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## LPI® Lightning Capturing System: Stormmaster ESE 50/ESE 60 Air Terminals

### Who is LPI®

Lightning Protection International Pty Ltd (known as “LPI”) is a fully owned Australian manufacturer and supplier of direct strike lightning, surge & transient protection equipment and grounding solutions to a wide range of industries throughout the world.

Key personnel and associates attached to LPI have combined experience of over many years in serving customers throughout the world on many types of projects in some of its most lightning prone areas. Our personnel have vast experience in providing direct strike area protection, surge and transient protection and grounding solutions. Our extensive experience has involved risk management, system design, training, certification and installation and commissioning in key industry groups such as:

- Telecommunications & Broadcasting
- Petrochemical, oil & gas
- High rise buildings and hotels – all types of structures
- Sporting centre and grounds – Golf courses, race tracks, stadiums
- Aviation - Civil & Military
- Mining – coal, gold, nickel, iron, copper, bauxite etc.
- Industrial facilities of all kinds
- Defence – communications, surveillance and storage of armaments
- Power generation and distribution
- Rail / transport systems
- Monuments / Ecological sites



### LPI's Stormmaster ESE

The LPI Stormmaster ESE range of terminals provides a safe and efficient system for the protection of your facility from direct lightning strikes. The LPI Stormmaster ESE terminal captures the lightning energy at a preferred point. The energy is conveyed to ground via a downconductor(s). When the energy enters the dedicated lightning earth, it is safely dissipated without risk to personnel and equipment.

### How does the LPI Stormmaster ESE terminal work?

The Stormmaster Early Streamer Emission air terminal uses the naturally occurring electrical field to complete the timely release of an upward leader. This process provides for a safe and efficient method of controlling dangerous lightning energy at a preferred point.

As a thunder storm gathers overhead the ambient electrical field surrounding the Stormmaster ESE begins to rise in voltage. Upon the approach of a down leader towards the protected area there is a rapid increase in the electric field which initiates the triggering of an upward streamer from the Stormmaster ESE terminal. The concept of earlier allows for a larger or enhanced area of protection to be provided by the Stormmaster ESE in comparison to a conventional rod.

With the release of the upward streamer from the finial tip earlier than other competing structural points, the Stormmaster ESE terminal becomes a preferred point for the capture of the lightning discharge within the protected area.



## The Stormmaster ESE Range

LPI offers two models in its range of Early Streamer Emission air terminals.

### Ordering Codes:

Stormmaster-ESE-50

Stormmaster-ESE-50-GI

Stormmaster-ESE-60

Stormmaster-ESE-60-GI

(GI Model- For direct mounting to 2" GI Pipe).

## Certified Performance

As one of the leading companies in the field of lightning protection, LPI has invested heavily in field and laboratory testing as part of its on-going commitment to research and development.

Throughout the product development of the Stormmaster ESE terminals the proto-type models were subjected to intense testing under high voltage conditions. Following further refinements the Stormmaster terminals were subjected to final testing by an independently accredited test laboratory which completed testing in full compliance with the French National Standard NF C 17-102. The final testing on the Stormmaster ESE terminals showed effective performance as defined in the French National Standard.

The objective of the testing under NF C 17-102 is to obtain a statistical result between a single reference rod and the ESE terminal, whereby a time difference is obtained between the two and by definition, a triggering time advance (DeltaT) is calculated. Safety margins are applied to the measured values in order to provide a conservative measured result.

PROTECTION RADIUS (m)-(Rp)									
h=height of Stormmaster terminal above area to be protected (m)	2	4	5	6	10	15	20	45	60
<b>Protection Level 1</b> (High Protection)									
Stormmaster 50	28	55	69	69	69	70	70	-	-
Stormmaster 60	32	64	79	79	79	80	80	-	-
<b>Protection Level 2</b> (Medium Protection)									
Stormmaster 50	35	69	86	87	88	90	92	95	-
Stormmaster 60	40	78	97	97	99	101	102	105	-
<b>Protection Level 3</b> (Standard Protection)									
Stormmaster 50	38	76	95	96	98	100	102	110	110
Stormmaster 60	44	87	107	107	109	111	113	120	120



**Advantages of the Stormmaster ESE terminal**

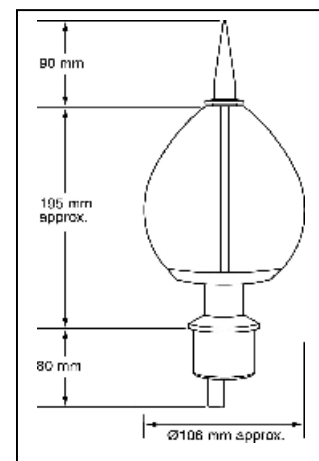
- A typical Stormmaster ESE installation consists of a single Stormmaster ESE terminal with an enhanced area of protection and one or more downconductors connected to a dedicated low impedance lightning earth.
- LPI’s Stormmaster ESE system is simple to install and requires no special maintenance.
- LPI’s Stormmaster ESE system is a cost effective solution for providing your lightning protection whilst providing superior safety.

The Stormmaster ESE range of terminals have been fully tested in accordance with NF C 17-102 in a high voltage laboratory.

• **Technical Data**

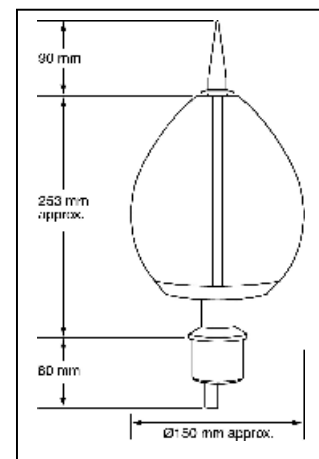
Stormmaster-ESE-50

Finial Tip: Chrome plated brass tip  
 Panel Material: Anodised Aluminium  
 Terminal Colour: Gold  
 Weight: 1.8 kg (Approximate)  
 Insulation Material: UV rated Evoprene  
 Down conductor Connection: Lug connection



Stormmaster-ESE-60

Finial Tip: Chrome plated brass tip  
 Panel Material: Anodised Aluminium  
 Terminal Colour: Gold  
 Weight: 2.8 kg (Approximate)  
 Insulation Material: UV rated Evoprene  
 Down conductor Connection: Lug connection



• **“LPI Endorsed Product”** – The symbol of assurance of quality and performance.  
 • LPI has a policy of continuing product development. Therefore, the above specifications are subject to change without notice.

**LPI®** - Innovative Lightning and Surge Protection Solutions



Direct Strike Protection



Surge & Transient Protection for Power, Data, Communications and RF lines



Grounding Products & Solutions