



ARTES 100

The Multi-Functional Relay Test System

ARTES 100 is a universal test device which can provide particularly high levels of output power up to 1000 VA per source. The three built-in signal sources work entirely independently of each other and can be used as either current or voltage sources.

In addition to carrying out secondary tests on protection relays, the high output current of up to 250 A enables ARTES 100 to be used for a variety of different purposes, including primary tests for commissioning and maintenance.

State-of-the-art power electronics make it unnecessary to set or adjust the output signals manually before tests. Phase displacements between the output quantities and different signal frequencies can be set independently of the supply voltage.

ARTES 100 is compact, robust and easy to handle. It can be set up ready for use extremely quickly and is operated and controlled with a small number of function keys and a jog dial.

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Modern, microprocessor-controlled relay test sets are designed specifically for secondary tests. They feature a wide range of different functions, enabling them to carry out fully automatic tests on a variety of protection devices with great precision.

When it comes to manual tests, conventional, single-phase test sets are often preferred. These devices are easy to operate and can be set up ready for use extremely quickly. Conventional test sets normally rely on heavy transformers for signal generation. Although this simple technology can provide a relatively high output power, signal generation directly from the grid via transformers is no longer adequate for the purpose of either operating or testing many electronic components and devices.

High output power

ARTES 100 combines the best of both worlds. Its fully electronically regulated amplifiers are able to provide even higher levels of output power than many conventional test sets with transformers. Other attractive features are the compact size and light weight of the test set, achieved by the use of state-of-the-art technologies and a high degree of system integration.

ARTES 100 features one high-current source and two voltage sources. The high-current source can provide an output current of up to 250 AAC at a maximum output power of 1000 VA. It can be operated in three different output ranges and, depending which range is selected, provides a compliance voltage of up to 90 VAC. This means that a very high output power is available with low test currents. The maxi-

The multi-functional relay test system...

- Test current up to 250 A, output power up to 1500VA
- Unlimited output duration without cooling phases
- Fully automatic regulation of output values
- Convertible voltage/current sources
- Immune to disturbances in the power supply
- Easy to handle and simple to operate
- Operation with AC or DC power supply
- Sophisticated connection system

mum amplitude of the two independent voltage sources is 300 VAC. The signal frequencies can be set independently of the supply voltage.

Unlimited output duration without cooling phases

Conventional devices become very hot when they output high currents and voltages, due to the efficiency factor and high iron content of their transformers. As a result, high output power is only available for a few minutes at a time, sometimes even only a few seconds. Another major disadvantage of conventional test devices are the long cooling phases they need, lasting up to an hour after only a short period of use.

By contrast, the electronically regulated amplifiers of ARTES 100 are practically loss-less and generate very little heat, even at maximum output power. This means that high currents and voltages can be output for almost unlimited periods of time without cooling phases, re-

sulting in significant savings in time and money.

Fully automatic regulation of output values

The output signals of ARTES 100 do not need to be set or adjusted manually before tests, nor do they require readjustment during tests. The control panel of the device is used to enter amplitudes and phase displacements between signals. The desired values are then set fully automatically when a test is started. Synthetic signal generation with a powerful signal processor, internal feedback measurements of the output signals in real time and ultra-fast regulation of the amplifiers make this possible and ensure that the signals correspond exactly to the desired values during output. This is particularly advantageous when the burden of a test object connected to ARTES 100 changes during output, as is frequently the case with electro-mechanical relays and self-powered relays.



Impact ■ Versatile

... for commissioning, maintenance and service

Convertible voltage/current sources

The high-accuracy sources of ARTES 100 can be set to output either a constant current or a constant voltage, opening up a wide variety of possible applications. The high-current source and the two voltage sources can be switched quickly and easily between constant current and constant voltage output using the menu. Consequently, up to three voltage sources or three current sources are available as required. When used as a voltage source, the high-current source can deliver a constant output voltage of up to 90 VAC and a maximum power of 1000 VA.

A high compliance voltage is

required when low test currents are to be applied to test objects with a very high burden. When the voltage sources of ARTES 100 are used as current sources, they can provide a maximum voltage of 300 VAC and a constant test current of up to 3 AAC. This means that sufficient power is always available, even when very low currents are used, as is the case when testing electro-mechanical earth-fault relays, for example.

The voltage sources can also be used as an auxiliary power source, to supply the test object, for example. The source selected for use as a DC power supply can be set independently of the other sources

using the menu and can be switched on and off easily at the touch of a button.

Immunity to disturbances in the power supply

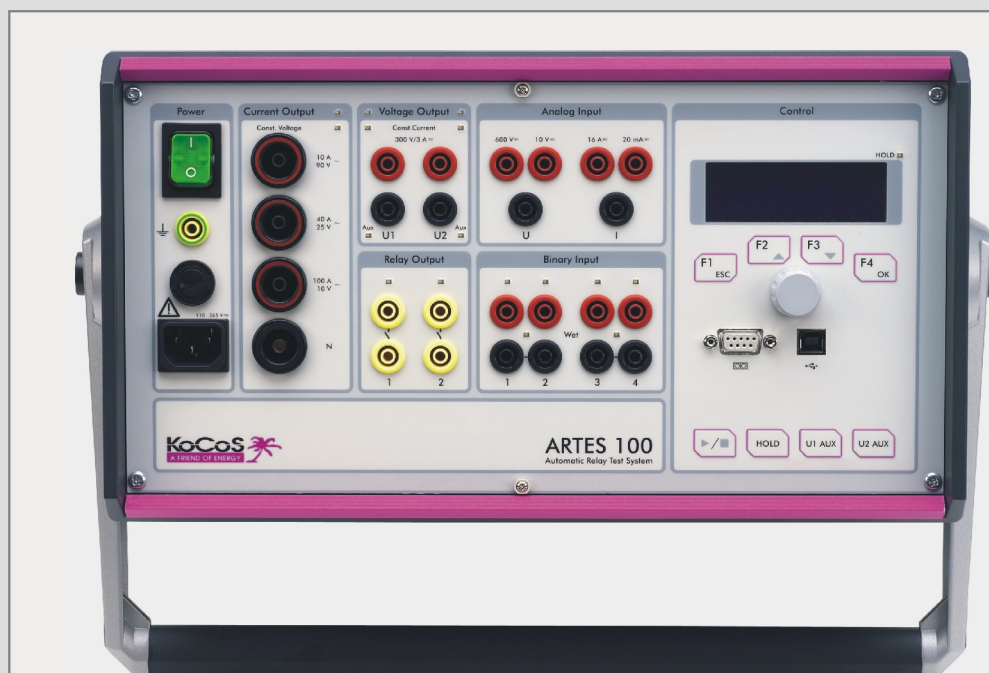
When transformers are used to generate output signals directly, fluctuations in the supply voltage have a direct effect on the output values. With ARTES 100, the inaccuracies and errors which result from such fluctuations are completely avoided.

Powerful, wide-range switching mode power supplies safeguard the power supply to the ARTES amplifiers and ensure fault-free operation and constant output signals. ARTES 100 also offers the flexibility of

operation with either an AC or a DC power supply.

Easy to handle and simple to operate

ARTES 100 is operated and controlled with a small number of function keys and a jog dial. Great emphasis has been placed on the ergonomics of the display menus, enabling the device to be operated simply and intuitively.



Connections and Controls

All the connections and controls are located on the front panel together with an LCD screen. This means that ARTES 100 can be stood upright on the floor if required and still be operated comfortably.

The states and operating modes of the inputs and outputs are indicated by LEDs on the front panel. The user can tell at a glance which outputs are active and can easily identify the states of the binary inputs and outputs.



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Wide range of accessories

ARTES 100 is delivered in a high-quality, robust case. The retractable handle and smooth-rolling wheels ensure easy manoeuvrability. A snugly fitting case insert made of rigid foam gives ample protection during transport.

The case also offers plenty of storage space for the wide range of accessories provided with the test device. These accessories include the connecting leads for 2 voltage outputs, one high-current output and 2 binary inputs. Also included are 8 terminal adapters with insulated 2.5 mm² Cu-wire for connecting into rail-mounted terminals and 8 plug adapters for connecting safety connecting leads to conventional ø 4 mm sockets. Screw-on ø 3 mm and ø 6 mm contact

pins are provided for connecting the 10 mm² high-current lead to the test object.

Special high-current connection clamps are available as an extra option. Like the contact pins, these clamps can easily be fixed to the end of the high-current lead by means of a screw connection. This sophisticated connection system obviates the need for extra connecting leads which would take up more space and add weight.

Product Specifications



Specifications

Sources	One current output and two voltage outputs which can be set to provide a constant current / voltage as required Total output power 1500 VA
Current output	0 to 10 A / 0 to 40 A / 0 to 100 A, max. 1000 VA, up to 250 A for short periods or 0 to 90 V, constant voltage
Voltage outputs	0 to 300 V, max. 300 VA, can also be used as DC auxiliary power source or 0 to 3 A, constant current
Binary inputs	4 inputs, configurable for potential-free and potential-carrying contacts
Binary outputs	2 potential-free and galvanically isolated output relays
Analog inputs	1 x voltage, measuring ranges 0 to 10 V _{AC} and 0 to 600 V _{AC} 1 x current, measuring ranges 0 to 20 mA _{AC} and 0 to 16 A _{AC}
Operation	Membrane keypad with 8 function keys, jog dial, PC
Display	Alpha-numeric LCD screen, 4 x 20 characters
Power supply	115/230 VAC, 47 to 63 Hz, 110/220 VDC
Housing	Portable ¾ 19" housing, 4 U, the carrying handle can also be used as a stand Dimensions WxHxD: (360x200x355) mm, weight: 18 Kg

Technical specifications subject to change without prior notice | © KoCoS Messtechnik AG