



CPC 100 and accessories

- > Replaces multiple testing devices through a multi-functional universal test system
- > Various tests on high-voltage systems such as current and voltage transformers, power transformers, switchgear and rotating machines can be performed with the CPC 100
- > Powerful and universal: 800 A, 2 kV, 15 Hz – 400 Hz, 400 A_{DC}
- > Simple to use and easy to transport due to light weight (29 kg/64 lbs)
- > Expandable to 2 000 A_{AC}, 12 kV_{AC} when using accessories

 www.omicron.at/cpc100

The multi-functional primary test system CPC 100 was developed specifically for the commissioning and maintenance of systems in electrical networks. It replaces numerous individual testing devices and at the same time, offers you new, innovative testing methods. Despite its range of capabilities, the CPC 100 is easy to use. Electrical tests on various assets including power transformers, current or voltage transformers, grounding systems, power lines, rotating machines and cables, as well as circuit breakers can be performed much faster. Due to the variable output frequency, the user can also use test frequencies that differ from the mains frequency. This allows mains-related interference to be effectively suppressed.

The CPC 100 was first introduced in 2001 and has been continuously improved since then. Thanks to a wide range of accessories, the testing device is versatile like no other. As a result, new application areas have opened up in recent years. Today, more than 40 tests can be performed with the CPC 100.

We asked customers around the world what they used the CPC 100 for, and what they particularly appreciate about it. ▶

«Simple to use, high functionality and easy to transport.»



Pdraig O'Sullivan
ESB International

«Comprehensive documentation options and time-saving work.»



Bernhard Anders and Berthold Stockhausen
SAG Group GmbH

► The inspection of grounding systems in transmission stations was a time-consuming and complicated process for ESB International: "We used a transformer mounted on a truck trailer in order to achieve the necessary current strength. Sure, the method worked, but the transport was a catastrophe and the frequency could not be changed," recalls Pdraig O'Sullivan, Consultant for Asset Management Services at ESB International. "So we started looking for an alternative, and found one at OMICRON." Pdraig O'Sullivan has now been working with the CPC 100 and CP CU1 for more than 10 years. For him, the change has paid off: "The CPC 100 can do much more than our old testing system, is easier to use, to transport and to connect up."

The advantages of the CPC 100 are really obvious: "In addition to the mobility, we especially appreciate that the testing system is easy to use. Thanks to the guided testing workflow of the Primary Test Manager™ software, even inexperienced users can operate the CPC 100 right away. Our experienced colleagues can also create customized test procedures for exactly what they needed."



Since ESB International was founded more than 40 years ago, it has risen to become one of the world's leading consultancy companies for engineering services. ESB International is headquartered in Dublin (Ireland), and operates in the area of electricity supply and implements large-scale projects for infrastructure development. The company belongs to ESB, Ireland's national power company, and employs more than 700 employees in Europe, the Middle East, Africa and Asia.

Customer service is a top priority at the SAG Group. "Our customers, such as wind farm operators, wanted to record their test results in a much more detailed way than it was possible with our previously used testing equipment. That is why we decided to buy a CPC 100 four years ago," recalled Berthold Stockhausen and Bernhard Anders of the SAG Group GmbH.

"When testing with the CPC 100, we no longer need to manually transfer measured values individually into the test report, but instead, can store them directly in the CPC 100 and retrieve them again later at the office," said Bernhard Anders. "If necessary, we can also create a PDF document directly and email it to our customers." This eliminates errors when transferring data. "For me, this reliable and time-saving method of recording data is definitely the greatest advantage," added Berthold Stockhausen.

Purchasing the CPC 100 also brought additional benefits. "We used to have to do everything individually. We had to bring everything with us and connect all of the appropriate multimeters, devices for energizing the asset and others," said Bernhard Anders. "That takes a lot of time, which we can now save using the CPC 100. This accommodates the increasing time pressure during commissioning in particular."



SAG Group GmbH is the leading service and system supplier for electricity, gas, water, district heating and communication networks, as well as for systems for the generation, transmission and use of power and media in Europe. Over 100 locations in Germany ensure nationwide service for regional and municipal energy suppliers, industrial companies, power plant operators and transport companies. Other core markets of the SAG Group are France and Central and Eastern Europe.

«Precise test results.»



Rüdiger-Willy Klein
DB Energie GmbH

In the past, calculation methods were typically used when determining line impedances in the railway network. “Unfortunately, these theoretically calculated values were often inaccurate. Only in individual cases were we able to perform measurements that delivered more precise results,” explained Rüdiger-Willy Klein of DB Energie GmbH. “We used traction current generators and special circuits for this. The effort was immense and not applicable to the entire network.”

Therefore, DB Energie GmbH started looking for a test system, with which a determination could be made with limited effort, and found the CPC 100. “Now we can measure the line impedances across the board, rather than just calculate them. In this way, we obtain actual values and can precisely set our distance relays accordingly. Fault analysis showed us that precise fault location was possible where measured values have been set.”

Another advantage for DB Energie GmbH is that the test frequencies can be variably adjusted with the CPC 100. “This is particularly important for us, because in addition to the tests conducted in the railway area with 16.7 Hz, we also take line impedance measurements on smaller medium-voltage systems with 50 Hz.”



DB Energie GmbH is an independent energy manager, and is responsible for the largest mixed energy portfolio in Germany. The company offers tailor-made solutions for the supply of traction current, three-phase current, gas and diesel fuel. Railway undertakings, industrial or commercial companies are provided with expert advice on all matters. In addition, DB Energie is the long-term energy supplier of Deutsche Bahn and responsible for the highest supply reliability of railway companies in Germany.

«Versatile all-round talent.»



Luis Carlos Ramírez Pernet
Transelca

With the CPC 100, a variety of test equipment can be replaced by only one multi-functional testing system. “It used to be that performing different tests meant that we had to bring a wide array of test devices with us and re-wire multiple times between the tests,” recalled Luis Carlos Ramírez Pernet, Substation Maintenance Scheduling Coordinator at Transelca, “and we then had to summarize the test results manually.”

The versatility of the CPC 100 was the deciding factor in purchasing the test system about six years ago. “We test circuit breakers, power transformers, current and voltage transformers and capacitor banks. Among other things, we determine the dissipation factor, turns ratio per tap and the winding resistance on the transformer. We also use the CPC 100 to measure the knee-point voltage, magnetization characteristic, burden and winding resistance on current and voltage transformers,” explained the technician.

“We can do all of this and much more with the CPC 100. It is compact, easy to use, and the communication with the PC is simple. Thanks to the integrated display, I do not even need a laptop when testing on-site.”



As an Energy Transmission Company based in Barranquilla, Colombia, Transelca operates power transmission and telecommunications networks on the country’s northern coast. Planning electrical facilities for voltage levels from 13.8kV to 220kV is also part of Transelca’s portfolio. The company also has facilities in Peru and Bolivia.