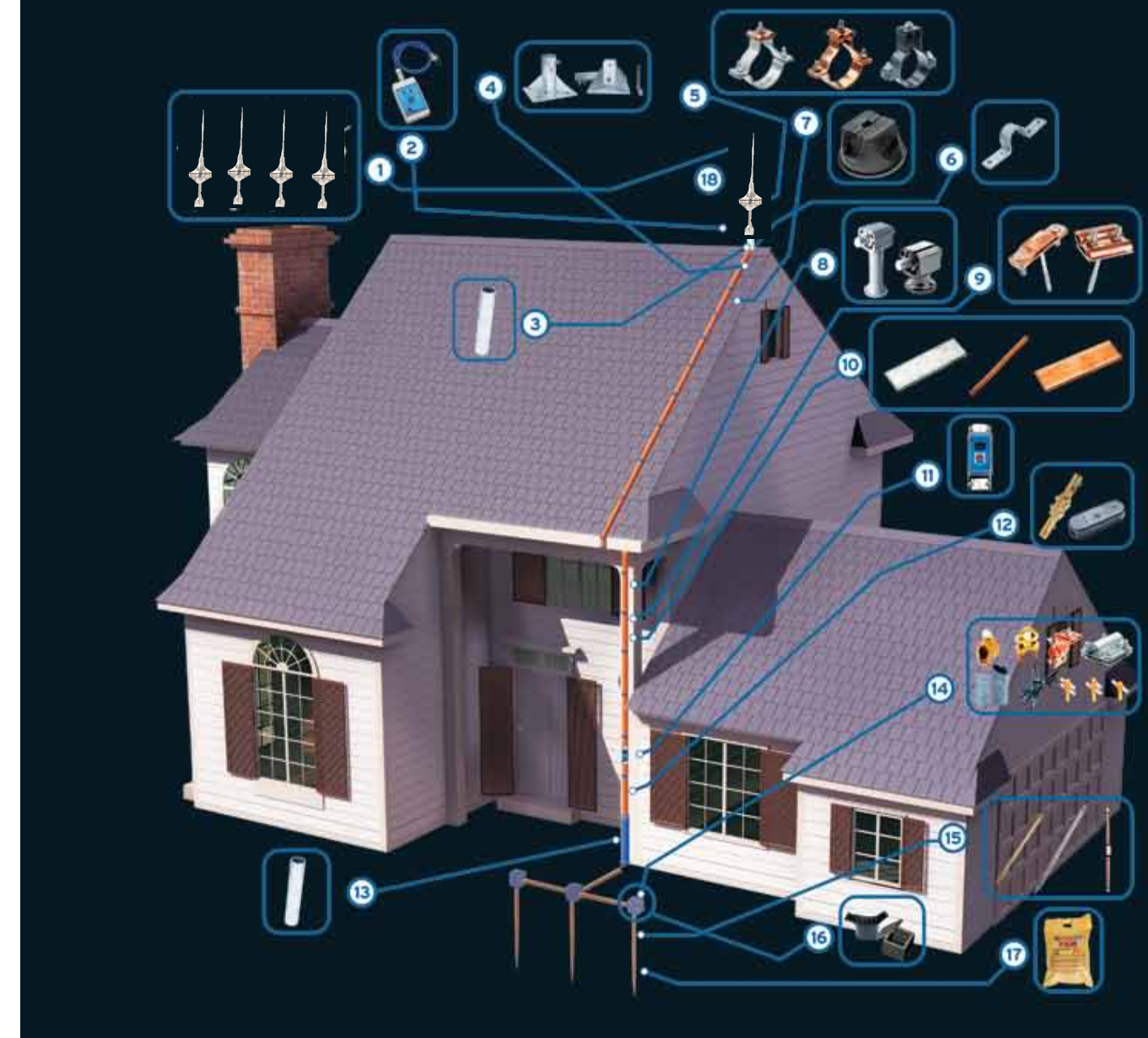


TONNERRE Some Various Products




TONNERRE ELECTRICAL MATERIALS & FOREIGN TRADE CO.
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AUTHORIZED DISTRIBUTOR




TONNERRE E.S.E. Lightning Conductors




TN-15

Ref. NO: F10120
Material: Stainless
 ΔT : Acc.to NFC-17 102: ΔT : 15 μ s
Weight (kg): 2,30
Height (cm): 50




TN-30

Ref. NO: F10117
Material: Stainless
 ΔT : Acc.to NFC-17 102: ΔT : 30 μ s
Weight (kg): 2,40
Height (cm): 50



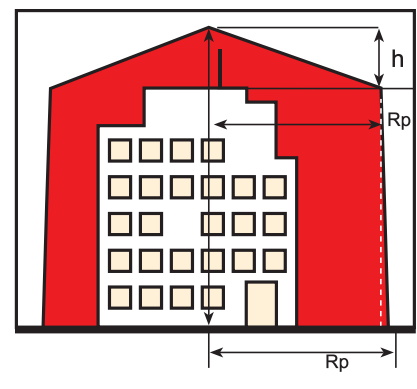
TN-45

Ref. NO: F10115
Material: Stainless
 ΔT : Acc.to NFC-17 102: ΔT : 45 μ s
Weight (kg): 2,50
Height (cm): 50



TN-60


Ref. NO: F10105
Material: Stainless Steel
 ΔT : Acc.to NFC-17 102: ΔT : 60 μ s
Weight (kg): 3,20
Height (cm): 63



As TONNERRE all E.S.E lightning conductors operate within the temperature range of (°C) = - 40° to + 120° and they are manufactured according to IP 65

Rp (m)	TONNERRE TN-30 ($\Delta L=30m$)				TONNERRE TN-45 ($\Delta L=45m$)				TONNERRE TN-60 ($\Delta L=60m$)			
	$\Delta T = 30\mu s$				$\Delta T = 45\mu s$				$\Delta T = 60\mu s$			
h(m)	Level I	Level II	Level III	Level IV	Level I	Level II	Level III	Level IV	Level I	Level II	Level III	Level IV
2	19	22	25	28	25	28	32	36	31	35	39	43
4	38	44	51	57	51	57	64	72	63	69	78	85
5	48	55	63	71	63	71	81	89	79	86	97	107
6	48	55	64	72	63	71	81	90	79	87	97	107
8	49	56	65	73	64	72	82	91	79	87	98	108
10	49	57	66	75	64	72	83	92	79	88	99	109
20	50	59	71	81	65	74	86	97	80	89	102	113
30	50	60	73	85	65	75	89	101	80	90	104	116
60	50	60	75	90	65	75	90	105	80	90	105	120

TONNERRE FSP (Forend Led Beacon Light)




	FSP-24	FSP-48	FSP-220
Power Supply	24 V AC/V DC	36-72 V AC/V DC	220 V AC
Power Consumption	max. 3W		
Luminescence Intensity (typical)	32 cd		
Luminescence Intensity (max)	46 cd		
Height x Diameter (mm)	206x135		
Operating Temperature (°C) *	-40° to 55°C		
Weight(kg)	1,50		

Produced according to IP 65 *

* Our products have been tested in ELDAS Laboratory accredited by TURKAK.

TONNERRE LSC (Forend Lightning Strike Counter)



- Produced according to IP 65 *
- Nonresetable
- Testable with a 9 V Battery
- Detects current from 2 to 100 kA
- Mechanical Counter with 6 digits
- Easy montage
- Does not require any external power supply
- Serial Counter
- Dimensions: 11,3x7x4,8 cm. FOREND Lightning Strike Counter has a certificate from METU Middle East Technical University - ODTÜ
- Operating Temperature (°C): - 40° to + 60°

* Our products have been tested in ELDAS Laboratory accredited by TURKAK.

TONNERRE Lightning Conductor Tester

TONNERRE Active Lightning Conductors can be checked for operation by a Forend Tester any time. The tester will indicate OK or FAULT indicated by a red or green LED .



T.A.M. Technical Additive Material



TAM's Advantages

- TAM is an effective material.
- TAM lowers electrical resistance of earth.
- TAM provides stable resistance for the life of the system once in its set form.
- TAM performs in all soil types.


TONNERRE Exothermic Welding Systems

Superiority of Exothermic Welding

- The Exothermic connection is a molecular weld, and the weld metal has the same melting points as copper. Because of these factors, along with the increased cross section of the connection, exothermic welded connections.
- Does not dissolve in time.
- Does not lose substance or will not corrode when molecular bond occurs.




TONNERRE Surge Protection Devices




Class I

Ref No FBB-100
Material Encapsulated Gas Discharge Tube 100kA




Class II

Ref No FCC-230
Material Surge Arresters 15kA (8/20)



Class III

Ref No FIDP-16
Material Protected socket with high freq. filter, 8Ka (8/20) 16 A



Coaxial Protection

Ref No FKO-1
Material For BNC Connector