

# TESTING OF ELECTRIC HOUSEHOLD APPLIANCES

PRECISE AND COST-EFFECTIVE  
QUALIFICATION USING *APLUS*

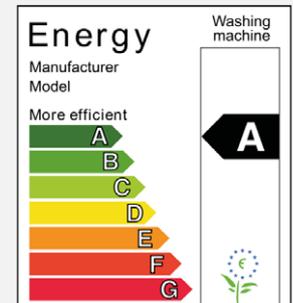


LABORATORY TESTING • IN-PROCESS TESTING • FINAL TESTING



## THE REQUIREMENT

The indication of the energy consumption of domestic appliances constitutes a decisive criterion for the purchase decision of consumers. The standard has different appliance types from A+++ to G. Manufacturers of electric household appliances are obliged to attach energy labels to their devices. In order to safeguard the indicated energy class, the relevant electric parameters must be regularly measured and documented during the production process and final testing.



## THE SOLUTION

The *APLUS* displaying and multi-functional power instrument offers the perfect solution. The device is able to acquire all of the **3 phases simultaneously** and can thus measure **3 one-phase consumers at the same time**. Despite its compact form, *APLUS* acquires all parameters in the electric mains reliably and with very high accuracy. Apart from electric basic variables, the mains quality analysis is also possible. Viewing of the active and reactive energy via installed meters completes the functionality of the device.

### TECHNICAL DATA

- Accuracy of  $\pm 0.1\%$  for current / voltage,  $\pm 0.2\%$  for power
- Simultaneous measurement of 3 phases / loads
- Individual parameterizable measuring times to measure different test item status
- Extensive bus interfaces for measured data communication
- Acknowledgeable alarms with status and plain text display directly on the device
- Optional data logger and I/O channels
- Versions:
  - Panel installation 96 x 96 with LED display
  - Panel installation 96 x 96 with TFT display and menu-guided operation
  - For top-hat rail without display
- Free-of-charge software for parameterizing, service and visualizing



## RANGE OF APPLICATION

Due to its multi-functionality and customer-specific configuration, *APLUS* is best suited to all measurements required in the development, production and final testing of electric household appliances.

*APLUS* is used for major electric appliances, e.g.

- Washing machines
- Laundry dryers
- Refrigerators
- Freezers
- Electric stoves
- Air conditioners





If required, *APLUS* is supplemented by a free-of-charge software package, the CB-Manager. The same facilitates the comfortable application-specific configuration of the appliance. Configuration and measured values may be saved on the PC and measurements can be visualised.

## THE RESULTS

*APLUS* measures power as well as other required electric variables reliably and with very high accuracy. Three one-phase consumers can be simultaneously measured with only one instrument.

- Precise and reliable measurement in all areas of production
  - Laboratory / development
  - Production
  - Final testing
- Acquisition of defective appliances and deviations
- Documentation (storing) of measured data
- Analysis of measurements (statistics, improvements, trends, causal research, etc.)



## YOUR BENEFIT

*APLUS* is a high-performance instrument for measuring, monitoring and analyzing all electrical data of electric household appliances which may be considered outside of DIN IEC 62301. In this task, *APLUS* is unbeatable in terms of price in comparison with typically used measuring units.

### YOUR ADVANTAGES

- *APLUS* saves money
- *APLUS* reduces rejects
- *APLUS* needs little space
- *APLUS* i easily operated
- *APLUS* is robust and durable
- *APLUS* measures **all** variables in the electric mains



«The instrument meets all of our requirements – for example when testing refrigerators and freezers. It is much more price-effective compared to traditional instruments and, nevertheless, very accurate, stable in operation and also its optical appearance is convincing.»

Feixang Luo, responsible for quality assurance at BSH Hausgeräte, China

GMC INSTRUMENTS

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INDUSTRIAL TECHNOLOGY



PHOTOGRAPHY



TEST AND MEASUREMENT



MEDICAL ENGINEERING

