FLASH FRANKLIN® LIGHTNING PROTECTION

RECOMENDATION

a. Certification Flash Franklin Lihgtning Protection
b. 10 (Ten) year Warranty
c. Labor Department letter
d. State Electricity Firm and - Indonesian LMK

OBJECTIVITY

a. Building
b. Industry Area
c. Factory
d. Entrepot

Operating System

In the mean time a flock of cloud flow and approach the top of building which has been protected by lightning protection **Flash Franklin**, The electro thees attached in the equipment collect and deposit energy from electrical cloud and electric field. In the capacitor unit after refillin has been adequate the flown to the ion generation. In the same time plenty of atmoshpheric electrical energy among the cloud inform ion generator. This information then managed by ion generator as a trigge to discharge the energy. This triggering will result streamer leader from central pick up rod and awakening protection for terminal unit.

Laboratorium Test
HAMBURG LABORATORY Inc.
Pine Street, Hamburg PA 19521

FLASH FRANKLIN®
Lightning Protection

FLASH FRANKLIN®

Lightning Protection

Distributor :

www.pakarpetir.com

FLASH FRANKLIN®
Lightning Protection

Early Streamer Emission (ESE)
No Power Supply or Solar Cells
No Radioactive
Discharge Current 300 kA
Protection Radius 215 Meter

HAMBURG LABORATORY INC. HLI GERMANY

CE Approved

ILPA International Lightning Protection Association

SNI

FLASH FRANKLIN® DETAIL

Main Rod Receiver
The rod is made of metal high temperature, this rod has capacity to receive lightning flash up to 300 KA.

Electrodes
This electrodes play main role incollect, reserve and deposit energy as sources energy for awakening Early Streamer Emission (ESE) system.

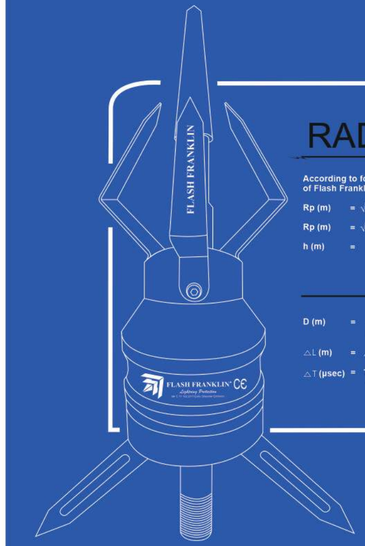
Compact Ion Carbon/Generator
Collect energy from electric field, consist of energy capacitor unit and ion awakening, sensoring and protection ware.

Wing Disseminator
This part is conductor to shoot ion.

Connector Sleeve
This sleeve connector is an accessory for lightning protection installation. The connector functions more as a detterent to the induction and jump of the lightning propagation current from the air terminal to the supporting pipe.

Connector
This part is connector of down conductor.

FLASH FRANKLIN®
Lightning Protection



RADIUS PROTECTION

According to formula defined by French National Standard NF C 17-102:2011, the radius protection (Rp) of Flash Franklin® Lightning Conductor is calculated by the following formula :

Rp (m) = $\sqrt{h\,(2D - h) + \triangle L\,(2D + \triangle L)}$, where $h \geq 5m$

Rp (m) = $\sqrt{h \cdot Rp\,(5) / 5}$, where $2m \leq h < 5m$

h (m) = Height of FLASH FRANKLIN® above the protected area.
If FLASH FRANKLIN® is used to protect the building, the height of the mast should be added by the height of the building to calculate the radius protection at the ground level of the building.

D (m) = Striking distance in value 20m,30m,45m, or 60m depending on the protection level required according to the lightning risk on protected area.

$\triangle L$ (m) = $\triangle T$ (μsec)

$\triangle T$ (μsec) = Triggering advance which determined in High Voltage Laboratory depending on the selected Type of FLASH FRANKLIN®

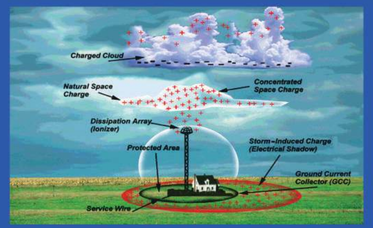
TABLE RADIUS PROTECTION HIGH RISK
12 Meters of Top Structure Building

HIGH	3M	4M	5M	6M	7M	8M	9M	10M	20M
FRANKLIN-03	111	120	127	134	140	146	151	156	197
FRANKLIN-06	134	146	156	166	174	182	190	198	255

TABLE RADIUS STANDARD PROTECTION
12 Meters of Top Structure Building

HIGH	3M	4M	5M	6M	7M	8M	9M	10M	20M
FRANKLIN-03	125	136	145	153	161	168	175	181	232
FRANKLIN-06	153	168	181	193	204	215	224	233	305

Protection Shape
Protection Shape of this Flash Vectron as similliar with cage (look at figur below) so everthing under and inside of the cage will be safe from direct lightning flash.



ABOUT FLASH FRANKLIN®

FLASH FRANKLIN® LIGHTNING PROTECTION SUPREMACY

Flash Franklin® lightning protection is an electrostatic lightning rod, ESE based on and designed exceptional Tropical Zone like Indonesia Country.

1. Design by Indonesian lightning engineer and Germany architect,
2. Secure Terminal Unit,
3. Free Maintenance,
   - No Power Supply or solar cells
   - No Radioactive
   - Discharge Curent 300kA
4. More Pratice, designed easily for installation in ground,
5. Highly material,
6. More Economic and Affordable Value,
7. Current Technologist (Exceptional Tropical Zone)
8. Trustworthlu Produce
9. Main Body of the Lightning Terminal is anti-corrosion metal

FLASH FRANKLIN® LIGHTNING CABLES

EXTERNAL INSTALLATION

INTERNAL/EXT INSTALLATION

HIGH EXTERNAL INSTALLATION

When the installation of lightning conductor cable placed outside away from building and other installation (electrical and data) or away from the reach of the occupants can use the cable cord BCC (Bare copper conductor) at least 50 mm, with cheap consideration.

Meanwhile, when the ani-lightning conductor cable in put away from the buildings and other installation (electrical, data) or away from the reach of the occupants can use cbale NYY 50mm or 70mm cable with consideration enough to with stand lightning induction.

NYA exact same cable with NYY, make into the NYY cable that has two insulators or two layers of copper wrapping, wrapping one layer while the NYA or the insulator.

And when the path installation can not keep it away from other installation (electrical, data,control,etc) then the cable that can withstand voltage breakdown/induction (inception voltage) flow lightning , for example N2XSY Coaxial cable and 2x35mm.

FLASH FRANKLIN®
Lightning Protection