



Online Course On **CIRCUIT BREAKERS and SWITCHGEAR**

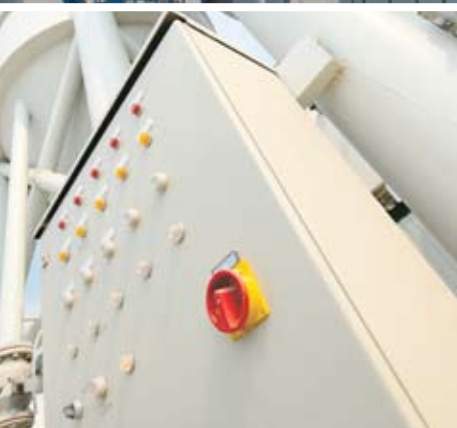


Benefits:

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4 Electrical Topics | 18 Subjects | 3 Quizzes
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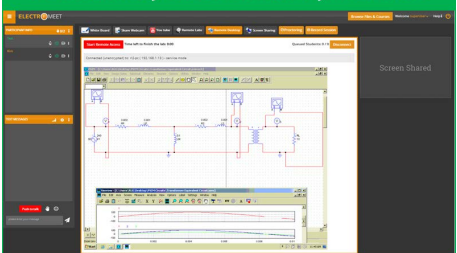


WHAT YOU WILL LEARN

By the end of this course you will be able to

- Describe the fundamentals of operating switchgear and circuit breakers
- Select appropriate type and rating of circuit breakers and switchgear
- Understand the operation of switchgear components (CTs, VTs, relays and cable terminations)
- Manage power transformer breakdowns to minimise disruption

Practical, Interactive, Online



Virtual Lab Example

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Deepak is currently an Engineer in a regional electricity distribution utility. He started his career within the zinc mining and smelting industry as Project Engineer in substation and distribution for a Greenfield Project. He then joined a marine and logistics firm in the Bahamas as Maintenance and Commissioning Engineer. Following this, he worked with Japanese and German automobile firms as the Maintenance Engineer for distribution and utility related systems.

Deepak has hands-on experience in distribution, utility and substation related systems. He has a particular interest in the consistent interpretation and implementation of Greenfield and Brownfield Standards with an emphasis on safety, reliability, economy and whole of life cost analysis.

Presented by

**Deepak
Pais**



B.E (Electrcial & Electronics)



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contact us: idc@idc-online.com

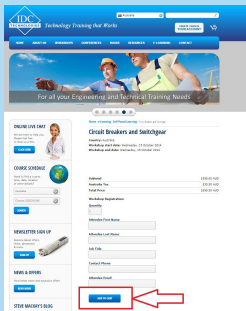
BENEFITS OF E-LEARNING

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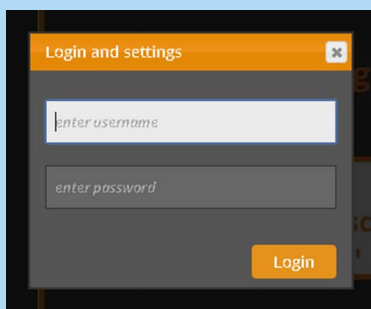
*Contact us for information on how to get your Certificate of Completion

Register using these 3 EASY steps:

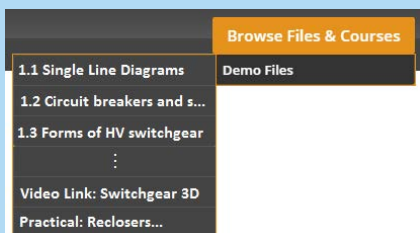
1. **CLICK HERE**, REGISTER for the **Circuit Breakers and Switchgear Online course** and pay the affordable **One-Off-Fee**



2. Once you receive your *confirmation email, follow the link and **LOGIN** to **Electromet



3. Open the Online Course Package and **START YOUR COURSE**



*confirmation emails containing login details may take up to 24 hours

**Electromet is a cloud-based program with no downloads. Online courses are hosted and completed by users through Electromet.

Circuit Breakers & Switchgear Course Description

Switchgear (and circuit breakers) are critical components in electrical distribution systems and their operation significantly affects the overall performance of the system. This course will discuss the application, installation, maintenance and testing issues relating to medium and high voltage switchgear circuit breakers.

Low voltage switchgear will also be covered and you will receive a thorough grounding in switchgear theory and standards. You will gain a solid understanding of the issues associated with the proper application, installation and maintenance of these critical items of equipment with an overriding emphasis on safety. The emphasis is on medium voltage (referred today as high voltage) switchgear which represents most of the switchgear installed on electrical distribution systems. The focus is on air blast, oil, SF6 and vacuum circuit breakers. Case studies covering the main manufacturers' equipment will illustrate the important practical principles. Other power system protection components will be discussed as well to ensure that switchgear is understood in the correct context.

The course will develop and enhance an understanding of what is involved in the maintenance of these essential components of the power systems, through the tips and tricks learnt and developed by some of the world's pre-eminent electrical engineers.

COURSE OUTLINE

Topic 1: Introduction and applications of switchgear:

- 1.1 Single Line Diagrams
- 1.2 Circuit breakers and switchgear
- 1.3 Forms of high voltage (HV) switchgear

Topic 2: Circuit breaker design:

- 2.1 Basic circuit breaker design
- 2.2 Auto re-closing
- 2.3 Different types of circuit breakers: Oil
- 2.4 Different types of circuit breakers: Air Blast
- 2.5 Different types of circuit breakers: SF6
- 2.6 Different types of circuit breakers: Vacuum Interrupter
- 2.7 Operating Mechanisms

Practical: Virtual Lab Example - Arc over levels

Quiz 1

Topic 3: Switchgear specifications:

- 3.1 Standards and factors affecting circuit breaker selection
- 3.2 Special service conditions & Ratings
- 3.3 Stored energy operation & Locking and interlocking devices
- 3.4 Degrees of protection
- 3.5 Gas leakage rates

Quiz 2

Topic 4: Operational safety:

- 4.1 Testing for internal fault & Basics of Protection
- 4.2 Safety in the Context of HV Switchgear
- 4.3 Switching for safety, policies, and PPE

Practical: Virtual Lab Example - Circuit breaker bus fault

Quiz 3

HARDWARE & SOFTWARE REQUIREMENTS

All you need to participate is an adequate Internet connection, PC and speakers. You will receive Electromet access details once payment is finalised

PRACTICAL EXERCISES

Throughout the course you will participate in hands-on exercises using simulation software, which will help you put theory to practice immediately!

CERTIFICATION

Once you have completed the **Circuit Breakers and Switchgear Online Course**, **contact us** to receive your certificate of completion (*additional fees may apply*)



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