

# ALJAC CONTINUITY TESTER

- ◆ **ADVANCED MICROPROCESSOR TECHNOLOGY**
- ◆ **GO/NO-GO CONTINUITY CHECK**
- ◆ **DIGITAL RESISTANCE DISPLAY**
- ◆ **DYNAMIC CHECKING OF BONDING REELS**
- ◆ **SIMPLE TO OPERATE, AUTO SWITCH ON/OFF**
- ◆ **SELF TESTS AND CALIBRATES BEFORE EVERY TEST**
- ◆ **ROBUST AND IMPACT RESISTANT**
- ◆ **COMPACT, LIGHTWEIGHT, PORTABLE**
- ◆ **ATEX CERTIFIED FOR ZONE 1 OR ZONE 2 HAZARDOUS AREA USE**



## Introduction

Systems which transfer flammable liquids must be bonded, or electrically connected in order to safely dissipate static electrical charges. However, it is important that these systems are tested regularly, because deterioration could result in a hazardous situation developing.

Traditionally, a resistance or multi function meter is used. These instruments are normally cumbersome, delicate, and should be used by skilled technicians. They do not detect the small changes in resistance which affect a bonding system and they are also not responsive enough to detect a worn bonding reel bearing or slip ring. Consequently it is unlikely that bonding systems will be checked frequently or in the correct manner. A number of specialised bonding system testers have been developed but they all have a variety of other shortcomings.

The Aljac Continuity Tester (ACT) has been specifically designed for this task ONLY, so it does not sacrifice performance in the interests of being a multi purpose instrument and it is based on the very latest microprocessor technology.

## Description

The ACT is a foolproof GO/NO-GO device which can be used by unskilled personnel, and it is

controlled by a microprocessor which offers significant operational advantages.

Touching the clips together switches the ACT on. It self-checks calibration and available battery power and only then allows the test to proceed. The ACT uses a dual colour light emitting diode (LED) to indicate the condition of the bonding system under test, which makes the results very simple to interpret. If the system resistance is less than the set point, the LED will flash Green (Pass). If the system resistance is more than the set point, the LED will flash Red (Fail). The default set point is 25 Ohms which is in accordance with the JIG Guidelines for aviation fuel systems, but alternative set points (if required) can be specified at the time of order.

In addition, throughout the test, a two figure digital display tells the operator the actual system resistance (in Ohms).

The ACT housing is ergonomically designed to be comfortably held in the hand and is moulded from impact resistant Polyamide, so it is lightweight, robust, and is highly portable.



The ACT incorporates two sealed, non-rechargeable, high capacity batteries which gives it an extended operational life, and the battery life is further enhanced by a number of power saving features. The ACT does not have a constant power usage, it checks the resistance 200 times per second. Also, the microprocessor automatically switches off the ACT after a time out period at any stage of the operation, even if the clips are left connected or touching at the end of the test.

The ACT can be supplied with a calibration certificate if required, however it self-checks and adjusts calibration before every test.

The ACT is ATEX certified for use in Zone 1 or Zone 2 hazardous areas, unlike many other devices which are currently in use.

A Stowage Bracket is available which can be used to neatly stow the ACT when not in use, or can hold the ACT securely during testing.

## Operation

### 1. Self-Check/Start-Up.

- a) Touch and hold the clips together. The ACT adjusts calibration and checks battery power.
- b) If display shows ER the ACT is either out of calibration or the battery is discharged.
- c) If the calibration is correct and the battery has sufficient power, the LED flashes Green and the display shows 88 (segment check). Separate the clips within 10 seconds.
- d) The LED flashes Red and the display shows HI (open circuit). The ACT is now ready to check the bonding system.

### 2. Bonding System Test.

- a) Within 15 seconds connect one clip to a clean unpainted metal point on the system framework or vehicle chassis and connect the other clip to the system bonding clip.
- b) If the LED flashes Green the system resistance

is less than the set point. The bonding system is serviceable.

c) If the LED flashes Red the system resistance is greater than the set point. The bonding system is unserviceable and the problem **MUST** be rectified before further use.

d) The actual system resistance in Ohms is displayed throughout the test and this may be recorded.

e) The condition of the bonding reel slip ring or bearing can be checked by reeling the cable in or out with the ACT still connected. A defective reel bearing or slip ring will cause the LED to change colour from Red to Green and back again.

f) At the end of the test remove the clips. The LED flashes Red and the display shows HI (open circuit). The ACT will now time out in 15 seconds and switch off.

Always wait for the ACT to switch off at the end of every test before starting a new test.

## How To Order

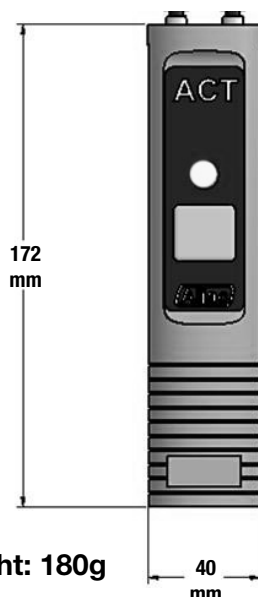
Aljac Continuity Tester. **Part Number:**

**0100400180.**

Stowage Bracket. **Part Number: 0100400181.**

Replacement lead/clip assy. (2 per ACT). **Part Number: 0100400182.**

## Weights and Dimensions



**Nett Weight: 180g**

## Specification

**Type:** GO/NO-GO Continuity Tester.

**Set Point:** 25 Ohms (default). Option 1 to 50 Ohms.

**Test Frequency:** 200 tests per second.

**Display Update:** Every 100 tests (0.5 seconds).

**LED:** Dual colour high intensity (Red/Green).

**Display:** Two digit 7 segment LCD, 12mm character height. Selectable on or off in software.

**Housing:** Antistatic Black Nylon 66.

**Battery Holder:** Black Nylon 6.

**Battery:** Lithium Thionyl Chloride 3.6V.

**Microprocessor:** Atmel AVR EXMEGA 16A 4U.

**Flying Leads:** 2 x 0.65m long, with plugs/clips.

**ATEX Approval:** Ex II 2G Ex ib IICT4 Gb.

**Approval Certificate:** ZELM13 ATEX 0509.

**Operating Temperature:** -10 to +45°C.

## Ancillary Items

Contact our Sales Department for bonding reels (hand or spring rewind), bonding cable, bonding clips, bonding lugs, NATO bonding plugs, bonding clip break away joints, and drum bonding clamps. We are also happy to advise you on the selection and operation of static bonding equipment and systems.