

OMICRON Academy Training i samarbete med CE Power AB

## Power System Protection Testing with the CMC Test System

Duration: 3 dagar, 24 timmar.  
Date: 11 – 13 juni 2019, Men kom gärna 10 juni  
Language: English  
Location: Clarion Hotel Kompaniet Nyköping  
Sverige



## Power System Protection Testing with the CMC Test System

<b>Summary:</b>	Learn how to efficiently test overcurrent, distance and transformer differential relays with the OMICRON Test Universe. Get familiar with the test procedure in hands-on and theoretical sessions. Work with special test set-ups that simulate the substation in the classroom.
<b>Audience:</b>	Technical staff from utilities, transmission and distribution networks, railway grids, service companies and manufacturers involved in protection testing
<b>Prerequisites:</b>	Basic knowledge of power system protection
<b>Duration:</b>	3 days
	<b>Language:</b> English

### Objectives

- > Performing commissioning, trouble-shooting and periodic tests of protection relays
- > Testing overcurrent, distance and transformer differential relays with the OMICRON Test Universe
- > Creating and modifying automated test plans and customized test reports
- > Using the OMICRON Test Universe from scratch

### Training topics

- > Quick current and voltage output for easy wiring tests
- > Configuration of the test object parameters and the test hardware
- > Creating test plans which adapt automatically to newly entered relay settings
- > Creating a flexible test plan for overcurrent relays including testing pick-up values and trip times
- > Hands-on testing of the overcurrent protection function
- > Creating a flexible test plan for distance relays including testing the trip times and zone reaches as well as switch on to fault (manual close) and auto-reclosing
- > Hands-on testing of distance relays
- > Creating a flexible test plan for transformer differential relays including testing the stability during external faults, the tripping characteristic, the trip times and the harmonic restraints
- > Hands-on testing of transformer differential relays

### Tools

- > Control Center, QuickCMC, Ramping, Pulse Ramping, Overcurrent, Advanced Distance, State Sequencer, Autoreclosure, Advanced Differential (Diff Configuration, Diff Operating Characteristic, Diff Trip Time Characteristic, Diff Harmonic Restraint)
- > CMC 256, CMC 256plus, CMC 356

### Strategy

Our trainer explains the procedure of protection testing, while providing the necessary background knowledge. This is done in alternating theoretical and hands-on sessions. Specific questions and requests of the customers are also taken into account by the trainer.

The practical parts are performed with OMICRON Test Towers. These are equipped with notebooks, distance and differential relays (Siemens 7SA6, 7UT6 and Areva P435, P633) CMC test sets and the OMICRON SimBox which simulates the field related to the protective relays.

During the practical sessions in small groups up to 3 persons the participants gain direct test experience and enhance their acquired knowledge

Vy av hotellets baksida, mot slottet Nyköpingshus med Nyköpings ån i förgrunden



Bokning av Hotell-rum, görs av deltagarna själva som bokar sina rum DIREKT till hotellet via mail [cc.kompaniet@choice.se](mailto:cc.kompaniet@choice.se) och uppger CE POWER för att få rätt pris. Deltagare betalar direkt till hotellet.

Clarion Hotell Kompaniet i Nyköping, tel.+46 155 28 80 20  
Folkungavägen 1 61134 Nyköping , Sverige

Hotellets priser är 1156 Kr / Rum / natt.

Detta ingår:

Frukostbuffé

Fri tillgång till vår relaxavdelning

Eftermiddagsfika

Kvällsmat med soppa, varmrätt, sallader

Fri träning på ett närliggande gym

Fritt WIFI

#### Kursanmälan.

Vi startar kursen tisdag 11 juni 08:30 och slutar på torsdag 13 juni 16:30.

(Ni bör komma redan 10 juni på em om ni har långt att resa)

**Ev.avbokning:** < 4 veckor innan debiteras 75 % av avgiften, om ni inte ordnar reserv.  
< 2 veckor innan 100 % av avgiften, om ni inte ordnar reserv.

**Anmälan** är bindande och skall vara gjort senast 2019-04-02

Men försök göra det så fort som möjligt. **Först till kvarn!**

Faktura, sändes direkt efter er anmälan. (Betalningstid 30 dagar)

**OBS. Vissa företag kräver att ni sänder formell beställning**

**Registrering**

Fyll i detta och sänd snarast detta till:

**CE POWER AB, [www.cepower.se](http://www.cepower.se)**  
**E-mail: christer.ekstrom@cepower.se**  
**Mobil: +46 72 70 80 100**

Efter kursen kommer alla att få ett certifikat på ert deltagande

Training: Testing with the OMICRON CMC Test System  
Datum: 11 – 13 juni. 2019 (Start 08:30 den 11 juni)  
Lokal: Clarion Hotel Kompaniet i Nyköping, [cc.kompaniet@choice.se](mailto:cc.kompaniet@choice.se)  
Telefon: +46 155 28 80 20  
Folkungavägen 1  
61134 Nyköping , Sverige  
Price: 19.500,00 SEK

---

Efternamn

---

Förnamn

---

Företag

---

Avdelning

---

Adress

---

Land

---

Mobil-telefon

---

E-mail

*(Bara en deltagare per dokument)*

Undertecknad av behörig person skriver på denna bindande anmälan

---

Datum, namn, namnförtydligande.