

## ARTES 5 testing software

The complete ARTES 5 testing software, including all test monitors, is included in the standard scope of delivery of ARTES test systems. The test values for different types of faults are calculated automatically and can be combined to complete test sequences.

## Database structure

The central element of the testing software is the integrated database. The structural design enables the management of all necessary information and results in one central place.

## Test monitors

The ARTES 5 testing software contains specially adapted test monitors for testing different protection functions. These calculate the required test values according to the globally defined protection settings.

## Individual test plans

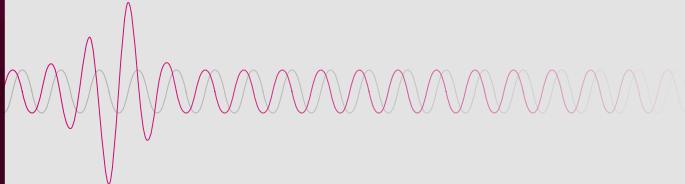
An individual test plan can be created easily for each device under test. Individual tests can be combined to form complete device or type tests.

## Automatic generation of test reports

For documentation and, if necessary, submission for certification, the test results can be automatically compiled into a test report. The content of this report can be defined by selecting the available test results.



ARTES 5: PIC-Monitor



## Scope of delivery

All ARTES System are delivered as package with the following items:

- ARTES 5 testing software with all available Monitors
- Standard cable set to connect current and voltage outputs as well as binary inputs
- Power cord
- Communication cables (Ethernet and USB)

## Optional accessories

Different adapter cables for the low-level signals outputs and the generator socket are available.

For transport you can choose between a padded wrap-around bag with separated compartments for accessories or an robust carrying case with retractable handle and wheels.

## Voltage Transformer VT2

In the field of renewable energies the nominal voltage could be higher than the output range of the ARTES test systems. The VT2 doubles the output voltage of the ARTES test systems from 300 V<sub>L-N</sub> to 600 V<sub>L-N</sub>.

It provides an high accuracy in a wide frequency range and is equipped with a inrush suppression.



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# ARTES

## PROTECTION RELAY TESTING



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## ARTES - Automatic Relay Test Systems

ARTES test systems are used to carry out function tests and tests of configured starting and tripping characteristics, including any automatic reclosing functions of protection devices such as Distance protection relays, Differential protection relays, DT/IDMT relays, Voltage relays and Frequency relays.

### Powerful high-precision amplifiers

The high-accuracy amplifier outputs can be set separately and independently of one another as regards phase, amplitude and frequency and are equipped with overload and short-circuit protection. Test currents of up to 96 A can be achieved by parallel operation of the amplifiers.

### Integrated TJCP operator interface

The high-resolution touch screen enables many tests to be carried out quickly and easily without having to connect an external PC. User actions, such as amplitude, phase angle or frequency adjustments can be carried out with the ergonomic jog wheel. An illuminated ring and additional acoustic signals indicate system status during settings and tests.

### LEDs for status indication

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



## ARTES 460 | 600

### Compact, multi-functional relay test systems

ARTES 460 and ARTES 600 are the compact and universal solution for testing all types of protection relays. Because of the built-in control panel, the light weight and the low noise level, the robust test systems can be used on site as well as in laboratories.

### High-accuracy low-level signal outputs

Special low-level outputs with very high accuracy make it possible to test protection devices with low-level signal inputs. The behaviour of various different sensors, such as Rogowski coils, is reproduced precisely.

### Separate DC output

The separate DC supply can be used to power the device to be tested, for example. The range is between 12...260 VDC.

### Operation in a vertical position

All connections and interfaces are located on the front panel. This means that ARTES 460 and ARTES 600 can be operated in an upright position if there is not enough space or if no table is available.

### Internal GPS Receiver

The internal GPS can be used to synchronize two or more systems for e.g. line differential testing.



### Current amplifier for different applications

The current amplifiers of ARTES 460 and ARTES 600 are designed for different kind of application.

The ARTES 600 provide a maximum test current of 6 x 32 A with a particularly high output power. It allows three-phase tests on static and digital as well as on self-powered relays.

The ARTES 460 instead of this is designed for testing relays with low power consumption like digital relays with a separate power supply. Therefore it provide a maximum test current of 6 x 16 A with a lower output power.

## ARTES RC3

### The robust and universal solution for protective relay tests

ARTES RC3 is particularly impressive due to its versatility and outstanding price-performance ratio. Thanks to its compact and handy hard-shell case, ARTES RC3 is perfect for demanding outdoor use.

### Applications in the field of renewable energies

Its robust design also makes the ARTES RC3 the ideal choice for applications in the renewable energy sector. Whether grid and system protection or QU protection - the test system enables simple, fast and fully automatic tests and offers maximum reliability in demanding environments.

