CMC 430

Ordering Information
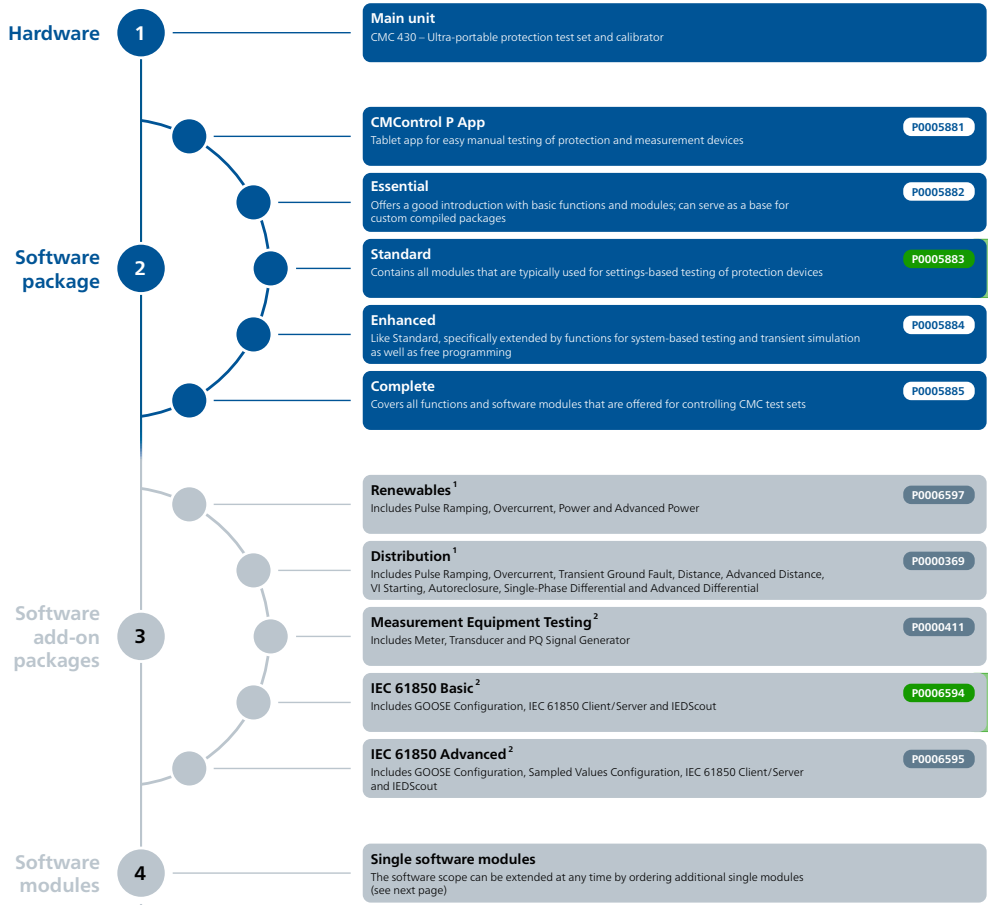
OMICRON

Step 1: Hardware
The CMC 430 is the main hardware unit of your choice.

Hardware ①

Main unit
CMC 430 – Ultra-portable protection test set and calibrator

Step 2: Software package
Choose 1 of 5 software packages according to your needs. This is considered the basis for the software scope and can be extended in steps 3 and 4 at any time.

Software package ②

CMControl P App   P0005881
Tablet app for easy manual testing of protection and measurement devices

Essential   P0005882
Offers a good introduction with basic functions and modules; can serve as a base for custom compiled packages

Standard   P0005883
Contains all modules that are typically used for settings-based testing of protection devices

Enhanced   P0005884
Like Standard, specifically extended by functions for system-based testing and transient simulation as well as free programming

Complete   P0005885
Covers all functions and software modules that are offered for controlling CMC test sets

Step 3: Software add-on packages
Choose from a set of software add-on packages tailored to a specific application or use-case. This step is optional.

Software add-on packages ③

Renewables [1]   P0006597
Includes Pulse Ramping, Overcurrent, Power and Advanced Power

Distribution [1]   P0000369
Includes Pulse Ramping, Overcurrent, Transient Ground Fault, Distance, Advanced Distance, VI Starting, Autoreclosure, Single-Phase Differential and Advanced Differential

Measurement Equipment Testing [2]   P0000411
Includes Meter, Transducer and PQ Signal Generator

IEC 61850 Basic [2]   P0006594
Includes GOOSE Configuration, IEC 61850 Client/Server and IEDScout

IEC 61850 Advanced [2]   P0006595
Includes GOOSE Configuration, Sampled Values Configuration, IEC 61850 Client/Server and IEDScout

Step 4: Software modules
Choose individual software modules in addition to the selected software packages in steps 2 and 3. On the next page you will find a complete overview of all available modules. This step is also optional.

Software modules ④

Single software modules
The software scope can be extended at any time by ordering additional single modules (see next page)

Example order number

CMC package	Order No. (Configuration)
CMC 430 Standard	P0005883

CMC software add-on packages	Order No.
IEC 61850 Basic	P0006594

[1] Selectable for Essential Software Package
[2] Selectable for Essential, Standard, and Enhanced Software Package

Software modules	Order No.	Description	Essential	Standard	Enhanced	Complete
OMICRON Control Center		Automation tool, document-oriented test plan, template and report form	✓	✓	✓	✓
QuickCMC		Convenient manual testing in the Test Universe environment	✓	✓	✓	✓
State Sequencer		Determining operating times and logical timing relations by state-based sequences	✓	✓	✓	✓
TransPlay		Playback of COMTRADE files, recording of binary input status	✓	✓	✓	✓
Harmonics		Generation of signals with superimposed harmonics	✓	✓	✓	✓
CB Configuration		Module for setting the CB simulation	✓	✓	✓	✓
Ramping		Determining magnitude, phase, and frequency thresholds by ramping definitions	✓	✓	✓	✓
Pulse Ramping	P0006818	Determining magnitude, phase, and frequency thresholds by pulse ramping definitions	○	✓	✓	✓
CMControl P App	P0000344	Quick and easy manual testing of protection and measurement devices	○	✓	✓	✓
Overcurrent	P0006821	Automatic testing of positive/negative/zero sequence overcurrent characteristics	○	✓	✓	✓
Distance	P0006816	Impedance element evaluations using single-shot definitions in the Z-plane	○	✓	✓	✓
Advanced Distance [1]	P0006591	Impedance element evaluations using automatic testing modes	○	✓	✓	✓
VI Starting	P0006820	Testing of the voltage dependent overcurrent starting function of distance relays	○	✓	✓	✓
Autoreclosure	P0006819	Testing of the autoreclosure function with integral fault model	○	✓	✓	✓
Single-Phase Differential	P0006824	Single-phase tests of the operating characteristic and the inrush blocking	○	✓	✓	✓
Advanced Differential [1]	P0000296	Comprehensive three-phase differential relay testing (four modules)	○	✓	✓	✓
Annunciation Checker	P0006830	Verification of the correct marshalling and wiring of protection devices	○	✓	✓	✓
Power	P0006835	Testing with visualization and assessment in the P-Q plane (basic)	○	✓	✓	✓
Advanced Power [1]	P0000341	Testing with visualization and assessment in the P-Q plane (enhanced)	○	✓	✓	✓
Advanced TransPlay	P0006829	Playback and processing of COMTRADE, PL4, or CSV files	○	✓	✓	✓
Transient Ground Fault	P0006823	Simulation of ground-faults in isolated or compensated networks	○	○	✓	✓
Synchronizer	P0006822	Automatic testing of synchronizing devices and synchro-check relays	○	○	✓	✓
CMEngine	P0006842	Programming interface for controlling CMC test sets with user specific software	○	○	✓	✓
RelaySimTest [2]	P0000367	System-based protection testing by simulating realistic power system events	○	○	✓	✓
RelaySimTest Adv. Transformer Features	P0006853	Advanced transformer features for differential protection in RelaySimTest	○	○	○	✓
RelaySimTest Motor Features	P0008107	Motor features for asynchronous motor simulation in RelaySimTest	○	○	○	✓
Meter	P0006841	Testing of single and multifunction energy meters	○	○	○	✓
Transducer	P0006840	Testing of measurement transducers	○	○	○	✓
PQ Signal Generator	P0006832	Simulation of power quality phenomena according to IEC 61000-4-30 and IEC 62586	○	○	○	✓
IEC 61850 Client/Server	P0006834	Automatic SCADA testing in accordance with IEC 61850	○	○	○	✓
GOOSE Configuration	P0006831	Testing with GOOSE according to IEC 61850	○	○	○	✓
Sampled Values Configuration	P0006833	Testing with Sampled Values according to IEC 61850-9-2 ("9-2 LE") and IEC 61869-9	○	○	○	✓
EnerLyzer Live	P0006593	Analog measurements and transient recording with CMC test sets	○	○	○	✓
TransView [4]	P0006837	Transient signal analysis for COMTRADE files	○	○	○	✓
IEDScout	P0006493	Universal software tool for working with IEC 61850 IEDs	○	○	○	○

Software modules **5**

[1] The Advanced modules include their basic counter parts (e.g. Advanced Power includes the Power Module)
[2] RelaySimTest license also includes the licenses for Transient Ground Fault and NetSim
[3] TransView is included with EnerLyzer Live but can also be ordered seperately

✓ Included in package

○ Optionally available

Accessory	Order No.	Description
Wiring accessory package	B1764601	Various adapters for connecting test objects to CMC test sets
Generator combination cable		Three-phase connection between CMC test set and the test object
Yellow, green, violet, blue	B1328000	
Red, yellow, blue, black	B1328100	
Mini wireless USB adapter	E1636800	For wireless control of a CMC test set
Transport case	B1636100	Heavy-duty transport case with wheels and extendable handle for safe & easy transport and shipping
Trolley/Backpack	E1636000	Trolley / Backpack for simple mechanical protection
CMGPS 588	P0006433	GPS controlled time synchronization unit
CMIRIG-B	P0006386	Interface box for sending or receiving the IRIG-B protocol or PPS signals
TICRO 100	P0000604	IEEE1588/PTP time converter
OTMC 100p portable	P0006508	PTP grandmaster clock
EMCON 200	P0006504	PTP transparent Ethernet media converter
TWX1	P0006385	Testing traveling wave protection relays and fault locators
CPOL2	P0006331	Handheld polarity checker
LLX1 [1]	P0006381	Low level accessory unit for testing devices with sensor inputs
LLX2	P0006382	Low level accessory unit for external amplifiers and accessories
LLX3	P0006383	Low level accessory unit with 4 mm sockets
LLX4	P0006384	Low level accessory unit for recloser and sectionalizer controls
ISIO 200	P0006498	Binary I/O terminal
RXB1	P0006392	Binary output extension
SER1	P0006388	Scanning equipment for scanning the status indication LEDs of protection relays
CMS 356 [2]	P0001357	6-phase current and 4-phase voltage amplifier
VBO3	P0006276	Three-phase voltage transformer for up to 600 V (L-N)
C-Probe 1	P0006434	AC and DC current clamp with voltage output
C-Shunt 1	B0620201	1 mΩ precision shunt for current measurements
C-Shunt 10	B0620301	10 mΩ precision shunt for current measurements
ARC 256x	P0006279	Arc flash initiator for testing arc flash protection systems
SEM 1	P0006391	Scanning head for testing meters with optical pulse output
SEM 2	P0006390	Scanning head for testing meters with rotating disc or optical pulse output
SEM 3	P0006389	Magnetic scanning head for testing meters with optical pulse output
CMLIB B	P0006377	For tests with reference meters and to access the binary transistor outputs

[1] Requires device-specific test cables. For a list of available cables please visit www.omicronenergy.com/llx1
[2] Requires LLX2