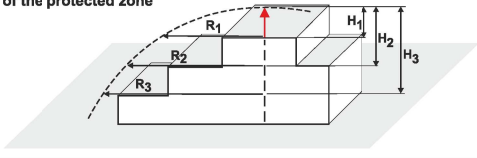
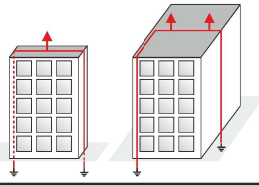


### Radii of the protected zone

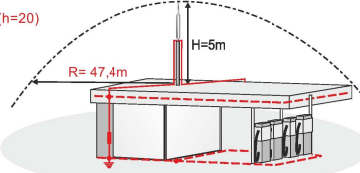


### Connections to the earthing system

Each lightning conductor has two connections to the ground - one belonging to this conductor and another one which may be a natural connection or belong to another lightning conductor (earthing system resistance  $R_s \leq 10 \text{ Ohm}$ ).



### Filling station protection level I (h=20)

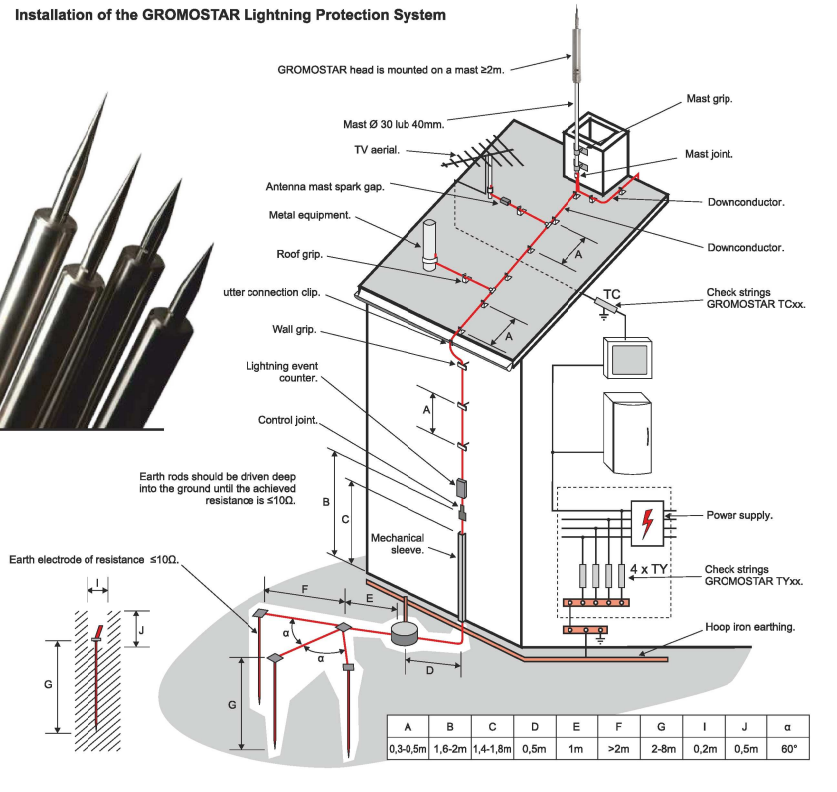


### Radii of the protection zone ( in accordance with NFC 17-102 )

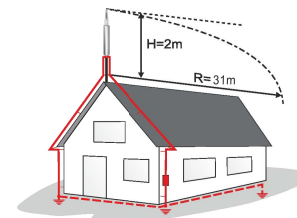
$\Delta T$	Protection level (efficiency)	Protection radius R[m] for H=						
		2m	3m	4m	5m	7m	10m	20m
60	I (98%)	31 (18,6)*	47	63	79 (47,4)*	79	79	80
45		26	39	51	63	63	64	65
35		23	30	36	49	50	51	52
25		17	25	34	42	43	44	45
60	II (95%)	35	53	70	88	88	88	90
45		30	44	58	72	72	73	75
35		25	35	44	57	58	58	62
25		20	29	40	50	50	52	55
60	III (90%)	39	58	78	97	98	99	102
45		33	49	65	80	81	83	86
35		27	40	52	65	67	68	73
25		23	34	46	57	58	63	65
60	IV (80%)	43	64	85	107	108	109	113
45		36	54	71	89	90	92	97
35		30	47	64	73	75	77	82
25		26	39	52	65	66	69	75

Concerns facilities that require protection at the 1++ level (99.9%), and facilities that are hazardous to the environment (danger coefficient  $h=20$ , EN 62305-2) or ones that may cause environmental contamination (danger coefficient  $h=50$ , EN 62305-2) protection radii must be reduced by 40%.  $\Delta T$  - time advance. The value of the H height is equal to the difference in height between the blade of the head and the highest point of the protected facility, minimum 2m.

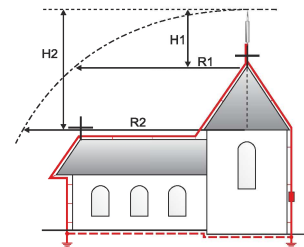
### Installation of the GROMOSTAR Lightning Protection System



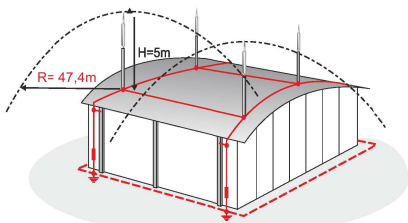
### Lightning protection of a detached house



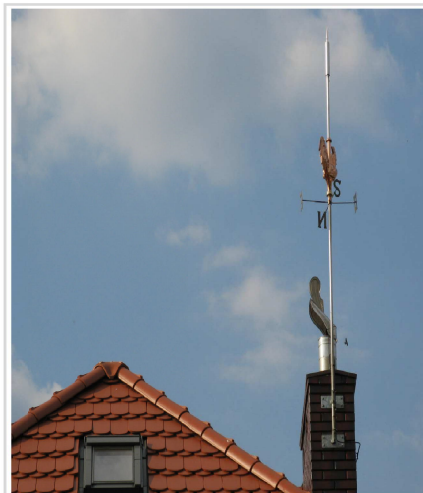
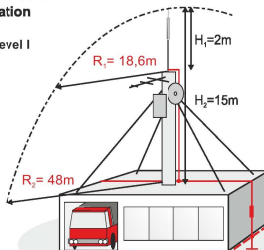
### Lightning protection of a church



### Airbus A380 aircraft hangar protection (100x100x40 m) Protection level I (h=20)



### Protection of building objects with radio communication masts Protection level I (h=20)



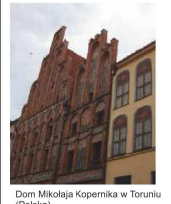
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Uniwersytet Warszawski (Polka)



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Komenda Powiatowa Państwowej Straży Pożarnej w Pabianicach (Polka)



Władztw w Milibu (Francia)



Hangary Air France-Lotnisko Roissy - Charles de Gaulle Paryż (Francia)



Panthéon Paryż (Francia)

## Lightning protection



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