

DESIGN REQUEST FORM - EARTHING

DRAWING CHECKLIST

Site plan A detailed layout of the site showing all structures and relevant features.	☐	Marked location(s) of existing lightning protection Clearly indicate any existing lightning air terminals, conductors, or earthing systems.	☐
Elevations for all structures Provide elevation drawings for each structure to assess height and exposure.	☐	Marked areas to be protected Identify zones requiring lightning, surge protection and earthing solutions.	☐
Marked the location(s) of rooftop equipment Include antennas, satellite dishes, billboard signs, helipads, flagpoles, windsocks, obstruction lights and building maintenance units.	☐	Electrical single line diagrams for surge protection Include a single line diagram of the electrical system to enable assessment and inclusion of surge protection measures.	☐

PROJECT DETAILS

Project Name:		Date:	
Client Name:		Contact Name:	
Location:		Country:	
Agent/Distributor:		Contact Name:	
Expected project completion date:		Chances of securing project:	HOT ☐ WARM ☐ COOL ☐

DESIGN DETAILS

Soil Resistivity Data / Model Provided	☐	Soil Resistivity Testing Required	☐
Equipment used:		Location:	
Method used:		Drawing refs:	
Probe spacing range:		Space available:	
Probe depth used:		Buried conductors ?	
Buried conductors ?		Desired test date(s):	

Power System Earthing	☐	Lightning Protection Earthing	☐
Footprint (a x b m):		Footprint (a x b m):	
Max. fault current (kA):		Space available (m):	
Max. earth-fault (kA):		Standard(s) compliance:	

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Fault duration (s):		BOM required ?	
Fence type:			
Post depth/spacing (m):			
Conductor size pref. (mm ²):			
Crushed rock details:			
Standard(s) compliance:			
BOM required ?			

MISCELLANEOUS

Limitations / restrictions:	
Special requirements:	
Purchase Order No.:	

Incomplete submissions may result in delays to the design process. Please ensure all applicable items are provided.

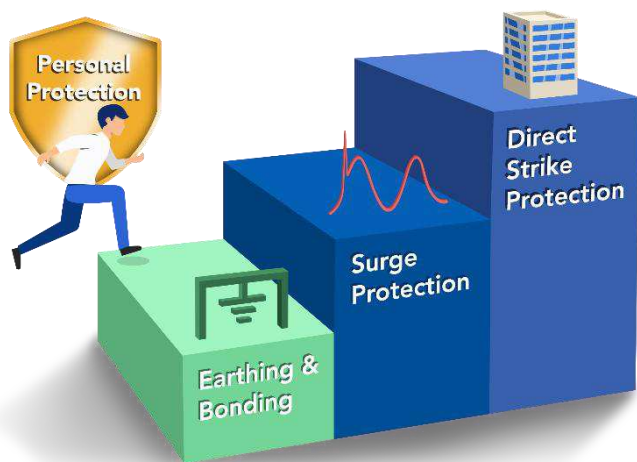
Return Design Email:

LPI'S 4-STEP APPROACH TO LIGHTNING PROTECTION

LPI 4-Step Protection Approach

Your LPI design has incorporated 3 of our 4-step approach to ensure the system is compliant with national standards AS 1768..

Step 4 will be introduced as required if personal are regularly required to work or play outdoors across a large area or working outdoors on tasks incorporating electricity.



1. Direct Strike Lightning Protection

This step involves the installation of external lightning protection systems such as air terminals, downconductors, and strike termination devices. These components intercept lightning strikes and safely direct the energy to ground, protecting structures and equipment. This aligns with AS 1768:2021 Section 3, which outlines the design and installation of lightning protection systems.

2. Surge Protection*

Surge Protection Devices (SPDs) are critical for safeguarding electrical and electronic systems from transient overvoltages caused by lightning strikes or switching events.

AS 1768:2021 Section 4 recommends the use of SPDs at key entry points to prevent damage to sensitive equipment and maintain operational continuity.

3. Earthing & Bonding

A low-resistance earthing system ensures that lightning energy is safely dissipated into the ground. Bonding all metallic parts reduces potential differences and prevents dangerous side flashes.

AS 1768:2021 Section 3 provides guidance on achieving effective earthing and equipotential bonding.

4. Personal Protection

Protecting personnel is paramount. Risks can be significantly reduced with the implementation of warning systems and personal protection systems.

AS 1768:2021 section 6 emphasises the importance of designing systems that minimise the risk of injury or death of people during lightning events.

For further information on any of these topics, please discuss with your LPI representative.

***IMPORTANT NOTE**

If direct-strike protection is installed, surge protection must also be installed, Explained in further detail here: [Technical Note - Need for Surge Protection when Direct-strike Protection is Installed](#).

The technical explanation behind this requirement is simply that a lightning strike to a structure will unavoidably induce significant overvoltages within the structure. These overvoltages need to be mitigated with surge protection devices (SPDs).