



EE298: Circuit Breakers & Switchgears (HYUNDAI): Operation, Maintenance & Troubleshooting

Training Description:

This intensive course provides participants with in-depth knowledge and practical skills to operate, maintain, and troubleshoot **Hyundai circuit breakers and switchgear systems** safely and efficiently. The training course covers technical specifications, operational principles, installation standards, maintenance procedures, and diagnostic techniques specific to Hyundai equipment. Real-world case studies and hands-on demonstrations will enhance understanding and application.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the design, function, and operation of Hyundai circuit breakers and switchgears
- ✓ Interpret Hyundai technical manuals, wiring diagrams, and equipment specifications
- ✓ Perform preventive and corrective maintenance according to manufacturer guidelines
- ✓ Diagnose and troubleshoot operational problems using systematic methods
- ✓ Apply international safety standards and Hyundai-specific safety protocols
- ✓ Optimize the performance and lifespan of circuit breakers and switchgear assets

Training Designed for:

This training course is intended for Electrical Engineers & Supervisors, Maintenance Technicians & Electricians, Substation Operators & Utility Engineers, Project Engineers in Power & Industrial Sectors, Safety Officers involved in electrical systems and Anyone responsible for Hyundai switchgear operation or maintenance.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

❖ Fundamentals of Circuit Breakers & Switchgears

- Overview of switchgear systems (LV, MV, HV) and their role in power systems
- Hyundai switchgear product portfolio overview
- Classification of circuit breakers (ACB, VCB, SF₆, MCB, MCCB)
- Basic electrical concepts (fault currents, arc phenomena, insulation)
- IEC & IEEE standards for switchgear and breakers
- Safety protocols for switchgear operation (LOTO, PPE, Hyundai safety notes)

DAY TWO:

❖ Hyundai Circuit Breakers: Design & Operation

- Hyundai Air Circuit Breaker (ACB) components and operation
- Hyundai Vacuum Circuit Breaker (VCB) design and arc extinction principle

- Hyundai SF₆ Circuit Breaker structure and gas handling
- Control and protection circuits in Hyundai breakers
- Trip units and protection settings (overcurrent, earth fault, short circuit)
- Operation demonstrations (manual & electrical operation sequences)

DAY THREE:

❖ Hyundai Switchgear Systems: Installation & Commissioning

- Hyundai switchgear panels: design, compartments, and busbar arrangements
- Installation procedures and commissioning checklists
- Cable terminations and busbar connections
- Auxiliary equipment integration (CTs, PTs, relays, control wiring)
- Functional testing procedures for breakers and panels
- Pre-energization inspections and acceptance tests

DAY FOUR:

❖ Maintenance & Troubleshooting of Hyundai Equipment

- Preventive maintenance schedules (manufacturer recommendations)
- Inspection procedures for breakers and panels
- Common failure modes and causes (contact wear, insulation breakdown, gas leaks)
- Troubleshooting techniques: electrical tests (insulation resistance, contact resistance, timing tests)
- Tools and diagnostic equipment for Hyundai breakers & switchgears
- Case studies of fault analysis and corrective actions

DAY FIVE:

❖ Advanced Applications, Upgrades & Practical Workshop

- Upgrading Hyundai breakers and switchgears (retrofits, digital trip units)
- Integration with SCADA and remote monitoring
- Energy efficiency considerations in switchgear operation
- Root cause analysis for recurring issues
- Practical hands-on session:
 - Breaker operation (open/close cycles)
 - Contact inspection & lubrication
 - Relay setting verification
 - Simulated fault troubleshooting

❖ Course Conclusion

❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Group and Corporate Discounts:

- We offer group and corporate discounts on many courses. These discounts are available for clients who want to maximize their return on investment.

Individual Discounts:

- We offer individual discounts on many courses for people who are self-sponsored and make their payment in full and upfront at the time of registration

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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