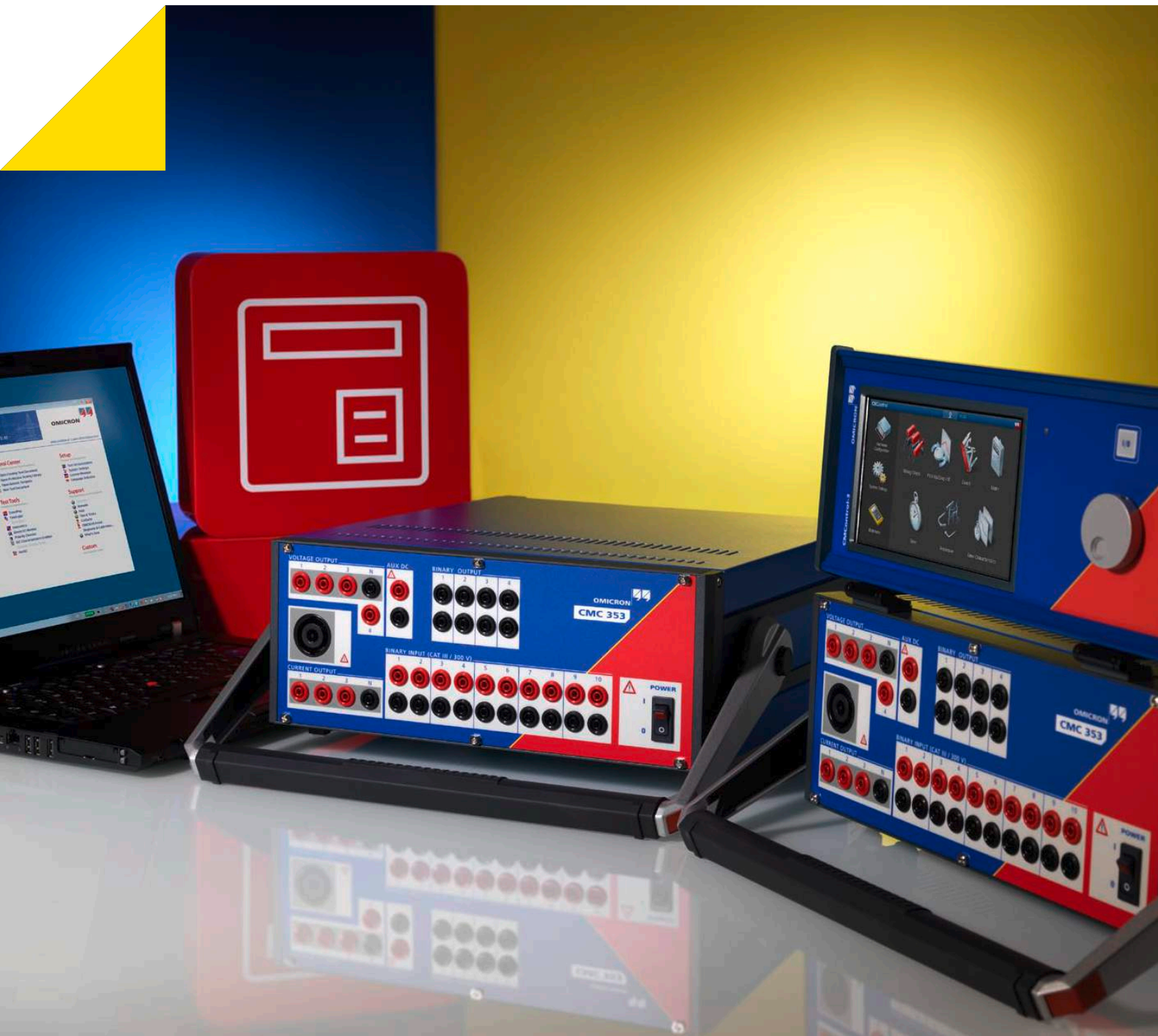


CMC 353

The Compact and Versatile Three-Phase Relay Testing Solution



CMC 353 – Compact and Versatile Relay Testing

With its compact design and low weight of 12.9 kg / 28.4 lbs, the CMC 353 provides the perfect combination of portability and power. It is the ideal test set for three-phase protection testing and the commissioning of SCADA systems. The powerful current outputs (3 x 32 A / 430 VA) optimally support 5 A relay testing.

The portable design makes this device an excellent choice for commissioning and maintenance tasks, particularly in industry, distributed generation, and medium and low voltage applications. It meets a wide variety of challenges in protection engineering – from testing electromechanical relays to the latest IEC 61850 IEDs.

DC supply (0 ... 264 V)

Four voltage outputs:
4 x 300 V or 1 x 600 V

Generator combination socket
3 x 300 V and 3 x 25 A

Three current outputs:
3 x 32 A / 3 x 430 VA or
1 x 64 A / 1 x 870 VA

2 counter inputs

4 binary outputs (transistor)

Interface for CMGPS or CMIRIG-B

USB port

6 Low level outputs ($\pm 10 V_{PK}$)
Option LLO-2: 6 additional outputs

2 Ethernet interfaces
For PC control or CMControl and
IEC 61850 GOOSE and Sampled Values





The analog test signals are generated digitally using DSP technology. This, in combination with the use of additional error correction algorithms, results in [accurate testing signals](#) even at small amplitudes.

The three current and four voltage [output channels](#) are continuously and independently adjustable in amplitude, phase and frequency. All outputs are overload and short-circuit proof and are protected against external high-voltage transient signals and over-temperature.

The [integrated network interface](#) supports comprehensive testing in the IEC 61850 environments using optional GOOSE simulation and subscription and Sampled Values simulation functionality.

Up to 12 independent channels with [low-level signals](#) are available at the back of the test set, which can be used to test relays which have a low-level input facility or to control external amplifier units.

Besides its operation with the powerful Test Universe software running on a PC, the CMC 353 can also manually be controlled with the highly flexible [CMControl](#) unit.



CMC 353 with CMControl-3 Front Panel Control (option)

CMC 353: 3 Phase Current + 4 Phase Voltage Test Set

Protection Relay Test Set

- Electromechanical relays
- Static relays
- Numerical relays
- IEC 61850 IEDs (GOOSE and Sampled Values)
- Relay panels
- End-to-End testing with GPS or IRIG-B

Power System Simulator

- Transient fault simulation
- Power swing
- CT saturation simulation
- CB simulation
- Rogowski coil simulation
- Compensated network
- Transient playback (COMTRADE, PL4 (EMTP), ...)

Substation Commissioning

- Checking SCADA annunciations and measurement values
- CT/VT polarity checker
- Wiring checker
- Plausibility check for CT/VT with primary injection

Programmable Voltage and Current Source

- Production quality assurance
- Research & development

Application Areas

- Industry
- Service providers
- Project companies
- Utilities
- Manufacturer of substation equipment
- Distributed generation
- Railway



Key Features

- Compact design and light weight providing a high degree of portability
- High current amplitudes for 5 A relay testing
- Powerful current sources for testing electromechanical relays
- High accuracy and versatility for testing static and numerical relays
- Integrated network for testing IEC 61850 IEDs
- Continuous synchronized outputs with CMIRIG-B (e.g. for PMU or MU testing)
- Test Universe software with unrivaled manual and automated testing functionality
- Front panel control with the unique CMControl (option)
- Reliable and robust

Additional Benefits

OMICRON provides

- Worldwide high quality technical support
- Platforms for an international knowledge exchange
- Training courses designed for electric power system technicians and engineers

CMC 353 Ordering Information

CMC 353 with Test Universe Software	
VE002902	CMC 353 Basic
VE002903	CMC 353 Protection
VE002904	CMC 353 Advanced Protection
VE002911	CMC 353 Recloser

CMC 353 with CMControl (without Test Universe Software)	
VE002908	CMC 353 with CMControl-3

The CMControl can also be ordered as add-on together with a CMC 353 with Test Universe software or as a later upgrade.

CMC 353 Hardware Options	
VEHO2905	LLO-2 Additional 6 low level outputs option (if ordered with a new CMC 353)
VEHO2906	LLO-2 Additional 6 low level outputs factory upgrade (for used CMC 353)



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.

The following publications provide detailed information on the products described in this brochure and their applications:



*Product catalog
(secondary equipment)*



CMControl P



*Testing Solutions for
Protection Systems*

For a complete list of available literature please visit our website.

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