

# OPERATION MANUAL

No. MN9600E Rev. A - Feb 2012

## HOD-600 DC HOLIDAY TESTER



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## OPERATION

### Safety

Safety precautions must be strictly adhered to whilst using the HOD-600 Holiday Tester.

The HOD-600 must be operated by responsible and trained personnel, who are in good health and do not suffer from any cardiac conditions.

The HOD-600 must not be used in any area which could have a combustible or flammable atmosphere, as the test voltage can cause a spark and an explosion could occur.

The work under test must be located in a clearly definable marked area, with unauthorised personnel prohibited.

All items under test must have a secure connection to earth or ground.

### Testing

The HOD-600 must be switched off and the multiturn voltage control turned fully anticlockwise.

Connect the plugs on the high voltage handle and earth cable to the colour coded sockets on the front and back of the instrument.

Fit the required Brush or Rolling Spring to the high voltage handle.

Connect the earth cable to the base metal of the item under test. It is essential that the base metal of the item being tested is also connected to a true earth.

Switch the Holitech on to switch position A. The green Fault indicator will illuminate and there will be a low reading on the display. Press the switch on the high voltage handle and turn the multiturn voltage control on the instrument in a clockwise direction until the required test voltage is displayed.

With the high voltage handle switch pressed on, place the Brush or Rolling Spring on the coating to be tested and move over the full area of the coating. If a flaw is detected a spark will jump across from the Brush or Rolling Spring through the flaw in the coating to the metal substrate, the alarm will sound, the red flashing Fault indicator will illuminate and the test voltage will drop to zero. To reset the instrument, repress the high voltage handle switch, this will restore the test voltage so that testing can resume.

For the majority of testing, the switch A mode will be sufficient. However, for difficult-to-see flaws it may be necessary to select a continuous test voltage where the spark can be seen more easily, jumping across the flawed area. This can be achieved by selecting switch B mode, which will give a continuous test voltage when the high voltage handle is pressed and will sound the alarm every time a spark occurs. The red flashing Fault indicator will illuminate and remain on until the high voltage handle switch is pressed again. Always ensure that the high voltage probe is kept away from the instrument.

### Test Voltages

Always refer to the manufacturer's test specification to ensure that the correct test voltage is used. If this is not available then the following procedure will allow the dielectric strength of the coating to be obtained:

Using a sample of the coating to be tested, put a small pinhole in the coating through to the substrate. Apply a low test voltage to this pinhole and gradually raise the voltage until a spark occurs. This is the minimum voltage to detect a through pinhole. Place the probe on a known good section of the same coating type and thickness and gradually raise the test voltage until a spark occurs through the coating. This is the dielectric strength voltage of the coating for this particular thickness. The test voltage can be set midway between the minimum voltage to detect a pinhole and the dielectric strength voltage.

An approximate guide which may be used for reference only is 3 to 5 volts per micron, so for a coating thickness of 1000 microns the test voltage would be between 3000 and 5000 volts.

### Replacing Batteries

When the batteries require replacement, the red Lo Bat indicator will illuminate. To replace, pull out the 2 drawers located on the rear of the instrument. Replace with 2 lithium PP3 batteries, ensuring correct polarity.

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