

HAL COMBI

4 IN 1 ELECTRICAL SAFETY TESTER



The HALfamily has been designed to offer advanced automation techniques to dramatically improve productivity and efficiency within the production line test process. Clare has drawn from over 50 years of experience within the manufacturing sector to create this advanced product, incorporating cutting edge features that allow the test process to be safely automated and de-skilled. The Hal Combi offers unprecedented value as it contains the four core electrical safety tests required by routine production line testing.

Technically the product has isolated floating test outputs making it probably the safest flash/hipot tester on the market. Careful consideration has been given to the user interface to enable it to be used manually within laboratory, audit and product compliance environments. Clever use of a barcode scanner will not only automate the production flow, but will enable the product to be linked directly into most ISO quality systems covering production, laboratory and audit usage.

Key Features

- **Advanced features guarantee productivity and efficiency improvements over conventional test equipment**
- **Meets most relevant safety standards for flash/hipot testing**
- **Earth/Groundbond test can be performed at 40A to meet UL and CSA requirements**
- **Test outputs are fully isolated from ground making this the safest tester on the market**
- **Saves up to 6000 test results electronically and can print labels and test reports**
- **Can be used with a barcode scanner to automate and de-skill the test process**
- **Can be programmed using a barcode scanner making it ideal for ISO quality systems**
- **Meets requirements for traceability of equipment and results in accordance with international approvals agencies (UL and CSA)**
- **Can be configured for single button operation with simple PASS/FAIL indication**
- **High performance, ideal for lab or audit environment conformance testing**
- **Multiple language capability**
- **Electrically isolated outputs not only protect the user but protect other personnel within the test environment.**
- **Advanced software available to allow SPC and storage of test results to a PC**
- **Can be controlled from a host device via RS232 interface**
- **Can be controlled via a PLC interface**
- **Works with the Clare Desk TnT label printer**



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HAL COMBI SPECIFICATIONS

AC Flash Hi-Pot Test

Voltage Range:	0.100 – 5.000kV (programmable)
Voltage Resolution:	10V/step (settable)
Voltage Accuracy:	1% of reading +/- 2 digits
Maximum Output Current:	20mA @ 5kV
Display Current Range:	0.01 – 20.00mA
Current Accuracy:	1% of reading +/- 2 digits
Display Current Resolution:	0.01mA

DC Flash Hi-Pot Test

Voltage Range:	0.100 – 6.000kV (programmable)
Voltage Resolution:	10V/step (settable)
Voltage Accuracy:	1% of reading +/- 2 digits
Maximum Output Current:	10mA @6kV
Display Current Range :	0.01 – 10.00mA
Current Accuracy:	1% of reading +/- 2 digits
Display Current Resolution:	0.01mA
Output Ripple:	< 5% @6kV

DC Insulation Resistance

DC Output Voltage:	250,500 or 1000V selectable, or fully adjustable from 10 – 1000V
Resistance Ranges Measurement:	0.50 - 99.99mΩ and 100.0M - 999.9mΩ
Resistance Ranges (Accuracy):	0.50mΩ - 99.99MΩ 5% of reading +/- 5 digits, 100.0mΩ - 699.mΩ 5% of reading +/- 5 digits, 700.0 to 999.9mΩ 10% of reading +/- 5 digits

ARC Detection

Detect Current:	10 Levels
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Earth / Ground Bond

Test Voltage:	Nominal 6VAC
Output Current Range:	0.1 - 40.0A settable in 0.1A steps
Compliance Ranges:	0-200mΩ up to 25.0A, 0 - 500mΩ up to 10A
Measurement Range:	0-1000mΩ, +/- 1% +/- 5 digits
Measurement Range:	0-1000mΩ, +/- 1% +/- 5 digits
Test Duration:	0.5 – 10.0S
Trip Level upper/Lower:	1 – 1000Ω

Features

Electronic storage of test results:	Yes up to 6000
Test Sequences:	Predefined and custom up to 20
Visual alarm:	Yes
Audible alarm:	Yes

External Connections

Printer:	RS-232
PC:	RS-232
Beacon:	Yes
Guard Switch:	Yes via external via 3-pin rear connection
PLC interface:	Yes

Environment

Dimensions:	370 X 300 X 204mm
Weight:	12Kg approx
Supply Voltage:	Selectable 115V/230V 50 or 60 Hz
EN50191 Compliant:	Yes

Hal Combi Users:

- Production Line Testing
- Component Testing
- Design and Conformance Labs
- QA and Product Audit

HAL COMBI includes:

- HAL COMBI Tester
- G2-5001
- Class i grounded output 60
- 039192/2 HT Probe
- 01520/1 Earth Probe
- CON 965/LINK
- Guard with plug
- Instruction Manual
- Mains Lead

Optional Extras

Hardware:

- Barcode Scanner
- Desk Test n Tag label printer
- Industrial Label Printer
- Calibration Check Unit V242
- Hand-held guard switch

Software:

- PAT Guard

Training:

- HAL COMBI Training Course

Services:

- Service and Calibration



WORLD LEADERS IN SAFETY TEST AND MEASUREMENT

Seaward test and measurement companies include:

CLARE
INDUSTRIAL SAFETY INSTRUMENTS

CROPICO
PRECISION INSTRUMENTS

RIGEL
MEDICAL

SEAWARD
PORTABLE ELECTRICAL SAFETY INSTRUMENTS