

Lightning Protection of Structures, Low Voltage and Signal Systems

OVERVIEW

Lightning strikes pose a significant risk to buildings, electrical infrastructure, low-voltage systems, and sensitive electronic and communication equipment. Inadequate lightning protection can result in catastrophic damage, operational downtime, fire hazards, data loss, and serious safety risks to personnel.

This Lightning Protection of Structures, Low Voltage & Signal Systems training course provides delegates with a comprehensive understanding of lightning phenomena, protection principles, applicable standards, and practical design, installation, inspection, and maintenance methods for lightning protection systems (LPS) and surge protection devices (SPDs).

The course integrates theoretical knowledge with practical application, focusing on real-world scenarios across industrial plants, commercial buildings, mining operations, substations, data centres, and critical infrastructure.

BENEFITS OF ATTENDING

By attending this course, delegates will gain the knowledge and practical insight to:

- Understand the physics and behaviour of lightning and its effects on structures and systems
- Identify lightning-related risks to buildings, electrical installations, and signal systems
- Apply international and local lightning protection standards correctly
- Design and assess external and internal lightning protection systems
- Select and coordinate surge protection devices for power and signal systems
- Evaluate earthing and bonding requirements for effective lightning protection
- Inspect, test, and maintain lightning protection systems
- Investigate lightning-related failures and damage
- Implement practical mitigation strategies to reduce downtime and losses

WHO SHOULD ATTEND?

- Electrical Engineers/Technicians/Technologists
- Electrical reticulation Supervisors/Technicians,
- Distribution system planners,
- Maintenance managers,
- Building planners/managers.
- Electrical workers

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FUNDAMENTALS OF LIGHTNING AND RISK

- Nature and characteristics of lightning
- Types of lightning strikes and induced effects
- Direct vs indirect lightning impacts
- Risk exposure for structures and systems

LIGHTNING PROTECTION STANDARDS & COMPLIANCE

- Overview of **SANS 62305 (Parts 1–4)**
- Relationship to SANS 10142 and building regulations
- Legal and insurance considerations
- Responsibilities of designers, installers, and owners

LIGHTNING RISK ASSESSMENT

- Risk management principles under SANS 62305
- Risk components and tolerable risk levels
- Determining Lightning Protection Levels (LPL)
- Documentation and assessment reporting

EXTERNAL LIGHTNING PROTECTION OF STRUCTURES

- Air termination systems (rods, tapes, meshes)
- Down conductors and routing principles
- Earth termination systems
- Separation distance and bonding requirements

EARTHING & BONDING SYSTEMS

- Earthing system design principles
- Equipotential bonding
- Soil resistivity and earth electrode systems
- Common earthing errors and best practices

INTERNAL LIGHTNING PROTECTION & SURGE PROTECTION

- Surge Protective Devices (SPD) – Type 1, 2, and 3
- Protection of low voltage power systems
- Protection of signal, control, and data lines
- Zoning concept (LPZ) and equipment coordination

INSPECTION, TESTING & MAINTENANCE

- Visual inspection requirements
- Testing of earthing and continuity
- Maintenance schedules and documentation
- Compliance verification and handover

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Live online training | 23 – 24 February 2026 | R 8 999 per delegate

Booking Contact (Approving Official) Mr/Mrs/Ms

Full Names: _____

Company name: _____

Direct Tel No: _____ E-mail: _____ Fax: _____

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Person Responsible for Finance: _____ Direct Tel No: _____ Date of Payment: _____

BANKING DETAILS:

Independent Training Management Pty Ltd
Bank: FNB South Africa
Account Number: 62685879276
Branch Code: 251650
Branch: Randburg

THE FOLLOWING HEREBY CONFIRM ATTENDANCE TO THE WORKSHOP

Delegate1: Names _____

Position: _____ E-Mail: _____

Delegate 2: Names _____

Position: _____ E-Mail: _____

Delegate 3: Names _____

Position: _____ E-Mail: _____

Delegate 4: Names _____

Position: _____ E-Mail: _____

Delegate 5: Names _____

Position: _____ E-Mail: _____

TERMS & CONDITIONS OF REGISTRATION

- **Payment:** Registration is confirmed only upon receipt of full payment, proof of payment, or an official purchase order before the event start date. Certificates and CPD points may be withheld if payment is outstanding.
- **Cancellations & Substitutions:** Written cancellations must be received at least **10 working days** before the event to qualify for consideration. No refunds apply for late cancellations or non-attendance. Delegate substitutions are allowed at no extra cost with prior written notice.
- **No-Shows:** Delegates who do not attend without proper written cancellation remain liable for **100% of the invoiced fee**. No refunds or credits will be issued.
- **Programme Changes:** Independent Training Management reserves the right to change event dates, venues, content, or speakers where necessary. In cases of force majeure, events may be postponed or rescheduled without liability for additional costs.
- **Fees & VAT:** All fees are exclusive of VAT unless stated otherwise. Early-bird and discounted rates apply only when payment is received by the specified deadlines.
- **Liability:** Attendance is at the delegate's own risk. Independent Training Management is not liable for any loss or damage except where caused by gross negligence or wilful misconduct.
- **Legal Jurisdiction:** These Terms & Conditions are governed by the laws of the **Republic of South Africa**.
- **Acceptance:** Submission of this registration form constitutes acceptance of the full Terms & Conditions, as published on the Independent Training Management website