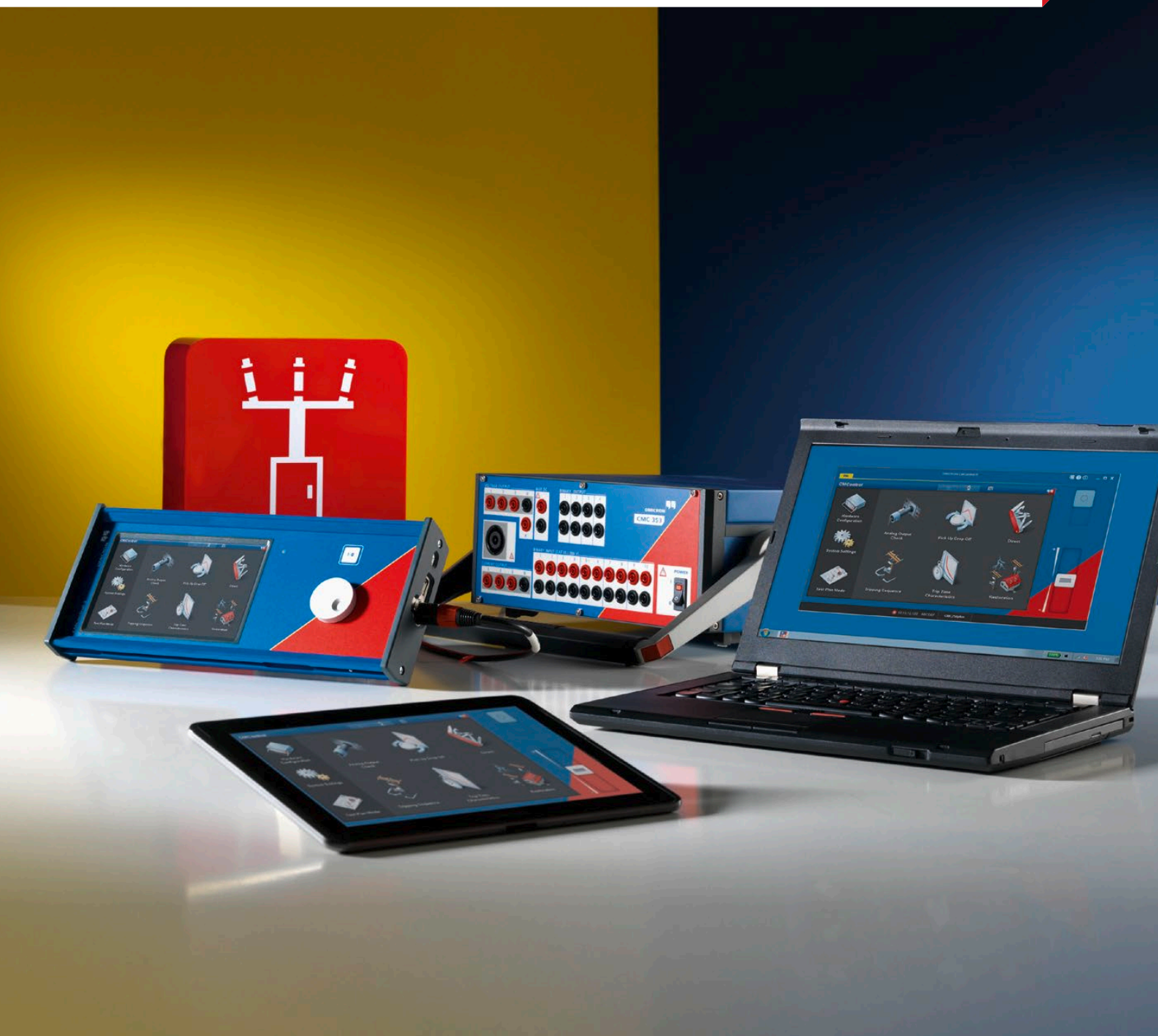
CMControl R

Easy-to-use control device for CMC test sets for testing recloser and sectionalizer controls



CMControl R

Easy testing of controllers

The CMControl R is an easy-to-use front panel control for CMC test sets, specifically designed for testing recloser and sectionalizer controls. With its comprehensive test tools and the intuitive touchscreen control concept and the control wheel, commissioning and maintenance tests are easily made.

The software is adapted to the typical processes for testing recloser and sectionalizer controls. The menu navigation guides the user step by step through the test sequence. Test results are obtained quickly and reliably. They are stored on a USB memory stick in the background and can be recalled when needed.

The CMControl R is a control alternative for CMC test sets and is specifically designed for quick tests in the field. Depending on the preferred work position, it can either be attached directly to the CMC or used as a handheld device. A special Ethernet cable with a robust connector system ensures reliable connection with the test set.

CMC 353 with CMControl R and recloser control test cable

CMControl R App

It's also possible to use the CMControl R funtionality as an App on a Windows PC or an Android Tablet.

The test tools provide a wide range of functions:

Analog Output Check allows controlling of analog test quantities and operational measuring values.

The Pick-Up/Drop-Off tool is used to test the thresholds of recloser and sectionalizer controls.

The Direct tool enables individual configuration of all CMC outputs for special test tasks.

The Tripping Sequence tool tests the controller main functions: permanent fault, autoreclosure logic.

The Trip Time Characteristics tool checks the operating characteristics and the switch logic between the fast and the slow curve.

The Restoration tool allows testing of voltage controlled functions – for example, automated distribution restoration schemes.

The Test Plan Mode allows the execution of test plans created via ReCoPlan

Simple to operate

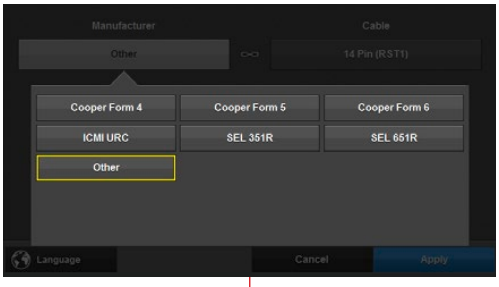
- Software provides instructions for connecting the test cable
- Automatic configuration of the inputs and outputs of the test set following a simple selection of the controller manufacturer and cable type
- No configuration of IP network cards
- No PC start-up time to waite

Your benefits

- Simple and fast testing with innovative user guidance
- Instant availability
- Reduced testing efforts, increased productivity
- Flexible working positions
- No special training required
- Test plan functionality

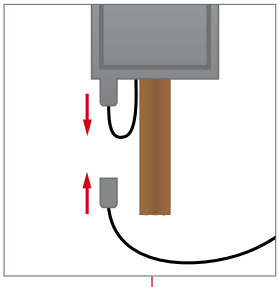
Easy test start-up procedure

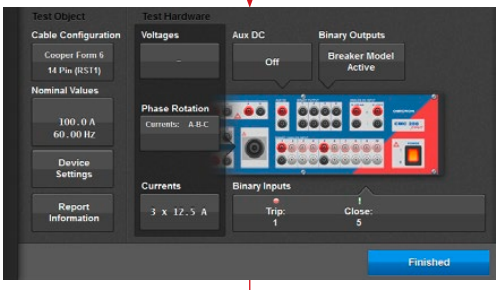
Starting a new test is very easy and intuitive. By selecting the controller type and cable, the nominal values of the test object are preset in the test tools. The software shows how to connect the test cable. Specific test data such as location, tester´s name and test object data are entered into Report Information. Testing starts by selecting the desired test tool.



1. Selecting the controller & test cable

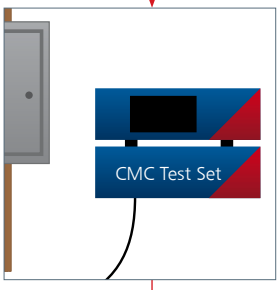
At the start of each test, the controller type and cable being used (pin count) are selected. The data of the respective cable combination are automatically provided ready for testing.

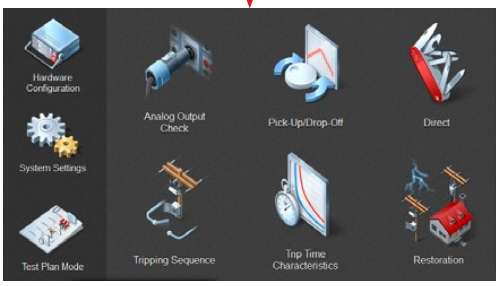




2. Hardware configuration

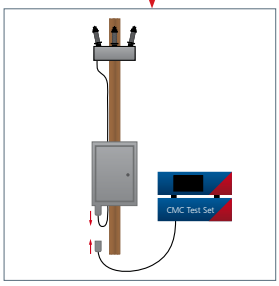
The used inputs and outputs on the CMC test set are shown graphically so that no errors can be made during connection. The preset nominal values can be adapted if required. General data for testing can be stored in Report Information (tester, location, etc.).





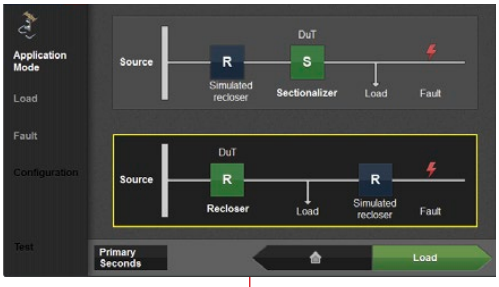
3. Starting a test

The desired test tool is selected by touching the respective icon in the main menu. The simulation of the circuit breaker auxiliary contacts with the CMC test set makes manual testing of the trip/close command easy.



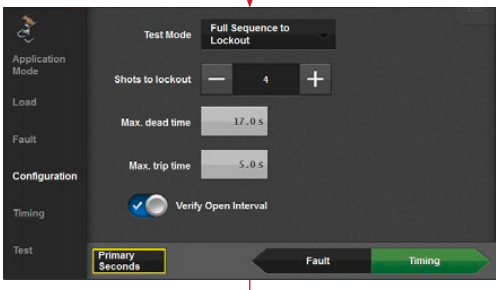
Tripping sequence test tool

With this test tool the main function of recloser and sectionalizer controls is tested in a realistic way. The behavior of the controller can be tested for full sequence to lockout and automatic reclosing functions. When testing a sectionalizer, the trip-close sequence of an upstream device is simulated. The proper timing of the recloser or sectionalizer control is measured and included in the report.



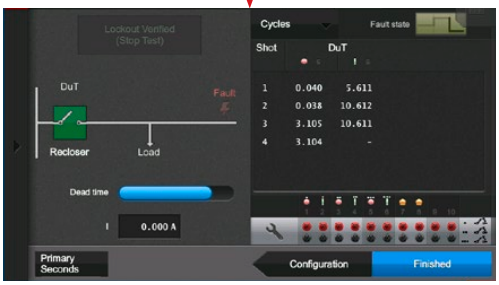
1. Application mode

When selecting the DuT (device under test) it is also determined which additional unit is simulated by the test software. In the example, the test of a recloser with a simulated downstream recloser is selected.



2. Configuration

The type of test sequence is defined in the configuration menu. Selectable options are Full Sequence to Lockout, Successful Reclose and Co-ordination with Downstream Recloser.



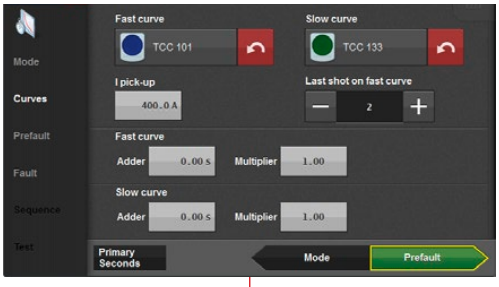
3. Test screen

All configured test parameters are summarized and clearly displayed. The test is started with the START/STOP key on the CMControl R.

Trip Time Characteristics test tool

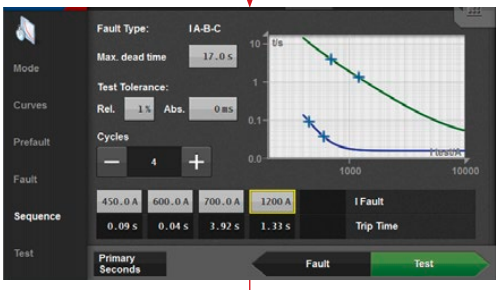
The Trip Time Characteristics test tool checks the operating characteristics stored in the controller as well as the switch logic between the fast and the slow curve. For this, a complete test sequence is executed up to the lock out of the controller.

To test the tripping behavior only, repeated test shots can be sent to the controller in the Trip Only mode.



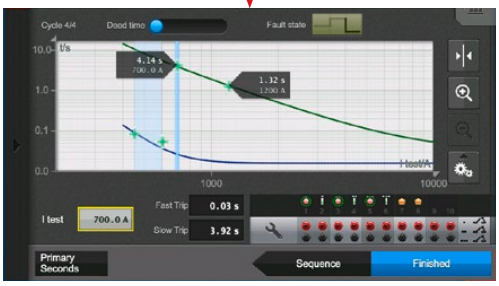
1. Curves

The two curves to be tested are selected. The number of test shots on the fast curve as well as the current base value are set in this menu.



2. Sequence

The test is performed as a sequence. A test sequence consists of a fixed number of shots with pre-defined currents.

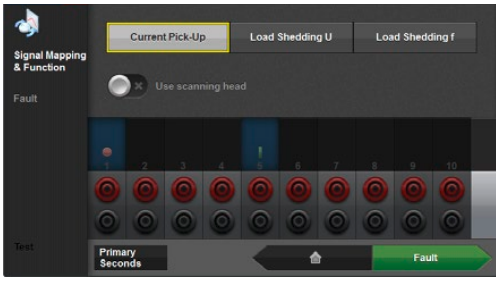


3. Test screen

Once the sequence is complete with all test shots, a graphic displays the shots recorded compared to the nominal time.

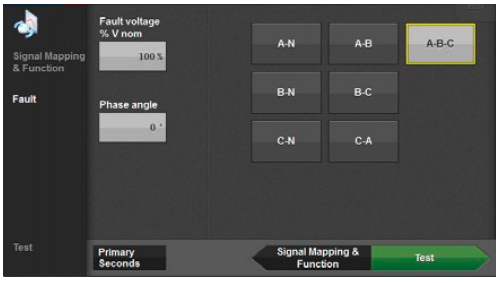
Pick-Up/Drop-Off test tool

With the Pick-Up/Drop-Off test tool, threshold values of different protection functions can be determined. Current pick-up values, voltage and frequency based loadshedding functions can be tested for different fault types.



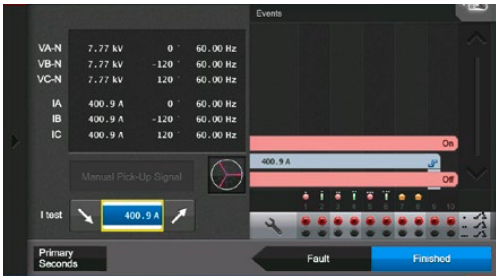
1. Function

Select what function should be tested. Choose between Current Pick-Up, Load Shedding U (voltage) and Load Shedding f (frequency).



2. Fault

The tool supports testing of different fault types.



3. Test screen

Once the fault type is selected, define a start value, activate the outputs and ramp values using the control wheel until the controller's protection function picks up.

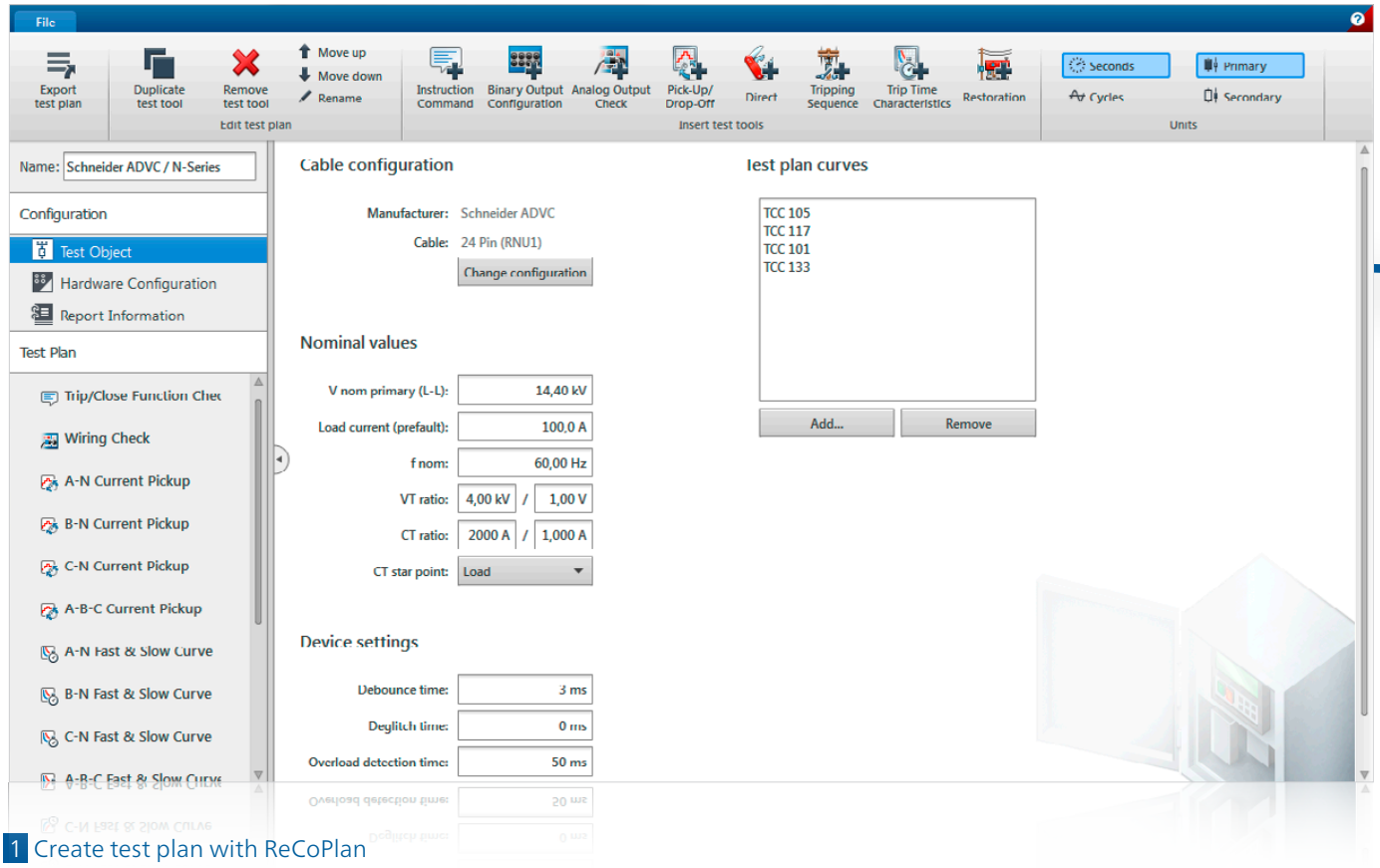
ReCoPlan

Guided testing workflow

Standardizing on testing procedures can be achieved easily by using test plans which provide a pre-defined workflow of tests to be performed on recloser and sectionalizer controls.

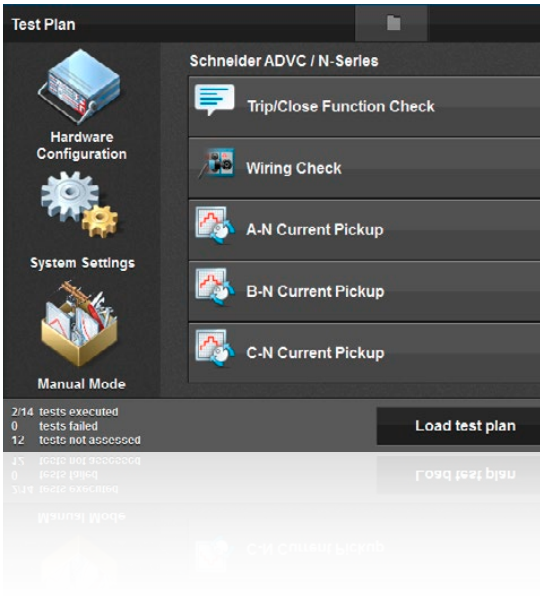
OMICRON's PC-based software ReCoPlan allows test plans to be created using the available tools of the CMControl R. In addition working instructions for the testing personnel can be included in the test plan.

After exporting the test plan from ReCoPlan, it can be loaded and executed using the CMControl R.



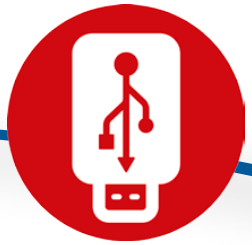
1 Create test plan with ReCoPlan

Select manufacturer and test cable, add test tools to the plan and enter test values.



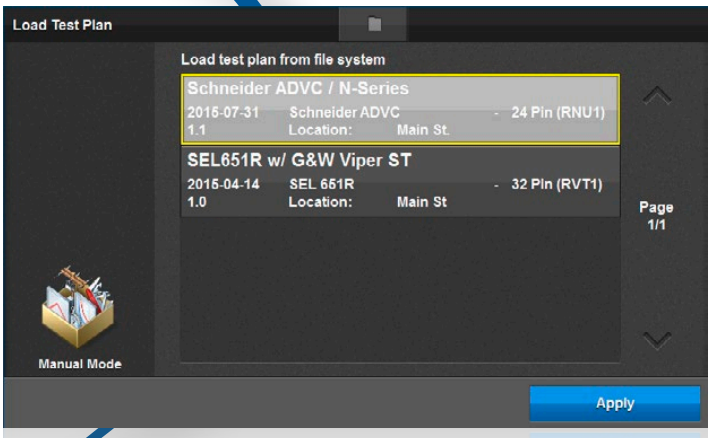
Benefits from test plans

- Standardize testing procedures
- Reduce test time
- Include working instructions
- One combined report
- Store several test plans on one CMControl
- Fast and easy creation of test plans including pre-defined test values



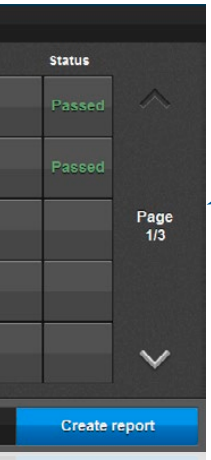
2 Exporting

Export test plan. Distribute test plans to all CMControls company-wide to ease and standardize testing procedures.



3 Loading

Load test plan into CMControl R or CMControl R App.



4 Executing

Execute tests one by one.

Order options

CMControl R

CMControl R is especially designed as a dedicated CMC control device for testing recloser controls.

Hardware components are optimized for easy use by the engineer.

Benefits

- Dedicated CMC accessory, developed for testing recloser controls
- Flexible working positions
- Outstanding readability even in direct sunshine
- Easy storing of test results on USB memory stick

Characteristics

- 7'' transflective touch screen display
- 10/100 Mbit/s Ethernet port with rugged RJ45 connector
- Magnetic elements on the back

Ordering information

CMControl R as add-on for new CMC [1]	CMControl R as add-on for existing CMC	CMC + CMControl R Package [4]	
VEHO2903	VEHO2904	VE002910	CMC 353
VEHO2807	VEHO2808 [2,3]	VE002824	CMC 356
		VE002719	CMC 256plus

Test plan mode

In order to execute test plans created with ReCoPlan on the CMControl R an additional license is required as follows:

CMControl R ReCoPlan execution license	VESM2733
CMControl R App ReCoPlan execution license	VESM2732

Software-upgrade

Besides the software version described in this brochure (version R), we also offer a version for testing protection and measurement devices (version P, see separate brochure).

For using both versions (R + P) with a new or existing CMControl device, the following upgrades are offered:

Upgrade from version R to the combination R + P	VESM2729
Upgrade from version P to the combination P + R	VESM2728

[1] With Test Universe PC operating software
[2] For operating with CMC 356, CMC 256plus, and CMC 256-6 test sets with NET-1 an external power supply unit is included in delivery. If Power over Ethernet is desired, a PoE-Upgrade for these test sets is available.
[3] For test sets with parallel port a PoE-Upgrade is required
[4] Without Test Universe PC operating software

CMControl R App

The CMControl R App offers the possibility to control a CMC test set with a Windows PC or a standard Android tablet [1].

The App offers all functionalities of the approved CMControl R.

Benefits

- Works with standard hardware. Choose the one that fits best for you
- Flexible handheld operation with Android Tablet
- High versatility with Windows PC
- No cables required through WiFi connection
- Store and display test results on device
- Integrated user manual

How to control a CMC test set with the CMControl R App

1. Get the App

Download the free CMControl P App:

- for your Windows PC from the OMICRON Customer Area
- for your Android tablet from the Google Play™ Store

ANDROID APP ON Google play

Scan the QR code to get the free App directly from the Google Play™ store.

2. Enable your CMC test set

Please order the activation key for your CMC test set:

CMControl R App activation key for CMC	VESM2731

3. Establish connection

Connect your device directly using Ethernet/USB or establish a wireless connection using a WiFi router connected to the CMC.

A list of tested WiFi routers is available on our website: www.omicron.at/cmcontrol-r

[1] A minimum version of Android 3.2 is required

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.

For more information, additional literature, and detailed contact information of our worldwide offices please visit our website.

www.omicron.at | www.omicronusa.com