

ALPS ESE Technical Data:

Testing Standard:	NF C 17-102:2011
Origin:	United Kingdom
HS Code:	8535.40.00

Specifications:

ALPS ESE Model:	ALPS ESE 20	ALPS ESE 35.5	ALPS ESE 60
ESE Efficiency (ΔT):	20 μs	35.5 μs	60 μs
Withstand Current (10/350):	100 kA		
Protection radius (h = 5m, Level IV) (m):	58	78	107
Wind Resistance:	Min FoS = 2.1 (100 mph)		
Housing Material:	Stainless Steel 304L		
Mast Fixing:	M20 Thread		
Down Conductor Connection:	Brass Connector		
Warranty:	5 years		
Dimensions (excluding adaptors & connectors):	\varnothing 74 x 216 mm	\varnothing 74 x 361 mm	\varnothing 74 x 401 mm
Box Contents:	ALPS ESE Device, QR code key tag, Allen key set, Connector for mast		
Working Environment:	Suitable for most environments; including corrosive atmospheres		
NET Weight (kg):	2.42	2.68	3.02
Gross Weight (kg):	2.9	3.12	3.5

Testing & Certification (NF C 17-102:2011 & Additional)

Testing By:	WMG - University of Warwick, Sheffield Hallam University, Cobham Lightning Testing and Consultancy (Element), ICMET Laboratory Craiova, ITE Instituto Tecnológico de la Energía
Manufactured to ISO 9001: 2015:	URS Accreditation
Certification:	AENOR Certificate of Conformity (No: A28/000049)

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Radius of Protection:

The radius of protection 'Rp' of an ALPS ESE is calculated by using the French standard NF C 17-102 (September 2011).

It depends on the ESEAT efficiency 'ΔT' of the ALPS ESE measured in a high voltage laboratory, on the levels of protection I, II, III or IV calculated according to the lightning risk assessment guides (NF C 17-102 annex A or IEC 62305-2) and on the height 'h' of the ALPS ESE air terminal over the area to be protected (minimum height = 2 m).

$$\sqrt{2rh - h^2 + \Delta(2r + \Delta)} \quad \text{for } h \geq 5m$$

$$h * Rp(5)/5 \quad \text{for } 2m \leq h \leq 5m$$

Note:

According to NF C 17-102:2011, for tested results of ΔT higher than 60 μs, the early streamer emission time will be considered as ΔT= 60 μs

ΔT			r values			
ESE 20	ESE 35.5	ESE 60	LVL I	LVL II	LVL III	LVL IV
20 μs	35.5 μs	60 μs	r = 20	r = 30	r = 45	r = 60

H (m)	Protection Level											
	I			II			III			IV		
	ESE 20	ESE 35.5	ESE 60	ESE 20	ESE 35.5	ESE 60	ESE 20	ESE 35.5	ESE 60	ESE 20	ESE 35.5	ESE 60
2	15	21	31	17	24	35	20	28	39	23	31	43
3	22	32	47	26	36	52	31	42	58	35	47	64
4	30	43	63	35	48	69	41	56	78	46	62	85
5	37	53	79	43	61	86	51	70	97	58	78	107
6	37	54	79	44	61	87	52	70	97	59	79	107
8	38	54	79	45	62	87	53	71	98	61	80	108
10	39	55	79	46	62	88	55	72	99	62	81	109

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