

XIERLI ESE LIGHTNING CONDUCTOR

EARLY STREAMER EMISSION



CONFORMS TO FRENCH STANDARD NFC 17-102

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REP-ESE18

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REP-ESE28

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REP-ESE68

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REP-ESE88

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REP-ESE98



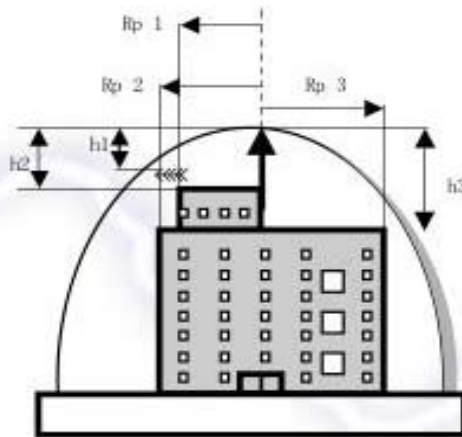
EARLY STREAMER EMISSION LIGHTNING CONDUCTOR SMART-REP SERIES

Product Description and Its Application

- a pick-up point of solid electric copper ,or stainless steel ,permanently connected to earth ,for discharge of collected lightning via a down conductor to earth.
- The upper electrodes: sparks emission
- a waterproof stainless box: connected to earth
- Trigger circuit: hidden in a protective box.
- The lower electrodes: energy collection
- principle of operation: **Smart-ESE** lightning rod collects energy form the atmospheric electrical field , which builds up considerably in storm conditions, when lightning can occur. When the potential electrical field gradient increasement, this energy ,accumulated in the electric device ,is discharged by sparking around the point this specific artificial ionization ,associated to the point effect phenomenon ,improves the attraction power of the lightning rod , and significantly increases the radius of protection. .
- advantage: self-contained working, guaranteed wider range of protection, simple system, with less expensive installation costs ,electronic charge control and distribution in storm conditions, high reliability, maintenance free .

Model Number	REP-ESE18	REP-ESE28	REP-ESE68	REP-ESE88	REP-ESE98
Max. discharge current	≥200KA (10/350μs)				
Capacity against wind speed	≥40m/s				
Length	39CM	39CM	39CM	39CM	39CM
Discharge time in advance (ΔT)	20 μ S	25 μ S	30 μ S	38 μ S	60 μ S
Protection radius	by calculate formula or table				
Material	Stainless steel/copper				
Standard	France NFC17-102 (1995)				

Radius of Protection



R_p: radius of protection in an horizontal plane situated at a vertical distance h of the rod.

$$R_p = \sqrt{h(2D-h + \Delta L(2D+\Delta L))} \text{ For } h \geq 5\text{m.}$$

For $h \leq 5\text{m}$, use the table hereunder

h: height of the top of the point of skyline above the area to protect

D: striking distance as defined in NFC17-102
 20m for Level of Protection 1 (LP-1)
 45m for Level of Protection 2 (LP-2)
 60m for Level of Protection 3 (LP-3)

ΔL : $10 \times \Delta T$, where 10' represents the velocity of lightning

ΔT : initiation advance measured during H.V. Laboratory tests following the Appendix C of the French standard NFC17-102

PROTECTION RADII

LP-1 protection (D=20m)										
h	2	3	4	5	6	7	8	10	15	Maxi (20)
ESE18	15	22	30	37	37	37	38	38	49	50
ESE28	17	25	34	42	42	43	43	43	44	45
ESE68	19	28	38	47	48	48	48	48	49	50
ESE88	21	35	46	56	56	56	56	57	57	58
ESE98	31	47	63	78	78	78	79	79	79	80

LP-2 protection (D=45m)										
h	2	3	4	5	6	8	10	15	20	Maxi (45)
ESE18	20	31	41	51	52	53	54	57	60	65
ESE28	23	34	46	57	58	59	60	63	65	70
ESE68	20	38	50	63	64	65	66	68	70	75
ESE88	30	45	60	72	73	74	75	77	79	83
ESE98	39	58	78	97	97	98	98	100	101	105

LP-3 protecton (D=60m)										
h	2	3	4	5	6	8	10	20	45	Maxi (60)
ESE18	22	35	46	58	59	60	62	69	78	80
ESE28	26	39	52	64	65	67	68	75	83	85
ESE68	28	42	56	71	72	73	74	80	88	90
ESE88	33	50	66	81	81	83	84	89	96	98
ESE98	43	64	85	106	107	108	109	113	119	120



REP-ESE18



REP-ESE28



REP-ESE68



REP-ESE88



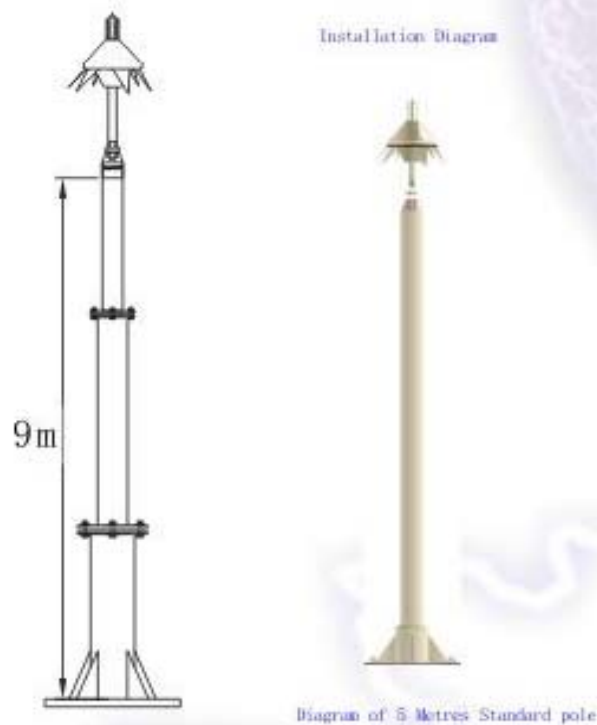
REP-ESE98

INSTALLATION REQUIREMENTS

- **DOWNWARD GUIDING ELECTRIC CONDUCTOR**
One part of the outside SPD, which is used to guide the lightning current from the ESE lightning rod to the earthing terminal system.
Under
- Guiding electric conductor can be fixed to the guiding line of the exterior wall or reinforcing steel bar of the building, which is in accordance to GB50057. And the specification & quantity for guiding line coincide with GB50057
- **EARTHING SYSTEM**
The impact ground resistance for the earthing system is 10Ω or less
- **OUTSIDE SIZE**
- **INSTALLATION SCHEMATIC DIAGRAM**
 - 1, Lock the central pole and the installation connecting piece
 - 2, Lock the screw and the installation connecting piece

Installation Diagram (for reference)

Note: Different user in different place should install the Smart-ESE88 according to its actual situation & wind speed



INSPECTION & MAINTENANCE

- As each part of the SPD will lose its validity along with corrosion, climate, mechanical impact and lightning, its maintenance is extremely important. In addition, during its life, mechanical and electric property of SPD should be well kept so as to meet the request put forward.
- **INITIAL INSPECTION**

Once ESE rod finishes installing, it must be checked to guarantee that it coincides with every clause to this standard.

The purpose to check is to ensure:

 - ESE rod electric conductor is 2 meters higher than the whole protective zone
 - The material and specification of Guiding electric conductor meet GB50057.
 - Guiding electric conductor decides its route as requested, place to put and how to connect electricity.
 - Set each part tightly.
 - Safe distance kept and equipotential bonding completed.
 - Resistance value for earthing terminal system meets GB50057.
 - Earthing terminal system along has electric connecting and meet GB50057.
- **ATTENTION:** rusty environment, regular inspection must be strengthened.

LPS MUST be checked when the protective buildings are being changed or repaired or attacked by lightning.

Note: Lightning or discharge can be counted by the lightning counter device (LCD) installed on one of the guiding electric conductors.
- **INSPECTION REPORT:**

Every detailed report must be done for every regular inspection, including the situation found and the supplementary measures taken in each inspection.
- **MAINTENANCE**

Faults of LPD found in each regular check must be rectified in order to keep it in the best state.

证书号第645782号



外观设计专利证书

外观设计名称：电话机(自动式前面板电话)

设计人：何国华

专利号：ZL 2006 3 0068416.3

专利申请日：2006年8月11日

专利权人：何国华

授权公告日：2007年5月9日

本外观设计经本局依照中华人民共和国专利法进行初步审查，决定授予专利权，颁发本证书并在专利登记簿上予以登记。专利权自授权公告之日起生效。

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局长

何力普



2007年5月9日