

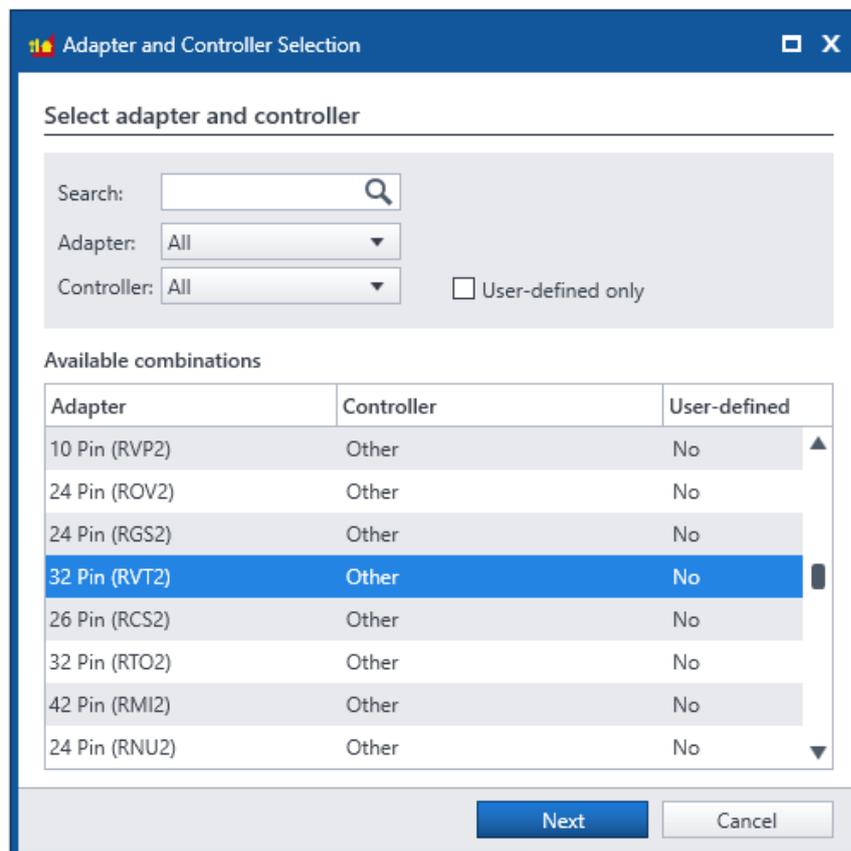
## RelaySimTest

# What's New in Version 3.30

Compared to Version 3.21

## 1 Improved Recloser Handling

In RelaySimTest 3.30 reclosers can now be added from the same adapter and controller library as used in ARCO Control. This reduces the effort to setup a test document for a recloser scheme down to an hour. Reclosers are added via a new dialog that automatically generates the recloser in the system under test.



If required instrument transformer, circuit breaker and recloser commands can be adjusted in the new adapter and controller dialog. User defined signals can be easily recorded with the ISIO 200 binary I/O extension.

By simply assigning the recloser to an ARCO 400 in the test set configuration the test document is ready for execution. RelaySimTest runs a validation prior to the test execution to ensure that the correct adapter is connected.

Adapter and Controller Settings

**Recloser**

- General
- Current transformer**
- Voltage transformer
- Circuit breaker
- Recloser commands
- Auxiliary contacts
- Recloser signals

**Current transformer**

Configuration: Three-phase

Phase seq.: L1-L2-L3  Apply to voltages

CT ratio: 1,000 kA : 1,000 A

I max: 12,500 A

CT star point: Load

OK Cancel

Adapter and Controller Settings

**Recloser**

- General
- Current transformer
- Voltage transformer
- Circuit breaker
- Recloser commands
- Auxiliary contacts
- Recloser signals**

**Recloser signals**

Enable ISIO 200 extension for binary inputs of ARCO 400

Serial number: XXXXXX

Ethernet port: ETH1

ISIO Input	Enable	Name
1	<input checked="" type="checkbox"/>	User-Signal-1
2	<input checked="" type="checkbox"/>	User-Signal-2
3	<input checked="" type="checkbox"/>	User-Signal-3
4	<input checked="" type="checkbox"/>	User-Signal-4
5	<input type="checkbox"/>	
6	<input type="checkbox"/>	
7	<input type="checkbox"/>	
8	<input type="checkbox"/>	

OK Cancel

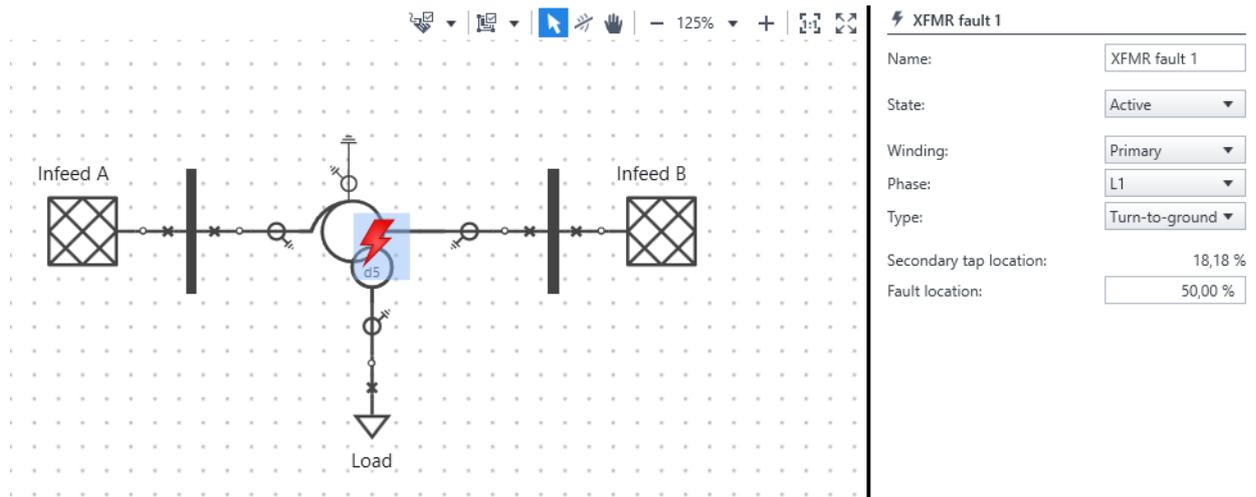
## 2 Autotransformer Improvements

The improved autotransformer model now allows to simulate inside faults like turn-to-turn or turn-to-ground faults and saturation of the autotransformer's core.

In addition to the extended simulation model a new power system element, the three-winding autotransformer model, is available.

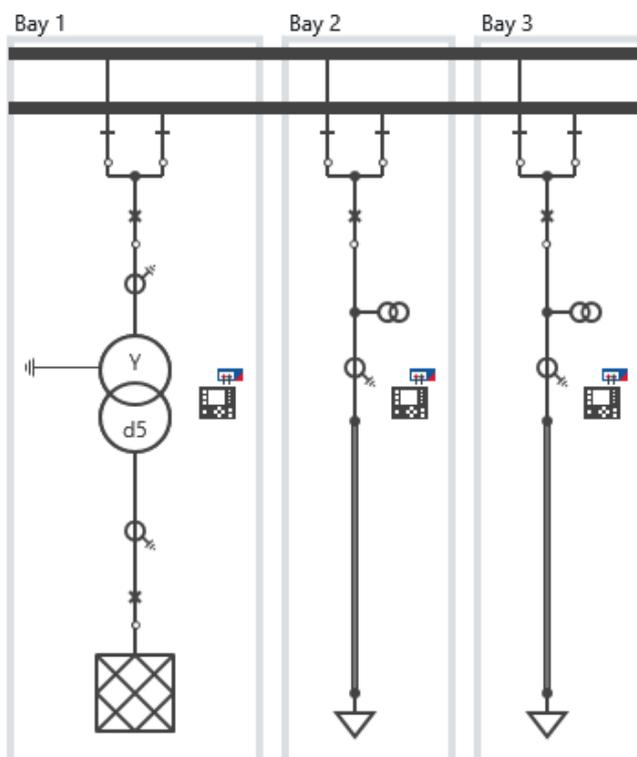
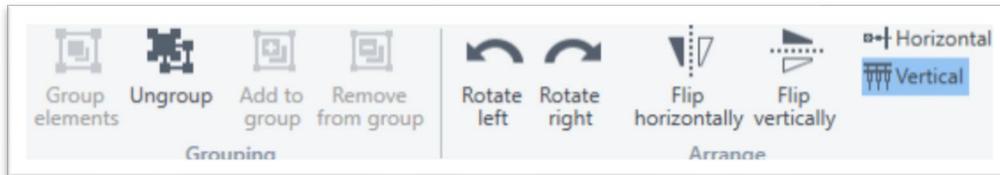
This allows for an in-depth test of your autotransformer's protection system.

This allows a complete system-based test of an autotransformer protection system, which tests for a correct behavior under realistic conditions and simplifies the preparation by being independent of the relay specific implementation.



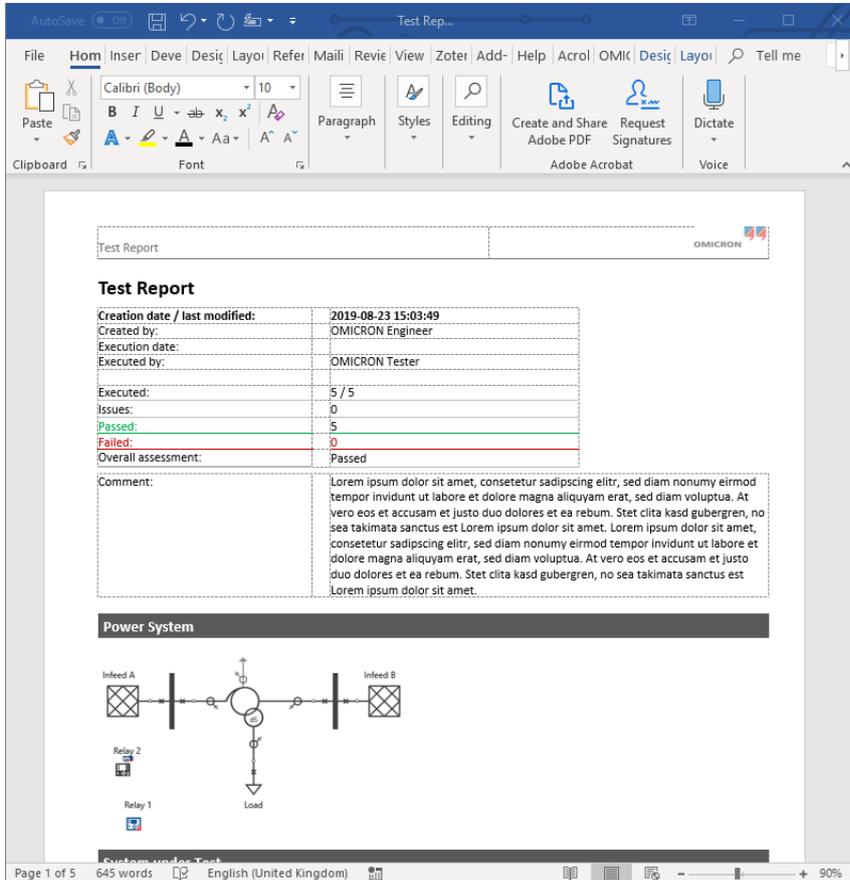
### 3 Power System Editor Improvements

With newly added grouping function elements can be grouped for example into bays and substations, which improves the arrangement of elements in the single line editor. This function is accompanied by improved rotation, flipping and moving functions.



## 4 New Reporting Engine

The reporting has been completely reworked and can now export directly to Microsoft Word for further editing and formatting. The power system diagram can now be added per test case.



The screenshot shows a Microsoft Word document titled 'Test Rep...' with a ribbon menu. The main content is a test report template. It features a table with the following data:

Creation date / last modified:	2019-08-23 15:03:49
Created by:	OMICRON Engineer
Execution date:	
Executed by:	OMICRON Tester
Executed:	5 / 5
Issues:	0
Passed:	5
Failed:	0
Overall assessment:	Passed

Below the table is a 'Comment:' field containing placeholder text. Underneath is a section titled 'Power System' which contains a schematic diagram of a power system. The diagram shows two infeed points, 'Infeed A' and 'Infeed B', connected to a central bus. A transformer is connected to this bus, and a load is connected to the secondary of the transformer. Two relays, 'Relay 1' and 'Relay 2', are also shown connected to the system.

## 5 Miscellaneous

Further improvements in RelaySimTest are:

- New static binary inputs can be added to the devices.
- Various usability improvements like:
  - Usability improvements in mapping of IEC 61850 GOOSE
  - Colored voltage and current connectors in the test set configuration
  - Usability improvements when interacting with user-defined binary signals
  - Improved time signal cursors
- A revised voltage propagation function for a quick adjustment of the system voltage within a test document
- Resistive transformer losses can now be entered directly.
- For three winding transformers a custom reference power can be defined to match most nameplates.

**OMICRON** is an international company serving the electrical power industry with innovative testing and diagnostic solutions. The application of OMICRON products allows users to assess the condition of the primary and secondary equipment on their systems with complete confidence. Services offered in the area of consulting, commissioning, testing, diagnosis and training make the product range complete.

Customers in more than 140 countries rely on the company's ability to supply leading edge technology of excellent quality. Service centers on all continents provide a broad base of knowledge and extraordinary customer support. All of this together with our strong network of sales partners is what has made our company a market leader in the electrical power industry.

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