances. The Lead Adaptor is also plugged into this socket when testing extension leads or power boards.
3. ON/OFF Switch: The Patrol will power up from the 240Vac mains if available, or the internal 9v battery pack if no mains power is available. After switching off, the unit requires a 5 – 10 second pause before being switched back on.
4. Appliance Socket: Is used to connect the Patrol to the Appliance under test. This socket does not provide power to operate the appliance, however high test voltages are present at this socket during the test sequence. Refer to Section 1 Safety Warnings.
5. Testing LED: This LED lights while a test sequence is in progress.
6. Start Test Button: After all the connections are made for a test, this button is pressed to start the test sequence.
7. Test Complete LED: This LED will light at the completion of the test sequence. It will light continually if no failures have been detected. If any one of the tests has failed this indicator will flash repeatedly.
8. Test Failure LEDs: This row of six LEDs indicate any failed condition of the appliance or lead under test. Refer to Section 3 & 4 for understanding test procedure and results.
9. Selected Test LEDs: One of these three LEDs will be lit to indicate which test the Patrol is set to perform.
10. Select Test Button: This is used to select one of the three preset test sequences. The test selected will be shown by the LEDs, see (9) above.
11. Internal battery compartment: Refer to section 6, Care and Maintenance for information on changing the battery.

4. OPERATING INSTRUCTIONS

4.1. Components of the PATROL



Figure 4.1-1 Components and Accessories supplied with the PATROL

This section offers the step-by-step instructions on how to set up and use the PATROL, to perform Portable Appliance and Extension Lead tests.

The user must be familiar with the Safety and self testing procedures detailed in Section 7 of this manual.



WARNING

- A. Ensure the appliance under test is removed from service and any power supply, internal or external, before connecting it to the PATROL for testing.**
- B. Before connection of any appliance or extension lead to the patrol, perform a visual inspection to ensure that the appliance or extension lead is not obviously faulty equipment.
Do not electrically test any equipment that fails the visual test.**
- C. Ensure the operator has ready access at all times to the mains power outlet that the Patrol is plugged in to, to enable any emergency shut down of the equipment.**

4.2. Appliance Test Procedure

4.2.1. Class 1 Test (Earthed Appliance)

1. Before plugging any appliance or lead in for testing, switch on the PATROL, and allow it to perform the “Self Check”. Observe the results.
2. Plug the Appliance to be tested into the *Appliance Socket*, and *switch on the appliance*.
3. Attach the Test Probe or Clip to a metal section of the appliance being tested. The clip is the preferred test connection, with the probe to be used when the clip is not suitable to attach to the appliance. Ensure good contact is made with the probe, and that fingers and hands are kept well clear of all metal parts of the probe or appliance under test.
4. The probe or clip may need to be moved and the appliance retested in several additional sections to ensure that all exposed metal sections are fully tested.
5. Select the type of appliance to be tested, **Class 1**.
6. After all connections are made, press the **TEST** button.
7. The **Orange LED** will light during the Test and the **Green LED** will light when the test is complete.
8. Any failures will be shown by a **Red LED** which will light just to the right of the failed test. Also the **Green LED**, ‘Test Complete’ will flash continually.
9. Determine if the test shows as a *Pass* or *Fail*. (See Interpreting Test Results, section 4.4)
10. Enter the test results on the appropriate label and attach it to the appliance, and record the test results in the record or asset register.



Figure 4.2.1-1 Class 1 Appliance Test connections.

4.2.2. Class 2 Test (Double Insulated Appliance)

1. Before plugging any appliance or lead in for testing, switch on the PATROL, and allow it to perform the “Self Check”. Observe the results
2. Plug the Appliance to be tested into the *Appliance Socket*, and *switch on the appliance*.
3. Attach the Test Probe or Clip to a metal section of the appliance being tested. The clip is the preferred test connection, with the probe to be used when the clip is not suitable to attach to the appliance. Ensure good contact is made with the probe, and that fingers and hands are kept well clear of all metal parts of the probe or appliance under test.
4. The probe or clip may need to be moved and the appliance retested in several additional sections to ensure that all exposed metal sections are fully tested.
5. Select the type of appliance to be tested, **Class 2**.
6. After all connections are made, press the **TEST** button.
7. The **Orange LED** will light during the Test and the **Green LED** will light when the test is complete.
8. Any failures will be shown by a **Red LED** which will light just to the right of the failed test. Also the **Green LED**, ‘Test Complete’, will flash continually.
9. Determine if the test shows as a *Pass* or *Fail*. (See Interpreting Test Results, section 4.4)
10. Enter the test results on the appropriate label and attach it to the appliance, and record the test results in the record or asset register.



Figure 4.2.2-1 Class 2 Appliance Test connections, using the Clip

Examples of Class 2 Appliance Tests



Figure 4.2.2-2 Class 2 Appliance Test Connection using the Probe



Figure 4.2.2-3 Class 2 Appliance Test Connection using the Clip

4.3. Extension Lead Test Procedure

1. Before plugging any appliance or lead in for testing, switch on the PATROL, and allow it to perform the “Self Check”. Observe the results
2. Plug the male end of the Extension Lead into the *Appliance Socket*, and the other end of the lead to the short adaptor lead, which is plugged into the *Lead/Probe Socket*
3. Press the test selection button to Select the **Lead Test**
4. Press the **TEST** button
5. The **Orange LED** will light during the Test and the **Green LED** will light when the test is complete.
6. Any failures will be shown by a **Red LED** which will light just to the right of the failed test. Also the **Green LED**, ‘Test Complete’, will flash continually.
7. Determine if the test shows as a *Pass* or *Fail*. (See Interpreting Test Results, section 4.4)
8. Enter the test results on the appropriate label and attach it to the lead, and record the test results in the record or asset register.



Figure 4.3-1
Extension Lead Test Connections



Figure 4.3-2
Multi-way Power Board Test Connections

4.4. Interpreting Test Results

The PATROL conducts up to three Continuity Tests, and three Insulation Resistance Tests, depending on the type of equipment being tested.

The Patrol performs the essential tests to comply with AS/NZS3760:2003, however appliances that operate with interlocking devices and items fitted with RCDs may require further testing, outside the scope of the Patrol.

It must also be noted that there are some minor differences within Australian States “Code of Practices”, therefore, an appliance test result may indicate a Fail, however if the test result is compared to the particular Code of Practice relative to the state where the test applies, it may be determined that in fact the appliance meets the required minimum standard, and is therefore safe to return to service, complete with a “Pass” label attached.

The following is a list of the known tests results where these conditions apply.

Please note: Always ensure you refer to the latest and current Australian Standard, or Code of Practice relative to the state where the appliance is being tested and intended for use.

Lead Test Results

1. Pass – No **RED** LED lit.
2. Fail – Any **RED** LED lit and ‘Test Compete’ LED continually flashing

Class 1 Appliance Test Results

1. Pass - No **RED** LED lit
2. Pass – 500 Volt (1 or 10 MΩ) LED lit, with the 250 Volt LED not lit and ‘Test Compete’ LED continually flashing. (See Note 3)
3. Fail – Any other combination of **RED** LEDs lit and ‘Test Compete’ LED continually flashing

Class 2 Appliance Test Results

1. Pass - No **RED** LED lit
2. Pass – 500 Volt (1 or 10 MΩ) LED lit, with the 250 Volt LED not lit and ‘Test Compete’ LED continually flashing. (See Note 3)
3. Pass – If **RED** LED 10 MΩ lit, all Australian states except NSW and ‘Test Compete’ LED continually flashing (See Note 2)
4. Fail – Any other combination of **RED** LEDs lit and ‘Test Compete’ LED continually flashing

Notes:

1. All tests performed by the PATROL are designed to meet the requirements of the AS/NZS 3760:2003, for in service safety inspection and testing of electrical equipment. Additional Standards also apply to specific areas of work such as construction sites and film sets, etc. The requirements of these standards must be incorporated when using the PATROL to assist in determining the safety of electrical equipment for these specific areas.
2. If a Class 2 Appliance is being tested for use on a construction site within NSW, then it must conform to the NSW Code of Practice “Electrical Practice for Construction Work”, which states 10 MΩ minimum Insulation Resistance.
3. As detailed in AS/NZS3760:2003, if an appliance is fitted with a MOV and it passes the 250 Volt Insulation Test but Fails the 500 Volt test, it is still considered safe and can be treated as a “PASS”.
4. If your Patrol locks-up during a test, the internal battery may be low, refer to Section 6.4 Low Battery Indication, and Section 7.2, Self Check.

5. SPECIFICATIONS

5.1. Electrical

| | |
|--------------------------------|---|
| Insulation Test Voltage: | 250Vdc $\pm 2\%$ & 500Vdc $\pm 2\%$ (Current Limited, $< 2\text{mA}$) |
| Earth Continuity Test Current: | 200mA $+0 -3\%$ |
| Power Supply: | 240V/50Hz, 40mA, (Installation Cat2), Class 2. Batteries - 6 x 1.5V size "AA" Alkaline Type IEC-LR6. |
| Battery Life: | Minimum 40 hours typical |

5.2. Environmental

- Indoor use
- Altitude up to 2000m
- Temperature: Operating 0°C to $+50^{\circ}\text{C}$
Storage -20°C to $+70^{\circ}\text{C}$
- Humidity 95%RH Non-condensing
- Suitable for connection to Mains supply voltage fluctuations up to $\pm 10\%$ of nominal voltage (230V)
- Suitable for connection to mains circuits rated for transient Overvoltage Category II of IEC 60364-4-443
- Suitable for use within Pollution Degree 2 environments

5.3. Physical

| | |
|-------------|------------------------|
| Dimensions: | 235 x 110 x 190 mm. |
| Mass: | 1.8 kg (Inc Batteries) |

5.4. Tests

| | |
|--------------------------|--|
| Earth Continuity Test: | 200mA Test Current. Pass/Fail Threshold 1 ohm $\pm 5.0\%$ |
| Active Continuity Test: | 200mA Test Current. Pass/Fail Threshold 1 ohm $\pm 5.0\%$ |
| Neutral Continuity Test: | 200mA Test Current. Pass/Fail Threshold 1 ohm $\pm 5.0\%$ |
| Insulation Test: | 250V DC Pass/Fail Threshold 1 Megohm $\pm 5.0\%$ 500V DC. Pass/Fail Threshold 1 Megohm $\pm 5.0\%$ 500V DC Pass/Fail Threshold 10 Megohm $\pm 5.0\%$ |

5.5. Test Sequence

Class 1 Earthed Appliances

- Earth Continuity Test. *(If Earth Continuity Fails, Insulation Test is not performed)*
- Insulation Test at 250Vdc
- Insulation Test at 500Vdc

Class 2 Double Insulated Appliances

- Insulation Test at 250Vdc
- Insulation Test at 500Vdc

Extension Leads and EPODs

- Earth Continuity Test. *(If Earth Continuity Fails, Insulation Test is not performed)*
- Active Continuity Test
- Neutral Continuity Test
- Insulation Test at 250Vdc
- Insulation Test at 500Vdc

5.6. Applicable Standards

Tested and certified to the full requirements of AS61010.1-2003

Manufactured under a Quality System complying to ISO9001:2000 (QEC Lic.5948)

*** These specifications and part numbers are subject to change without notice***

5.7. Standard Accessories

| <i>Accessory</i> | <i>Qty</i> | <i>Part No</i> |
|-------------------------|------------|-------------------|
| Extension Lead Adaptor | 1 | (CZ5094) |
| Lead Test IEC Banana | 1 | (2311IECSPFC100N) |
| Clip Test | 1 | (5004/LM-IEC-N) |
| Probe Test | 1 | (402-IEC-N) |
| Instruction Manual | 1 | (CZ5079) |
| Pass Test Tags | 10 | (CZ5071) |
| Fail Test Tags (Danger) | 2 | (DTGEN) |

6. CARE AND MAINTENANCE

6.1. Safety

The user must be familiar with the Safety and self testing procedures detailed in Section 7 of this manual

6.2. Warranty

The PATROL is warranted against defects in materials and workmanship for a period of 12 months from the date of purchase. If AEGIS PTY LTD receives notice of such defects within the warranty period, AEGIS shall, at its discretion, either repair or replace the defective unit. For purposes of warranty repair or replacement, the user is required to return the defective item together with proof of purchase to AEGIS at the address given in this section below. The warranty does not apply for defects or damage arising from abuse, accident, misapplication, misuse or as a result of service or modification by anyone other than Aegis.

Aegis is not responsible for any incidental or consequential damages resulting from the breach of any express or implied warranty including damage to property and to the extent permitted by law damages for personal injury. Aegis does not assume liability or responsibility for any loss or damage resulting from the use of this device.

6.3. Maintenance and Servicing

Apart from routine battery replacement, the PATROL contains no user-serviceable parts, and damaged or failed instruments should be returned to the manufacturer for repair. Such units should be suitably packaged and sent by pre-paid parcel post or courier to:

Aegis Pty Ltd.

200 Rooks Rd, Vermont, Victoria, Australia, 3133

The sender's name and return address must naturally be supplied, together with a description of the fault. If different from the return address, an invoicing address should also be given.

6.4. Low Battery Indication

When the internal 9V battery pack reaches a predetermined low level, after which the test results will no longer be reliable, all the Test result LEDs will light, plus the Class 2 and Lead LEDs. The Patrol will also lock in this condition, not allowing further testing.

When this condition occurs, simply replace the six “AA” Alkaline Type IEC-LR6, batteries, or plug the Patrol into a 240Vac mains outlet, then switch on, observe the Self Check, and resume testing.

6.5. Cleaning

Do Not immerse the Patrol in water.
To clean, simply wipe over with a damp cloth.
Do Not use any harsh detergents or solvents on the Patrol.

6.6. Calibration

All safety test equipment should be calibrated at a regular interval, to ensure operation at peak performance. It is recommended that the PATROL is returned to Aegis for calibration every 12 months.

6.7. Changing Batteries

Ensure the Patrol is disconnected from the mains power and all other appliances, before opening the Battery Hatch.

Remove the Battery Hatch by loosening the retaining screw with a screw driver. Remove the connector from the battery pack, then lift the Battery pack out and change the batteries.

Reverse the process to replace the battery pack.

Note carefully the direction of the batteries when placing them into the battery holder.

Use only:- AA Alkaline Type IEC-LR6 or equivalent batteries



Figure 6.7-1 PATROL Battery Replacement

7. SAFETY

7.1. Testing Procedures

Due to the potentially severe consequences of incorrect testing, Aegis recommends regular testing of the PATROL. Aegis has built a number of test features into the PATROL, and there is also a manual procedure that Aegis recommends be performed regularly to check the correct operation of the PATROL.

Aegis recommends these tests should be performed at the start and finish of any test session as a minimum requirement.

It must be noted that these tests are functional tests only. No attempt is made to calibrate the instrument during these tests. The instrument should still be calibrated at regular intervals by the manufacturer. See Section 6.6 for Calibration details.

7.2. Self Check - Electrical

The Patrol performs a Self Check both on power up, and before each test sequence as the start test button is pressed. The 500V insulation fail measurement functionality is tested along with the fail measurement functionality of the continuity tests. All LEDs are lit during this process to allow the operator to ensure they are all operating. This ensures the instrument is capable of identifying a fail condition.

Although this self check can be performed with or without an appliance plugged into the Patrol, it is considered good practice, that no appliance or leads be plugged into the Patrol at power-up until that self check is completed.

Note: The Mains Power Warning LED located near the Lead/Probe Socket, is separate to the internal operation of the Patrol and is not included in this Self Check.

During the self check, firstly, the six test result, Testing, Test Complete, Class 2, and Lead LEDs light momentarily. The Patrol then performs internal tests on the 500V insulation measurement and the continuity measurements circuits. The operator must observe the lighting of the LEDs to confirm operation is satisfactory. If any one of these LEDs does not light the unit must be returned to Aegis for repair.

If the internal tests are successful all LEDs will turn off and the Patrol will default to Class 1 indicating the Patrol is now ready for use.

In the event of one or more of the internal tests failing all LEDs will commence to flash. The Patrol will lock in this condition and no further testing can be performed, even if the Test button is pressed during this failure state. Contact Aegis and return the Patrol for immediate repair. The self check fail must not be confused with a “Low Battery” indication, which is all LEDs remaining lit without flashing, refer to Section 6.4 for details on Low Battery indication.

Note: If operating on batteries and a failure occurs the self check should be repeated using Mains power. It is possible under low battery conditions for the self check to indicate a failure due to the power requirement of the self check. If the self check using Mains power indicates a pass, then the batteries should be replaced and the self check repeated under battery power. When Switching the Patrol Off & On, ensure a delay of 5 – 10 sec is observed. See Section 3.3. bullet point 3.

7.3. Self Check - Manual

Wiring to the Appliance Socket and the Lead/Probe Socket cannot be confirmed without attaching an external lead. To do this, connect the Extension Lead Adaptor between the two sockets. Put the PATROL into Leads mode and push the Test button. If a Pass is registered the sockets are functioning correctly. If a Fail is registered either a socket is faulty or the Extension Lead Adaptor is faulty. To determine the faulty component attach a known good lead between the sockets and repeat the test. A Pass indicates the Extension Lead Adaptor is faulty, a Fail indicates a socket on the PATROL is faulty. In this instance return the unit to Aegis for repair.

Aegis recommends these tests should be performed at the start and finish of any test session as a minimum requirement.

7.4. Test Failure Indicators

Aegis has incorporated a dual failure indication system into the PATROL to ensure a failure will always be noted by the instrument.

If the PATROL detects a failure on any one of the tests performed, that particular test failure indicator will light at the end of the test. In conjunction with this the Test Complete indicator will flash repeatedly at the end of the test, indicating the instrument has detected a failure.

It is essential that both of these are lit in the event of a failure. If at any stage your instrument only lights a test failure indicator or the Test Complete indicator flashes at the end of the test without a test failure indicator being lit, you must return your unit for repair. This will indicate that one of the two failure recognition systems has failed.

7.5. Stored Electrical Charge within Appliances

Due to the nature of the components within some appliances, it is possible that when the appliance is unplugged from its power source, it can maintain a considerable amount of stored electrical charge. For safety these appliances are required to discharge a certain amount of this energy within a given time, after disconnection. Historically these limits have varied and generally been greater than what is currently permitted. In some cases it is possible that an amount of energy large enough to cause serious injury or even death could be present. AS 61010:2003 addresses the safety and insulation requirements for test and measurement equipment, and Aegis has aligned the Patrol to this standard.

The Patrol is set at a limit, beyond which the unit will halt any testing functions and display a warning indicating the instrument under test continues to provide hazardous energy levels from what would be expected to be non-energised lead pins.

As a test is commenced, the Patrol measures the level of stored energy within the appliance, within the first two seconds, and if there is too much energy present on the pins at this point, the test will cease and the **Active and Neutral** LEDs flash alternately with the **Test Complete** LED. This fault mode alerts the tester that the appliance appears to be holding a charge and exhibiting excessive amounts of stored energy.

The tester must be wary of this piece of equipment, and if testing is to continue, ensure the appliance is discharged before re-connection.

Upon retesting, if the discharge is below the safe level the test will continue, otherwise the Patrol will again halt the test and display a warning.

It is recommended that any appliance that exhibits this type of fault condition should be fully checked to ensure it meets the relevant standards applicable. However once discharged, these appliances can be safely tested with a Patrol and may pass the requirements of AS3760:2003 testing. *** Please note it is not expected that many appliances fall into this category.*

8. TEST TAGS

8.1. Pass Test Tags

There are ten “PASS” Tags supplied with the Patrol, from the factory, to allow an immediate start to testing your appliances. These are for attaching to the tested electrical appliance or lead to indicate a Pass.

If the Appliance Passes the test and is considered safe to return to service, then a “PASS” tag is filled out with the appropriate information and attached to the lead of the appliance (or the Male end of an Extension Lead).

Additional or replacement “PASS” Tags can be purchased from Aegis Pty Ltd by phoning 1300 723447

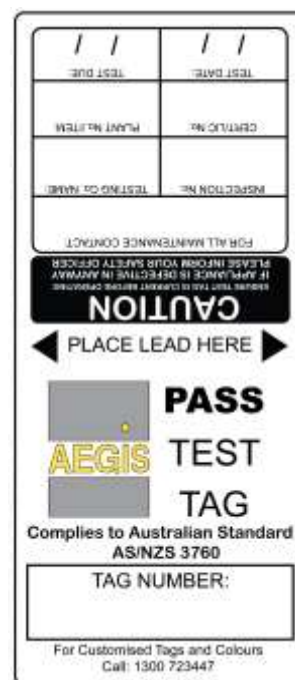


Figure 8.1-1 PASS Test Tag, Part No CZ5072 (100 tags)

8.2. Fail Test Tags

There are two (2) “FAIL” (Danger) Tags supplied with the Patrol, from the factory, to allow an immediate start to testing your appliances. These are for attaching to the tested electrical appliance or lead, should these items fail the test.

If the Appliance Fails the test and is not considered safe to return to service, then a “DANGER” tag is filled out with the appropriate information and attached to the lead of the appliance (or the Male end of an Extension Lead).

Additional or replacement “FAIL” (Danger) Tags can be purchased from Aegis Pty Ltd by phoning 1300 723447

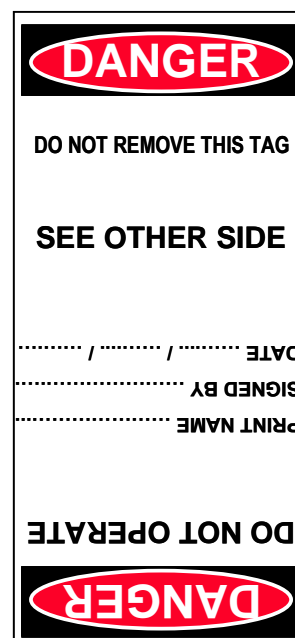


Figure 8.2-1 Fail Test Tag (Danger), Part No CZ5073 (50 tags)