ORBITAL Advance Through Technics®

4 CONTRA30 CESE LIGHTNING TERMINAL

GENERAL DESCRIPTIONS

CONTRA30 Early Streamer Emission (CESE) lightning terminal can anticipate all other elements and items within its protectable range according to its protection level radius by intercepting the lightning strikes and conducting these strikes into the earth through the safest and projected ways. CONTRA30 CESE Terminal work as to principle of creating IONs by its internal ION GENERATION channels. This structure itself allows the terminal to conduct the high voltage lightning strikes, even up to 200kA, to the earthing system then to the earth at the safest way.

CONTRA30 CESE Lightning Terminal is exclusively suitable to install where primary protection is needed like critical points; military zones and aero-space bases.

Tested and certified according to NFC 17-102/2011 Early Streamer Emission Standard including DeltaT (ΔT) advance time test, current withstanding test to determine CONTRA30's protection levels.

- > High Salt mist treatment
- > Humid sulphurous atmosphere treatment
- > Current withstanding test: 200kA (10/350µs).
- > Advance time DeltaT (ΔT) test

ODTÜ METU

CERTIFIED ISO 9001:2015 COMPANY

CE

TECHNICAL CHARACTERISTICS

Material	Stainless Steel
Weight	2.90 kg
Ext. Diameter	120 mm.
Lenght (h)	52 cm.
Box Lenght	56 cm.
Rod Diameter	20 mm.
Adapter Diameter	60mm. Male
IP Code	IP67
Working Temperature	-25ºC / 90ºC
Type of Terminal	Electroatmospheric
Internal Insulation	High Density Polyurethane Resin
Standard	NFC 17-102/2011
Grounding Method	Wire/Tape
Max. Current Withstand (10/350µs) / >2.5 MJ/Ω	200kA
Advance Time (ΔT)	30 µs.

PROTECTION LEVEL OF CONTRA30

Height(m)	Protection Radius(m)			
	Level 1	Level 2	Level 3	Level 4
2	19	22	25	28
4	38	44	31	57
5	48	55	63	71
10	49	75	66	75

The protection radius (R_p) of a ESE terminal is calculated using the following formula as defined in NF C 17-102 (September 2011), namely:

$Rp(h) = \sqrt{2rh - h^2 + \Delta(2r + \Delta)}$ **for h ≥ 5 m**

and

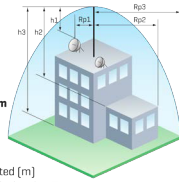
$Rp = h \times Rp_5 / 5$ **for 2 ≤ h < 5 m**

where **h** = height relative to the area being protected (m)

$\mathbf{Rp_5}$ = 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)

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



High voltage impulse emitter	ION GENERATOR unit
Completely autonomous	Testable with ORBITAL Testers
30% more efficient than passive systems	Fully compatible with the standards
Electroatmospheric capacitor-inside	20 years manufacturer warranty