

## TECHNICAL DATA SHEET



## LPI® STORMMASTER ESE



- Fully Tested Air Terminals in Compliance to NF C 17-102 (2011)
- Family of Stainless Steel Air Terminals
- Easy to Install
- All Stormmaster Terminals Tested by the ITE HV Laboratory in Europe, which has National (ENAC, UNE) and International (ILAC / ISO / IEC) Accreditation
- Cost Effective Lightning Protection
- Free Lightning Protection Designs & Risk Assessments Available on Request
- For Connection to HVSC Plus or 2 Inch GI Pipe
- See Page 2 For Market-Leading Advantages



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**Market-Leading Advantages**

LPI's fully-accredited and approved family of Stormaster early streamer emission (ESE) air terminals have the following key characteristics:

- First company to introduce an optimised lightning coupling design using four independent panels;
- Extensive field experience with more than 50,000 installations over 15+ years in more than 75 countries around the world;
- Air terminal family designed to meet all aspects of NF C 17-102 (2011), including the detailed time advance testing criteria and correct test sequencing per the standard;
- Additional testing and certification to IEC 62561-2;
- All testing performed in ENAC and ILAC-accredited high-voltage laboratories;
- Proven technology based on international research findings, modelling and field testing.



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**LPI<sup>®</sup> STORMASTER ESE**

**Protection Performance**

The protection radius (Rp) of a Stormaster ESE terminal is calculated using the formula defined by the French National Standard NF C 17-102 (September 2011), namely:

(1)  $Rp[h] = \sqrt{2rh - h^2 + \Delta[2r + \Delta]}$  for  $h \geq 5$  m

and

(2)  $Rp = h \times Rp_5 / 5$  for  $2 \leq h < 5$  m

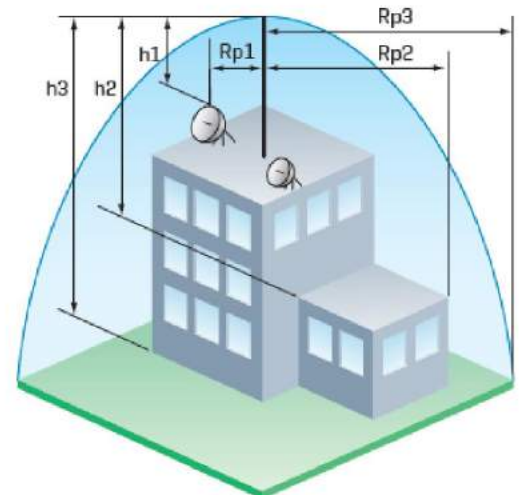
Where **h** = actual height of Stormaster terminal above the area to be protected (m).

**Rp<sub>5</sub>** = value of Rp from Eqn. [1] when h = 5 m

- r** = 20 m for protection level I [Very High protection]
- 30 m for protection level II [High protection]
- 45 m for protection level III [Medium protection]
- 60 m for protection level IV [Standard protection]

**Δ** = Stormaster time and height advantage according to the Stormaster model installed:

- Stormaster-ESE-15: Δ = 15 μs
- Stormaster-ESE-30: Δ = 30 μs
- Stormaster-ESE-50: Δ = 50 μs
- Stormaster-ESE-60: Δ = 60 μs



PROTECTION RADIUS, Rp (m)											
h = height of Stormaster ESE terminal above the area to be protected (m)	2	4	5	6	10	15	20	45	60	80	100
<b>Protection Level I (Very High)</b>											
Stormaster ESE 15	13	25	32	32	34	35	35	35	35	35	35
Stormaster ESE 30	19	38	48	48	49	50	50	50	50	50	50
Stormaster ESE 50	27	55	68	69	69	70	70	70	70	70	70
Stormaster ESE 60	31	63	79	79	79	80	80	80	80	80	80
<b>Protection Level II (High)</b>											
Stormaster ESE 15	15	30	37	38	40	42	44	44	44	44	44
Stormaster ESE 30	22	44	55	55	57	58	59	59	59	59	59
Stormaster ESE 50	30	61	76	76	77	79	79	79	79	79	79
Stormaster ESE 60	35	69	86	87	88	89	89	89	89	89	89
<b>Protection Level III (Medium)</b>											
Stormaster ESE 15	18	36	45	46	49	52	55	60	60	60	60
Stormaster ESE 30	25	51	63	64	66	69	71	75	75	75	75
Stormaster ESE 50	35	69	86	87	88	90	92	95	95	95	95
Stormaster ESE 60	39	78	97	97	99	101	102	105	105	105	105
<b>Protection Level IV (Standard)</b>											
Stormaster ESE 15	20	41	51	52	56	60	63	73	75	75	75
Stormaster ESE 30	29	57	71	72	75	78	81	89	90	90	90
Stormaster ESE 50	38	76	95	96	98	100	102	109	110	110	110
Stormaster ESE 60	43	85	107	107	109	111	113	119	120	120	120

**NOTE: See the following LPI publications for additional information on the Stormaster range and the NF C 17-102 (2011) Standard (available on request):**

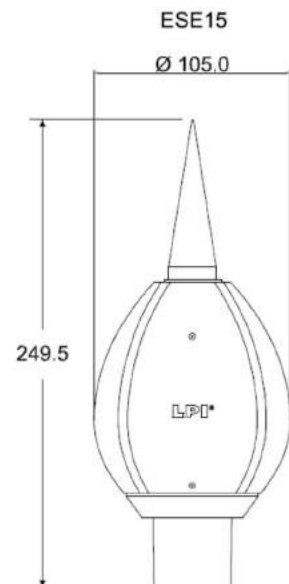
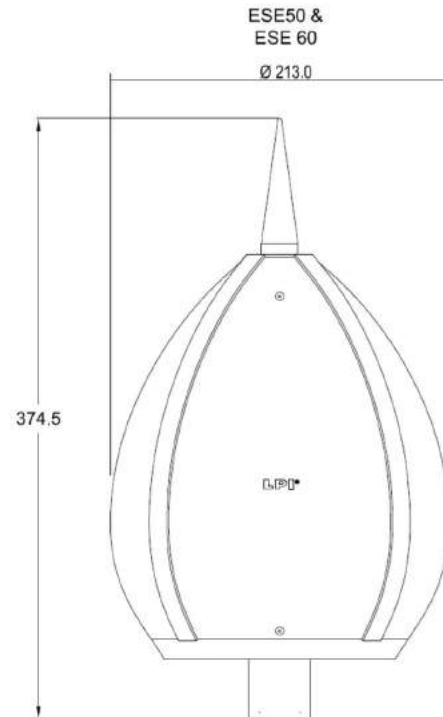
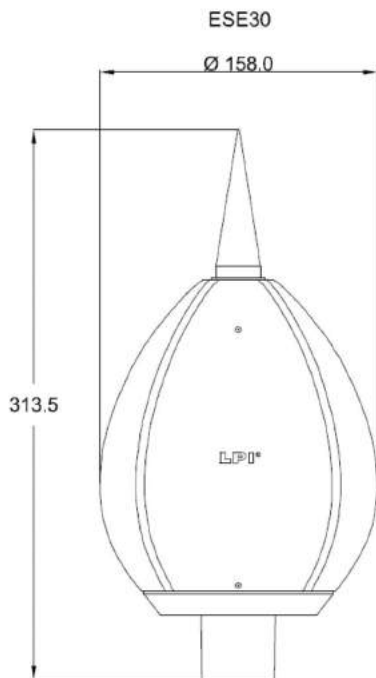
- Technical Paper - ESE HV Test Requirements
- Technical Paper – French Standard NF C 17-102 (2011)
- Stormaster Catalogue
- Stormaster Installation Manual

Contact LPI for Protection Radius for Level I+ and Level I++



**TECHNICAL DATA SHEET**

**Section A - LPI<sup>®</sup> Stormaster ESE Terminals**



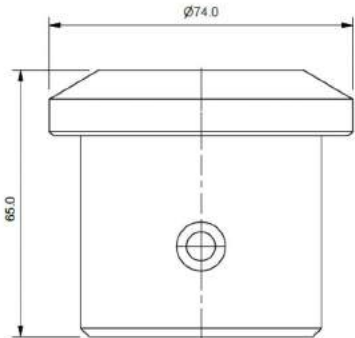
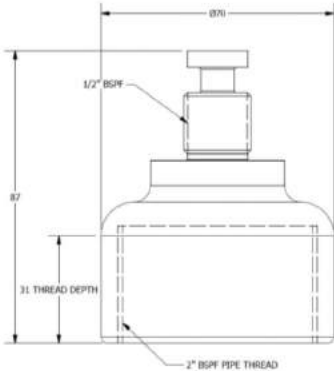
ORDERING CODE	MATERIAL	WEIGHT (KG)	COLOUR	INSULATION MATERIAL
STORMASTER-ESE-15-SS	Stainless steel 316	0.718	Silver	UV rated evoprene
STORMASTER-ESE-30-SS	Stainless steel 316	1.225	Silver	UV rated evoprene
STORMASTER-ESE-50-SS	Stainless steel 316	2.047	Silver	UV rated evoprene
STORMASTER-ESE-60-SS	Stainless steel 316	2.	Silver	UV rated evoprene

\* For connection to 2" GI Pipe add "GI" to end of Ordering Code (See pages 8 & 12 for more detail)


**All dimensions are given in mm UNO**

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**LPI<sup>®</sup> Stormaster ESE Terminals**

Standard Adaptor	GI Adaptor
<ul style="list-style-type: none"> <li>• For use with FRP mast &amp; HVSC Plus downconductor</li> <li>• Lug Connection to HVSC Plus completed with upper termination</li> <li>• Weight: 0.22 kg</li> </ul> 	<ul style="list-style-type: none"> <li>• Threaded GI adaptor</li> <li>• Female thread 2 inch BSP for connection to GI pipe</li> <li>• Weight: 0.21 kg</li> </ul> 

**Stormaster ESE Tester**

	<ul style="list-style-type: none"> <li>• Spark-over tester designed for testing the Stormaster range of terminals</li> <li>• Portable tester</li> <li>• Visual identification of terminal operation</li> <li>• Rechargeable batteries</li> </ul>
<b>Ordering Code</b>	<b>AIR TERMINAL TESTER</b>
Description:	LPI <sup>®</sup> Stormaster terminal tester
Construction:	Plastic enclosure
Charger operating voltage:	100 – 240 V
Batteries:	4 x 1.2 V rechargeable NiCad batteries
Dimension:	115 x 90 x 55 mm
Weight:	0.437 kg

