

Enhance Your Skills For
BETTER Tomorrow



Web Based Training Calendar

Switchgear Training Centre | January 2024 - December 2024

TRAINING PROGRAMME DETAILS

PROGRAMME CODE	TRAINING PROGRAMME	NO. OF DAYS	PROGRAMME CONTENTS	USEFUL FOR	INVESTMENT (GST EXTRA) ₹
W-LT01	Selection of LV Switchgear & Applications	5	<ul style="list-style-type: none"> • LV switchgear terminologies & Relevant standards • Selection & Application of ACB, MCCB, SDF, HRC Fuse, Contactor, Relay, MCB, RCCB etc. • Fault Level calculation for LV system • Motor Starter Selection with Type 2 co-ordination • Advance releases & Selectivity (Co-ordination) among various switchgears • Overview of Industrial Communication & Selection of Smart Switchgear • Overview of busbar trunking systems, Panel Meters, Timers & Time Switch • P.F Improvement, APFC Relay, Overview of Harmonics 	<ul style="list-style-type: none"> • Consultants • Panel builders • End user- Project Team • OEM 	21,000
W-LT05	Electrical Design of Switchgear Assembly	3	<ul style="list-style-type: none"> • LV Switchgear & Switchboard Terminologies • Panel Design Aspects as per IEC 61439 • Fault level Calculation for LV System • Forms of Separations, Ingress Protection (IP) • Busbar design • LV Panel Maintenance & Good Termination Practices • Thermal Management in Switchboards • Selection of CTs & Power Cables • Importance & Sizing of Control Transformers • Design Verification & Routine Test as per IEC 61439 • Earthing as applicable to Switchboards 	<ul style="list-style-type: none"> • Consultants • Panel builders • End user- Projects • OEM • Contractor 	16,500
W-LT05 A	Design of SMART Panel Solutions	1	<ul style="list-style-type: none"> • What is SMART Panel? • Elements of SMART PCC, MCC, DB..... • Smart Solution Architecture • Integration of SMART switchgear in Panel • Basics of Industrial Communication 	<ul style="list-style-type: none"> • Consultants • Panel builders • End user- Projects • OEM • Contractor 	5,500
W-LT06	Power Distribution in Buildings	2	<ul style="list-style-type: none"> • Elements of Power Distribution in buildings • Load estimation, sizing of Transformers, DG sets & UPS. • Selection of Low Voltage switchgears, Distribution boards • Selection of BBT & Cables • Fault Level calculations • Earthing basics, relevant IE rules 	<ul style="list-style-type: none"> • Consultants • Panel builders • Builders - Project Team • Contractor 	11,500
W-LT07	Electrical Safety	1	<ul style="list-style-type: none"> • Importance of Safety, Type of Hazards • Safety in Residential, Industrial and Commercial premises • Hazard identification, detection and control • Fire, Shock, Arc flash Hazards and its prevention • Requirements by norms, PPE, LOTO, Work Permit • OHSAS requirement, First aid in case of Electric shock and burns • Safety features in Switchgear & Switchgear Assembly 	<ul style="list-style-type: none"> • End User- Safety Officer, Plant Maintenance • Contractor • Electrical Personnel in Oil & Gas Industry 	5,500
W-LT08	Selection & Application of Drives	3	<ul style="list-style-type: none"> • Basics of LV Motors & Special Duty (Inverter Duty) Motors • VFDs Construction, Selection, Wiring, Testing & Troubleshooting • Application based Programming with Case Study • Energy saving with VFD • VFD vs Soft Starter • Communication with VFDs 	<ul style="list-style-type: none"> • OEM • End user - Projects, O&M Team • Panel builders • System Integrators 	17,000
W-LT09	Power Quality Solutions - Reactive Power & Harmonics Mitigation	2	<ul style="list-style-type: none"> • Need for Power Factor Improvement & Utility Regulations • Methods of Reactive power management • APFC Panel Design, Dynamic compensation • Harmonics in power systems, source, types & their effects • Harmonics Mitigation Techniques: Passive, Active (AHF) & Hybrid Harmonic filters • Maintenance & Troubleshooting of APFC Panel 	<ul style="list-style-type: none"> • Consultants • End user- O&M Team • Panel builders • Contractor 	12,500
W-LT09 A*	Advance Power Quality Solutions	1	<ul style="list-style-type: none"> • Detailed Study of AHF - Principle of working, Its sizing for Green Field Project with case Study etc • Voltage Harmonics: Its Impact & Solutions • PF correction & Harmonic mitigation in Solar installation • Harmonics Analysis with Power Analyser & Inference of Harmonic Audit Report • Typical Cases - Transformer compensation, Importance of linearity & Q factor in Reactor, Cascading of APFC Controller etc. 	<ul style="list-style-type: none"> • Consultants • End user- O&M Team • Panel builders • Contractor <p>* for attending W-LT09A, prerequisite is W-LT09</p>	5,500
W-LT11	Industrial Protection with Numerical Relays	4	<ul style="list-style-type: none"> • Introduction to protective relaying, terminologies, ANSI codes • Power System Protection as per IEC60255 • Selection of Switching Devices & Instrument Transformers • Fault Level calculations with Case Study • Feeder & Motor protection, Relay Settings • Relay co-ordination with Case Study • Transformer & Generator protection (excludes distance protections) 	<ul style="list-style-type: none"> • End user- Project, O&M Team • Consultant • Panel builders 	22,000
W-LT12	Managing Electrical Energy and Impact on Sustainability	2	<ul style="list-style-type: none"> • Importance of Energy Conservation & Management (ECM) • Concepts, Terminologies, Energy Efficient Technologies in electrical Installations • Energy Conservation Act, ECBC, etc. including some case studies • Conservation of Energy with Latest technologies in Motors, Transformers, Generators, VFDs, PQS, Switchgears etc. with Case studies • Energy Monitoring & Management through EMS with Demo • Sustainability Impact 	<ul style="list-style-type: none"> • Contractor • End user- Project • Consultant • OEM 	12,500

Note: GST Extra as Applicable. Present rate of GST is 18%

PROGRAMME CODE	TRAINING PROGRAMME	NO. OF DAYS	PROGRAMME CONTENTS	USEFUL FOR	INVESTMENT (GST EXTRA) ₹
W-LT13	Classification, Types & Requirement of System & Equipment Earthing	2	<ul style="list-style-type: none"> Importance of Earthing, Types & Classification Facts about earthing Understanding of System & Equipment Earthing Earthing of Generators, Transformers, Sensitive Electronic equipment & Lightning Protection Earthing Earth Fault & Earth Leakage protection Earthing Systems for Solar plants Earth Mat design Sizing of Earth Electrodes with case studies 	<ul style="list-style-type: none"> End user- Projects, O&M Team Consultant Contractor 	12,750
W-LT15	Modernisation of Plants & trends in LV Switchgear	1	<ul style="list-style-type: none"> Improving Plant efficiency using Advance Technologies Intelligent MCC, Energy Efficient Motors Control & Monitoring of Energy through EMS Improving Plant Reliability through Smart Switching & Protection Devices 	<ul style="list-style-type: none"> End User Consultant Panel Builder 	5,500
W-LT16	Smart Switchgear & Software solutions	1	<ul style="list-style-type: none"> Industry 4.0 Overview, Benefits and Applications IOT,IIOT, Cloud Computing, Overview of AI, ML, Robotics, ARVR etc. SMART switchgear features, Benefits, Applications Introduction, Types and Standards of Industrial communication Hardware requirements for Integrating smart Devices Demonstration of Communication with Circuit Breakers (ACB,MCCB), VFD, Intelligent Relays Demonstration of Energy Management System using Smart Meters How to integrate SMART switchgear, Controlling and Monitoring 	<ul style="list-style-type: none"> Maintenance Managers OEM Panel Builders System Integrators Consultants 	6,000
W-LT17	Selection, Protection & Maintenance of Transformer	2	<ul style="list-style-type: none"> Selection & Maintenance of Transformer Routine tests for transformer Health Life index & Failure analysis of transformer Protection of transformer Relevant IS/IEC standards. 	<ul style="list-style-type: none"> Consultant Contractor End User- Projects, O&M Team 	13,000
W-LT18	Power Cable Selection, laying & Testing	1	<ul style="list-style-type: none"> Introduction & Selection of Power Cable Laying of Power Cable Cable Jointing, Termination and Cable accessories Testing of Power Cables & Cable Joints Cables fault detection using test instruments 	<ul style="list-style-type: none"> Contractor Panel builders Electricians 	6,000
W-LT19	Switchgear Solution for PV-Solar Plant	1	<ul style="list-style-type: none"> Overview of PV Solar plants, Elements, schemes, Design considerations Fault current calculations and Selection of Switchgear Earthing system design considerations Pre-Commissioning check points and maintenance guidelines for switchgear Key Design considerations with IEC 60947 	<ul style="list-style-type: none"> EPC Consultants EPC Contractor End Users- Project Team 	7,000
W-LT20	Motor Starting Techniques and Starter Selection with Type 2 Coordination	2	<ul style="list-style-type: none"> LV Switchgear terminologies as per IEC 60947 Different starting techniques of motor Motor Protection Concepts & Type - II coordination Control Schemes for Motor Starters Overview of iMCC & Soft Starters 	<ul style="list-style-type: none"> Consultants Panel builders End user- Project Team OEM 	11,500
W-LT21	Switchgear Selection in Low Voltage Power Distribution with Discrimination / Selectivity	2	<ul style="list-style-type: none"> LV Switchgear terminologies as per IEC 60947 Selection of SDF, MCCB, ACB & Change Over Switches Advance Protection Releases and their settings Fault Level Calculation with case studies Selectivity applicable to LV Switchgear Overview of Industrial Communication & Selection of Smart Switchgear 	<ul style="list-style-type: none"> Consultants Panel builders End user- Project Team OEM 	11,500
W-LT22	Design of Electrical Schemes for LV Switchgear Assembly	2	<ul style="list-style-type: none"> Fundamentals of Control circuits, Graphical Symbols & Guidelines for Design as per relevant IS / IEC standards. Design of Power & Control Circuits for : <ul style="list-style-type: none"> Motor Starter, ACB Incomers & Bus coupler Schemes Auto Source Transfer, DG Synchronisation & Load Sharing Schemes CT/PT circuits, Redundant Control Supply Schemes Electrical/Mechanical Safety Interlocks in control circuits Design/Selection of Control Devices 	<ul style="list-style-type: none"> Consultants Panel builders End user- Project Team OEM 	11,500
 W-LT23	Selection & Application of Surge Protection Devices (SPD)	1	<ul style="list-style-type: none"> Surges in an Electrical Network- Introduction, Sources, Types and Effects on an Electrical/Electronic System Classification of SPD-Based on different types of Surge Waveforms, Operating Voltage. Selection and Application of SPD (With Case Study) Modes and Cable Sizing for SPD Connections NEC/Standard Guidelines for SPD Connection 	<ul style="list-style-type: none"> EPC Consultants EPC Contractor End Users- Project Team 	5,750
 W-LT24	Adaptation of NEC-2023 (Amendments)	1	<ul style="list-style-type: none"> Power quality improvement: <ul style="list-style-type: none"> PF correction and Harmonics control Influence of Harmonic Currents on Neutral conductor Sizing Safety in Electrical Work Solar Systems: <ul style="list-style-type: none"> Classification of Solar PV power-generating systems Electrical Protection Components in Solar, DC- Isolator, LBS, MCCB, ACB and AC- RCD, Surge Protection, etc Recommendation of installation of Solar PV System 	<ul style="list-style-type: none"> Consultants Panel builders End user- Project Team OEM 	5,750

Note: GST Extra as Applicable. Present rate of GST is 18%

TRAINING PROGRAMMES ON IEC STANDARD

PROGRAMME CODE	STANDARD DESCRIPTION	DURATION (HRS.)	PROGRAM CONTENT	FOR WHOM	INVESTMENT	PROGRAM DATE
W-STD01	IEC 60947-2 - Low-Voltage Switchgear and Controlgear - Circuit Breakers	03	<ul style="list-style-type: none"> • Introduction to IEC 60947-2 • Scope of Standard • Various Specifications & related Tests as per standard • Significance of Type Test & routine Tests 	<ul style="list-style-type: none"> • Panel Builders • Consultants • Contractors • End Users 	5,400	26 th Mar 24
						21 st Aug 24
W-STD02	IEC 60947-3 - Low-Voltage Switchgear and Controlgear - Switches, Disconnecter, Switch-Disconnecter & Fuse Combination Units	03	<ul style="list-style-type: none"> • Introduction to Switches, Disconnectors, Switch Disconnectors and Fuse Combination Units • Scope, Constructional, and performance requirements • Significance of Type Test & routine Tests 	<ul style="list-style-type: none"> • Panel Builders • Consultants • Contractors • End Users 	5,400	17 th May 24
						27 th Sep 24
W-STD03	IEC 60947-4 - Low-Voltage Switchgear and Controlgear - Contactors and Motor Starters	03	<ul style="list-style-type: none"> • Overview of Contactor, Relay and Starter • Importance of IEC 60947-4 • Scope, Constructional & Performance Requirements • Significance of Type tests and Routine tests • Product evaluation and certification 	<ul style="list-style-type: none"> • Panel Builders • Consultants • Contractors • End Users 	5,400	29 th Apr 24
						28 th Oct 24
W-STD04	IEC 61439 - Low-Voltage Switchgear and Controlgear Assemblies	03	<ul style="list-style-type: none"> • Introduction to IEC 61439 • Changes in IEC 61439 Vs IEC 60439 • Design & Routine Verification • Constructional & Performance Requirements • Advantages to End Users, Consultants, PB & Designers 	<ul style="list-style-type: none"> • Panel Builders • Consultants, • Contractors • End Users - Projects 	5,400	25 th Jan 24
						16 th Jul 24
W-STD05	IEC 60898 - Electrical Accessories - Circuit-Breakers for Overcurrent Protection for Household and Similar Installations	03	<ul style="list-style-type: none"> • Overview of MCB and RCCB • Importance of IEC 60898 & IEC 61008 • Scope, Constructional & Performance Requirements • Significance of Type tests and Routine tests • Product evaluation and certification 	<ul style="list-style-type: none"> • Consultants • Contractors • Design Engineers 	5,400	22 nd May 24
	IEC 61008 - Residual Current Operated Circuit-Breakers Without Integral Over Current Protection for Household and Similar Uses (RCCBs)					14 th Nov 24

WEB BASED TRAINING CALENDAR 2024

CODE	PROGRAMME NAME	DAYS	JAN 2024	FEB 2024	MAR 2024	APR 2024	MAY 2024	JUN 2024	JUL 2024	AUG 2024	SEP 2024	OCT 2024	NOV 2024	DEC 2024
W-LT01	Selection & Application of LV Switchgear	5				01-05					23-27			
W-LT05	Electrical Design of Switchgear Assembly	3			04-06				01-03					
W-LT05 A	Design of Smart Panel Solutions	1			07					08				
W-LT06	Power Distribution in Buildings	2		05-07										18-20
W-LT07	Electrical Safety	1	30				03			26				16
W-LT08	Selection & Application of LV AC Drives	3					06-08					07-09		
W-LT09	Power Quality Solution - Reactive Power & Harmonic Mitigation	2		12-14				10-12					04-06	
W-LT09 A	Advance Power Quality Solutions	1		15				13					29	
W-LT11	Industrial Protection with Numerical Relays	4				22-26						21-25		
W-LT12	Managing Electrical Energy and Impact on Sustainability	2						19-21				14-16		
W-LT13	Classification, Types & Requirement of System & Equipment Earthing	2			13-15						04-06			
W-LT15	Modernisation of Plants & Trends in LV Switchgear	1					22							05
W-LT16	Smart Switchgear & Software solutions	1			27				15					
W-LT17	Selection, Protection & Maintenance of Transformer	2			20-22						11-13			
W-LT18	Power Cable Selection, Laying & Testing	1		02										09
W-LT19	Switchgear Solution for PV- Solar Plant	1								13-14			21-22	
W-LT20	Selection of LV Switchgear for Motor Starter Feeder as Per Type 2 Co-ordination	2				01-02					23-24			
W-LT21	Selection of LV Switchgear for Power Distribution with Selectivity	2				03-04					25-26			
W-LT22	Design of Electrical Schemes for LV Switchgear Assembly	2						26-28						02-04
W-LT23	Selection & Application of Surge Protection Devices (SPD)	1	12			30			22			30		
W-LT24	Adaptation of NEC-2023 (Amendments)	1					27			20				

REGISTRATION PROCESS

To register for Training Programs:

1. Please click on below link or scan QR Code and provide participants details

<https://forms.office.com/e/nv6wfnE797>



After submission of above form, you will be contacted by Switchgear Training Centre.

2. Fees should be paid in advance by way of NEFT / RTGS / UPI to our bank a/c below:

Beneficiary Account Name : SCHNEIDER ELECTRIC INDIA PVT LTD
Bank Name : Citibank N.A.
Branch : DLF Capitol Point, Baba Kharak Singh Marg, New Delhi-110001
IFSC code : CITI00000002
Current Account No : 0019955354
SWIFT Code : CITIINBX
PAN No. : AABCS1624G

Sr. No.	STC	GST No.
1	Pune	27AABCS1624G2ZM
2	Lucknow	09AABCS1624G2ZK
3	Coonoor	33AABCS1624G2ZT
4	Vadodara	24AABCS1624G2ZS
5	Delhi	07AABCS1624G2ZO
6	Kolkata	19AABCS1624G2ZJ

Please Note

- For Online training program participant should plan to attend only after they receive email confirmation of their registration
- For Offline Training program, participant should plan their travel only after they receive email confirmation of their registration.
- In case seats are Unavailable for the selected course, participants will be offered an opportunity to participate in the next training session for that programme.
- All programmes are conducted on a 'best effort basis'. Programmes are subject to cancellation or postponement due to unforeseen circumstances or lack of sufficient enrolment. L&T Electrical & Automation reserve all cancellation rights of the training programme and will not be responsible for any consequential losses.
- Participants are expected to make their own arrangements for lodging and boarding.
- "L&T Electrical & Automation" will not be responsible for any injury, damage or loss during the programme..
- The transfer of fees for any change of participant or programme is subject to confirmation in writing by the Training Centre.
- Course Fees specified are valid upto December 31, 2024 only.
- Fees are not refundable under any circumstances.

Course Fees - Terms & Conditions

Inclusions

- For Offline Programmes: Stationery, Hand-outs & use of workshop facilities. Complimentary, Working Lunch & Tea / Coffee shall be provided.
- For Online Programmes: Access will be provided to "Training Material" & "Hand-outs" as applicable.

Exclusions

- GST as applicable on the services.

GLIMPSES OF THE INTERNATIONAL PROGRAMS CONDUCTED BY SWITCHGEAR TRAINING CENTRES



Low voltage Switchgear selection for DGPC
(Bhutan)



Low voltage Switchgear selection for
TANZANIA Petroleum (Malaysia)



Best Maintenance Practices for OMIFCO
(Oman)



Power Quality solutions for JKR Engineers
(Malaysia)



System and Equipment Earthing for
Decterous Engineering (Bangladesh)



Introduction to LV Switchgear for IEM
(Malaysia)



Customised programmes on Request

1. Switchboard Quality, Testing and Workmanship Aspects - one day Module
2. Induction Programme for Fresh Engineers in any Industry can be organised on request
3. Overview of Plant Automation and use of SCADA, PLC, Drives, Soft starters etc. for Students
4. Advance Training module for Faculties of Engineering colleges Electrical Branch
5. For final year engineering Students Summer Internship Training - 3 to 6 weeks
6. Introduction to Switchgear and Protection systems and Automation - 5 day programme for students on request.

Our Milestones

- 37 years of journey
- 19000+ conducted programs
- Trained 4,00,000+ professionals

For more information about the Training Calendar and programmes please contact the relevant Switchgear Training Centre or Customer Interaction Centre:

Switchgear Training Centre



Pune

L&T Electrical & Automation
Switchgear Training Centre
T-156 / 157, MIDC,
Bhosari, Pune - 411 026
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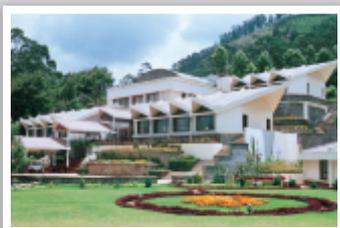
Lucknow

L&T Electrical & Automation
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Coonoor

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Vadodara

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Kolkata

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Customer Interaction Centre (CIC)

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