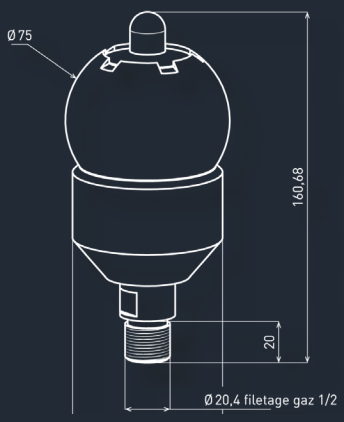
IONIFLASH MACH® NG15

EARLY STREAMER EMISSION AIR TERMINAL

TECHNICAL DATASHEET



CHARACTERISTICS

Reference	90315	
Designation	**IONIFLASH MACH® NG15**	
Durability *(No planned obsolescence)* **Warranty**	35 years **10 years**	
Efficiency NF C 17-102:2011	ΔT	15µs
Insulation IEC 60060-1	>97%	
Net Weight	1,8kg	
Fastening	Triple security on anti-vibration pole	

PERFORMANCES

Security of the current flowing IEC 62561	Electrical and physical continuity from the IONIFLASH® to the earth – Axle 16mm	
ESEAT / Simple rod Standard deviation	σ	σ (ESEAT) < 0.755 σ (Simple rod)
Lightning strike: IEC 62561 / NF C 17-102:2011 (wave 10/350µs)	Standard Test	100kA
		214kA
Functioning for positive and negative lightning strikes	Range of detection of the frequency spectrum of lightning (0 to 10MHz). Self-contained triggering of the leader	
Early streamer emission spherical technology	New Generation Patent FR2953337	
Reliability of the protection – Repeatability of the answer of the upward leader	Stability of the laboratory tests and in situ tests (Ampère CNRS / In situ France telecom)	
Safety in extreme climatic conditions	Direct electrostatic activation with internal and external double spark gaps	
Security of the lightning current flowing	Manufacturing with passed through axle of 16mm diameter	
Resistance to corrosion	AISI / Solid 316L stainless steel	
Testing device	Checking with **IONITEST®** device	

INSTALLATION AND ACCESSORIES

Installation	Delivered ready to be installed – without electronic components
Connection to the down conductor	Stainless steel or tinplated copper collar
Accessories	High safety fastening piece
Documentation	Warranty and authentication certificate can be download on www.check.ioniflash.com Guide book – Control report

CERTIFICATIONS

NF C 17-102:2011	Certificate Bureau Veritas
Qualifoudre (INERIS)	Certificate N° 051168729019
Carbon Footprint	**Carbon Footprint 0933 C240 Ademe**
ISO 9001/2015	Certifié ISO 9001

CE

La FRENCH FAB

CONFORM TO
NF C 17-102 : 2011
IEC 60060-1

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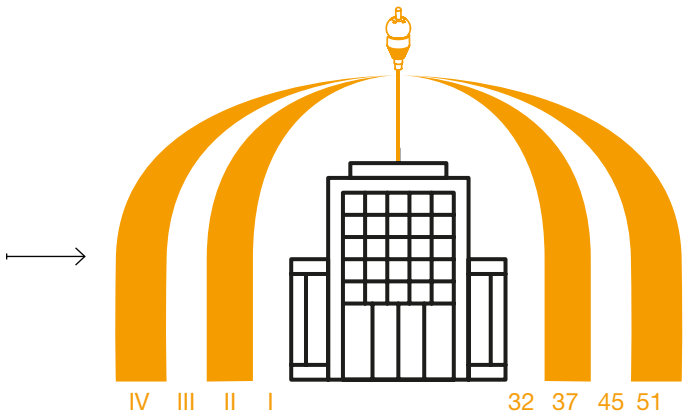
IONIFLASH *MACH*® NG15

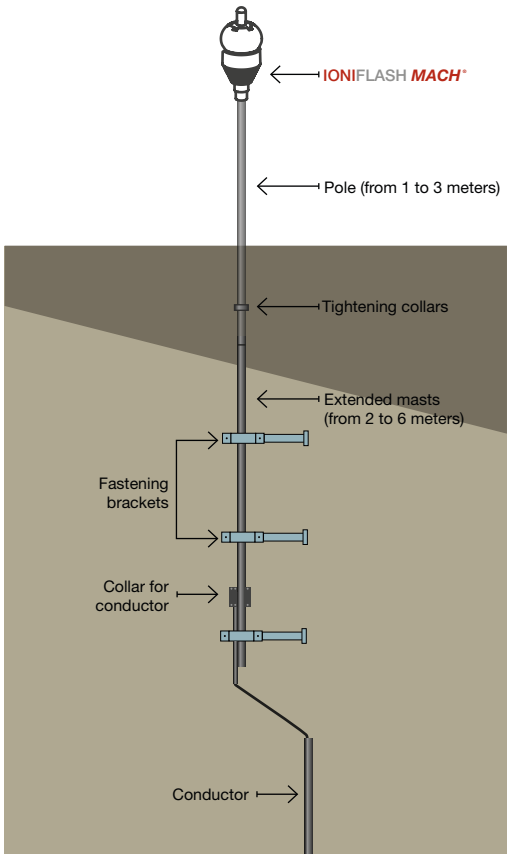
EARLY STREAMER EMISSION AIR TERMINAL

RADIUS OF PROTECTION

RADIUS OF PROTECTION OF IONIFLASH MACH® NG15 NFC 17102 (2011)				
Height (m)	**Level I**	**Level II**	**Level III**	**Level IV**
2	13	15	18	20
5	32	37	45	51
8	33	39	47	54
10	34	40	49	56
15	35	42	52	60
20	35	44	55	63
30	34	45	58	69
45	24	42	60	73
60		34	58	75



The level of protection is given using NFC 17-102 ed. 2011, or EN 62305-2, or using the FDC 17-108 guide. If the site presents a risk for the environment the protection radius must be reduced of 40%. For a level of protection I++ [cf. 5.2.3.5 NFC 17-102], the radius of protection must be reduced of 40%



RELIABILITY OF THE IONIFLASH MACH®

- Higher efficiency demonstrated
- Double security thanks to the two spark gaps dimensioned to have an operating range adapted to the frequential spectrum of the lightning (0 to 10 MHz)
- Electrical and physical continuity from the IONIFLASH® tip to the earth
- Reliable and autonomous device even in extreme climatic conditions
- Support tools fort the study and installation (software IONEXPERT 3000®, operational tests devices IONICHECK®, IONICOUNT® impulse counter)
- 10 years guarantee. Lifetime of 35 years.
- 316L stainless steel, protective fairing.
- Lowest carbon footprint 33kg eq. CO2 / unit
- Net weight: 1,8kg – quick fastening
- Tested in accordance to the standards NFC 17-102 ed. 2011, EN 50164-1, IEC 60060-1, UNE 21186, manufacturing in accordance with ISO 9001: 2015

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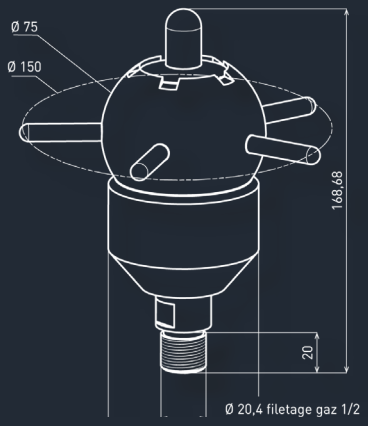
IONIFLASH PLANET

IONIFLASH MACH® NG25

EARLY STREAMER EMISSION AIR TERMINAL



IONIFLASH MACH®
33 kg Eq CO2
Bilan Carbone France Paratonnerres

CE

La FRENCH FAB

CONFORM TO
NF C 17-102 : 2011
IEC 60060-1

TECHNICAL DATASHEET

CHARACTERISTICS

Reference	90325	
Designation	**IONIFLASH MACH® NG25**	
Durability *(No planned obsolescence)* **Warranty**	35 years **10 years**	
Efficiency NF C 17-102:2011	ΔT	25µs
Insulation IEC 60060-1	>97%	
Net Weight	1,9kg	
Fastening	Triple security on anti-vibration pole	

PERFORMANCES

Security of the current flowing IEC 62561	Electrical and physical continuity from the IONIFLASH® to the earth – Axle 16mm	
ESEAT / Simple rod Standard deviation	σ	σ (ESEAT) < 0,23 σ (Simple rod)
Lightning strike: IEC 62561 / NF C 17-102:2011 (wave 10/350µs)	Standard Test	100kA
		214kA
Functioning for positive and negative lightning strikes	Range of detection of the frequency spectrum of lightning (0 to 10MHz). Self-contained triggering of the leader	
Early streamer emission spherical technology	New Generation Patent FR2953337	
Reliability of the protection – Repeatability of the answer of the upward leader	Stability of the laboratory tests and in situ tests (Ampère CNRS / In situ France telecom)	
Safety in extreme climatic conditions	Direct electrostatic activation with internal and external double spark gaps	
Security of the lightning current flowing	Manufacturing with passed through axle of 16mm diameter	
Resistance to corrosion	AISI / Solid 316L stainless steel	
Testing device	Checking with **IONITEST®** device	

INSTALLATION AND ACCESSORIES

Installation	Delivered ready to be installed – without electronic components
Connection to the down conductor	Stainless steel or tinplated copper collar
Accessories	High safety fastening piece
Documentation	Warranty and authentication certificate can be download on www.check.ioniflash.com Guide book – Control report

CERTIFICATIONS

NF C 17-102:2011	Certificate Bureau Veritas
Qualifoudre (INERIS)	Certificate N° 051168729019
Carbon Footprint	**Carbon Footprint 0933 C240 Ademe**
ISO 9001/2015	Certificate ISO 9001

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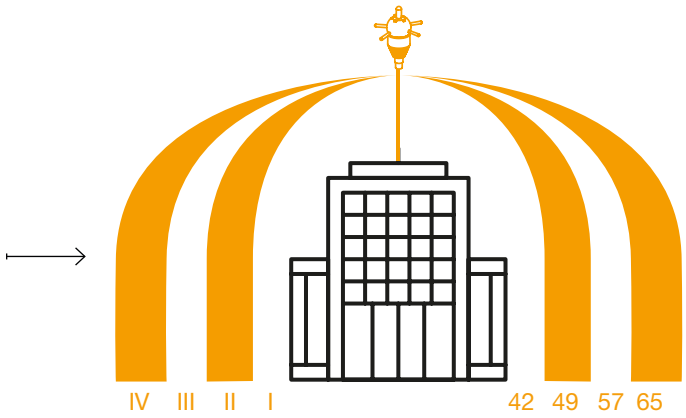
IONIFLASH *MACH*® NG25

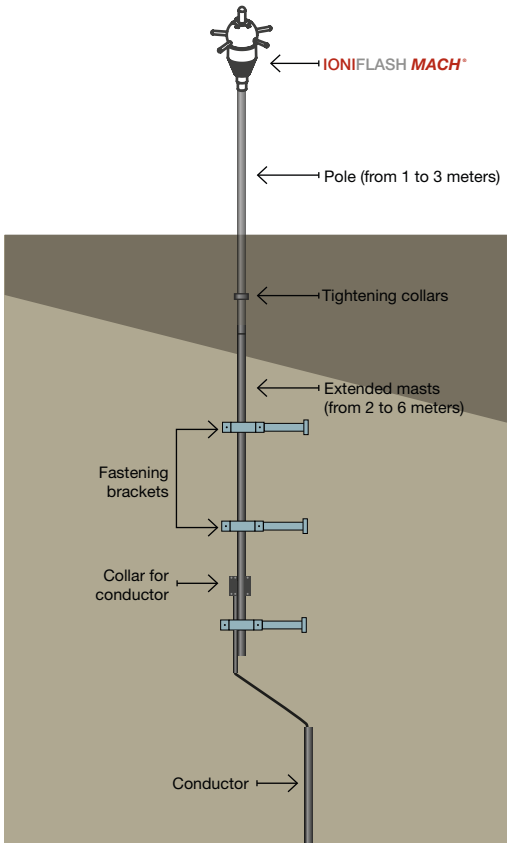
EARLY STREAMER EMISSION AIR TERMINAL

RADIUS OF PROTECTION

RADIUS OF PROTECTION OF IONIFLASH MACH® NG25 NFC 17102 (2011)				
Height (m)	**Level I**	**Level II**	**Level III**	**Level IV**
2	17	20	23	26
5	42	49	57	65
8	43	50	59	67
10	44	51	61	69
15	45	53	63	72
20	45	54	65	75
30	44	55	68	80
45	37	53	70	84
60	21	46	68	85



The level of protection is given using NFC 17-102 ed. 2011, or EN 62305-2, or using the FDC 17-108 guide. If the site presents a risk for the environment the protection radius must be reduced of 40%. For a level of protection I++ [cf. 5.2.3.5 NFC 17-102], the radius of protection must be reduced of 40%



RELIABILITY OF THE IONIFLASH MACH®

- Higher efficiency demonstrated
- Double security thanks to the two spark gaps dimensioned to have an operating range adapted to the frequential spectrum of the lightning (0 to 10 MHz)
- Electrical and physical continuity from the IONIFLASH® tip to the earth
- Reliable and autonomous device even in extreme climatic conditions
- Support tools fort the study and installation (software IONEXPERT 3000®, operational tests devices IONICHECK®, IONICOUNT® impulse counter)
- 10 years guarantee. Lifetime of 35 years.
- 316L stainless steel, protective fairing.
- Lowest carbon footprint 33kg eq. CO2 / unit
- Net weight: 1,9kg – quick fastening
- Tested in accordance to the standards NFC 17-102 ed. 2011, EN 50164-1, IEC 60060-1, UNE 21186, manufacturing in accordance with ISO 9001: 2015

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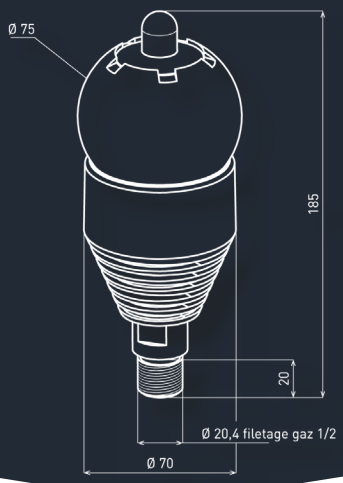
IONIFLASH PLANET

IONIFLASH MACH® NG30

EARLY STREAMER EMISSION AIR TERMINAL



IONIFLASH MACH®
33 kg Eq CO2
Bilan Carbone France Paratonnerres

CE

La FRENCH FAB

CONFORM TO
NF C 17-102 : 2011
IEC 60060-1

TECHNICAL DATASHEET

CHARACTERISTICS

Reference	90130	
Designation	**IONIFLASH MACH® NG30**	
Durability *(No planned obsolescence)* **Warranty**	35 years **10 years**	
Efficiency NF C 17-102:2011	ΔT	30µs
Insulation IEC 60060-1	>97%	
Net Weight	2.0kg	
Fastening	Triple security on anti-vibration pole	

PERFORMANCES

Security of the current flowing IEC 62561	Electrical and physical continuity from the IONIFLASH® to the earth – Axle 16mm	
ESEAT / Simple rod Standard deviation	σ	σ (ESEAT) < 0,76 σ (Simple rod)
Lightning strike: IEC 62561 / NF C 17-102:2011 (wave 10/350µs)	Standard Test	100kA
		214kA
Functioning for positive and negative lightning strikes	Range of detection of the frequency spectrum of lightning (0 to 10MHz). Self-contained triggering of the leader	
Early streamer emission spherical technology	New Generation Patent FR2953337	
Reliability of the protection – Repeatability of the answer of the upward leader	Stability of the laboratory tests and in situ tests (Ampère CNRS / In situ France telecom)	
Safety in extreme climatic conditions	Direct electrostatic activation with internal and external double spark gaps	
Security of the lightning current flowing	Manufacturing with passed through axle of 16mm diameter	
Resistance to corrosion	AISI / Solid 316L stainless steel	
Testing device	Checking with **IONITEST®** device	

INSTALLATION AND ACCESSORIES

Installation	Delivered ready to be installed – without electronic components
Connection to the down conductor	Stainless steel or tinplated copper collar
Accessories	High safety fastening piece
Documentation	Warranty and authentication certificate can be download on www.check.ioniflash.com Guide book – Control report

CERTIFICATIONS

NF C 17-102:2011	Certificate Bureau Veritas
Qualifoudre (INERIS)	Certificate N° 051168729019
Carbon Footprint	**Carbon Footprint 0933 C240 Ademe**
ISO 9001/2015	Certificate ISO 9001

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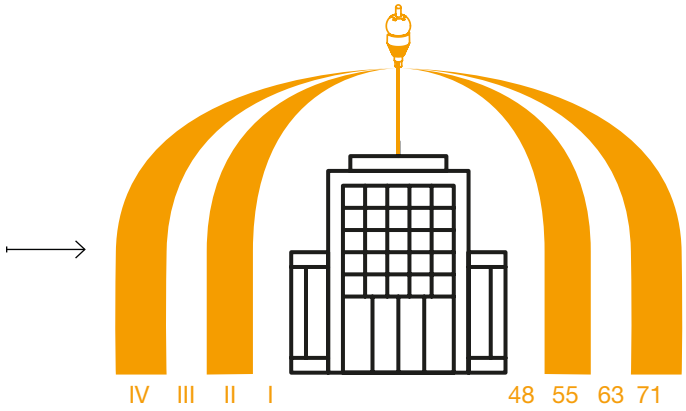
IONIFLASH *MACH*® NG30

EARLY STREAMER EMISSION AIR TERMINAL

RADIUS OF PROTECTION

RADIUS OF PROTECTION OF IONIFLASH MACH® NG30 NFC 17102 (2011)				
Height (m)	**Level I**	**Level II**	**Level III**	**Level IV**
2	19	22	25	28
5	48	55	63	71
8	49	56	65	73
10	49	57	66	75
15	50	58	69	78
20	50	59	71	81
30	49	60	73	85
45	43	58	75	89
60	30	52	73	90



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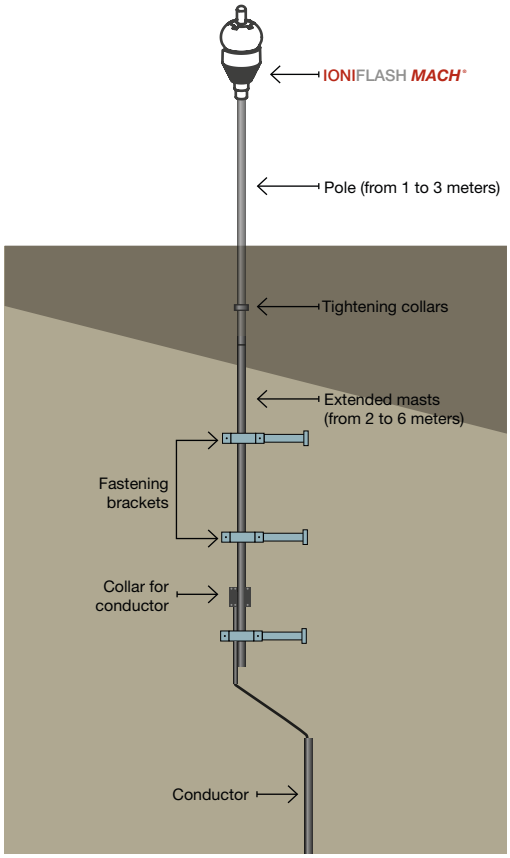

RELIABILITY OF THE IONIFLASH MACH®

- Higher efficiency demonstrated
- Double security thanks to the two spark gaps dimensioned to have an operating range adapted to the frequential spectrum of the lightning (0 to 10 MHz)
- Electrical and physical continuity from the IONIFLASH® tip to the earth
- Reliable and autonomous device even in extreme climatic conditions
- Support tools fort the study and installation (software IONEXPERT 3000®, operational tests devices IONICHECK®, IONICOUNT® impulse counter)
- 10 years guarantee. Lifetime of 35 years.
- 316L stainless steel, protective fairing.
- Lowest carbon footprint 33kg eq. CO2 / unit
- Net weight: 2.0kg – quick fastening
- Tested in accordance to the standards NFC 17-102 ed. 2011, EN 50164-1, IEC 60060-1, UNE 21186, manufacturing in accordance with ISO 9001: 2015

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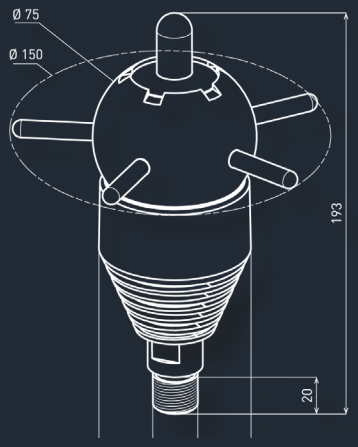
IONIFLASH PLANET

IONIFLASH MACH® NG45

EARLY STREAMER EMISSION AIR TERMINAL



IONIFLASH MACH®
33 kg Eq CO2
Bilan Carbone France Paratonnerres

CE

La FRENCH FAB

CONFORM TO
NF C 17-102 : 2011
IEC 60060-1

TECHNICAL DATASHEET

CHARACTERISTICS

Reference	90145	
Designation	**IONIFLASH MACH® NG45**	
Durability *(No planned obsolescence)* **Warranty**	35 years **10 years**	
Efficiency NF C 17-102:2011	ΔT	45µs
Insulation IEC 60060-1	>97%	
Net Weight	2.1kg	
Fastening	Triple security on anti-vibration pole	

PERFORMANCES

Security of the current flowing IEC 62561	Electrical and physical continuity from the IONIFLASH® to the earth – Axle 16mm	
ESEAT / Simple rod Standard deviation	σ	σ (ESEAT) < 0,17 σ (Simple rod)
Lightning strike: IEC 62561 / NF C 17-102:2011 (wave 10/350µs)	Standard Test	100kA
		214kA
Functioning for positive and negative lightning strikes	Range of detection of the frequency spectrum of lightning (0 to 10MHz). Self-contained triggering of the leader	
Early streamer emission spherical technology	New Generation Patent FR2953337	
Reliability of the protection – Repeatability of the answer of the upward leader	Stability of the laboratory tests and in situ tests (Ampère CNRS / In situ France telecom)	
Safety in extreme climatic conditions	Direct electrostatic activation with internal and external double spark gaps	
Security of the lightning current flowing	Manufacturing with passed through axle of 16mm diameter	
Resistance to corrosion	AISI / Solid 316L stainless steel	
Testing device	Checking with **IONITEST®** device	

INSTALLATION AND ACCESSORIES

Installation	Delivered ready to be installed – without electronic components
Connection to the down conductor	Stainless steel or tinplated copper collar
Accessories	High safety fastening piece
Documentation	Warranty and authentication certificate can be download on www.check.ioniflash.com Guide book – Control report

CERTIFICATIONS

NF C 17-102:2011	Certificate Bureau Veritas
Qualifoudre (INERIS)	Certificate N° 051168729019
Carbon Footprint	**Carbon Footprint 0933 C240 Ademe**
ISO 9001/2015	Certificate ISO 9001

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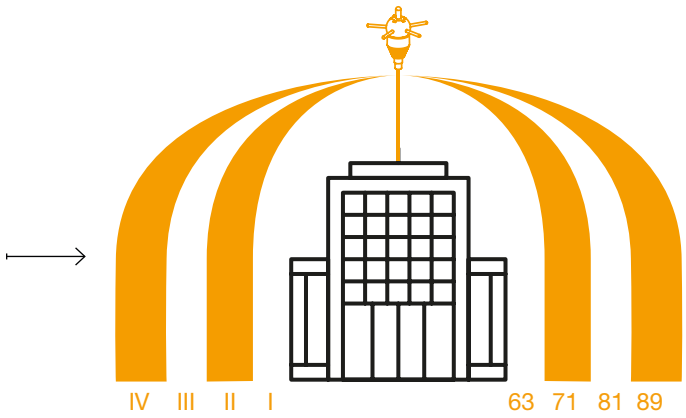
IONIFLASH MACH® NG45

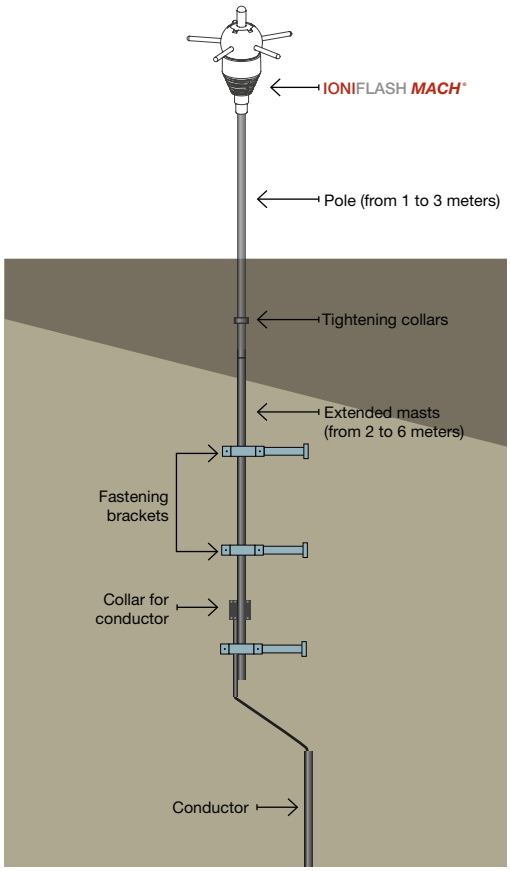
EARLY STREAMER EMISSION AIR TERMINAL

RADIUS OF PROTECTION

RADIUS OF PROTECTION OF IONIFLASH MACH® NG45 NFC 17102 (2011)				
Height (m)	**Level I**	**Level II**	**Level III**	**Level IV**
2	25	28	32	36
5	63	71	81	89
8	64	72	82	91
10	64	72	83	92
15	65	73	85	95
20	65	74	86	97
30	64	75	89	101
45	60	73	90	104
60	51	69	89	105



The level of protection is given using NFC 17-102 ed. 2011, or EN 62305-2, or using the FDC 17-108 guide. If the site presents a risk for the environment the protection radius must be reduced of 40%. For a level of protection I++ [cf. 5.2.3.5 NFC 17-102], the radius of protection must be reduced of 40%



RELIABILITY OF THE IONIFLASH MACH®

- Higher efficiency demonstrated
- Double security thanks to the two spark gaps dimensioned to have an operating range adapted to the frequential spectrum of the lightning (0 to 10 MHz)
- Electrical and physical continuity from the IONIFLASH® tip to the earth
- Reliable and autonomous device even in extreme climatic conditions
- Support tools fort the study and installation (software IONEXPERT 3000®, operational tests devices IONICHECK®, IONICOUNT® impulse counter)
- 10 years guarantee. Lifetime of 35 years.
- 316L stainless steel, protective fairing.
- Lowest carbon footprint 33kg eq. CO2 / unit
- Net weight: 2.1kg – quick fastening
- Tested in accordance to the standards NFC 17-102 ed. 2011, EN 50164-1, IEC 60060-1, UNE 21186, manufacturing in accordance with ISO 9001: 2015

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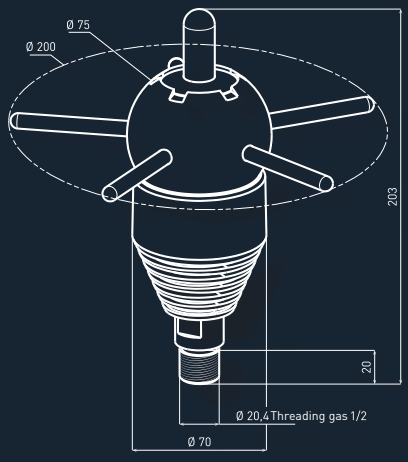
IONIFLASH PLANET

IONIFLASH MACH® NG60

EARLY STREAMER EMISSION AIR TERMINAL

TECHNICAL DATASHEET



CHARACTERISTICS

Reference	90160	
Designation	**IONIFLASH MACH® NG60**	
Durability *(No planned obsolescence)* **Warranty**	35 years **10 years**	
Efficiency NFC 17-102/2011 C	ΔT	60µs
Insulation IEC 60060-1	>97%	
Net Weight	2.2kg	
Fastening	Triple security on anti-vibration pole	

PERFORMANCES

Security of the current flowing IEC 62561	Electrical and physical continuity from the IONIFLASH® to the earth – Axle 16mm	
ESEAT / Simple rod Standard deviation	σ	σ (ESEAT) < 0,28 σ (Simple rod)
Lightning strike: IEC 62561 / NFC 17102 (wave 10/350µs)	Standard Test	100kA
		214kA
Functioning for positive and negative lightning strikes	Range of detection of the frequency spectrum of lightning (0 to 10MHz). Self-contained triggering of the leader	
Early streamer emission spherical technology	New Generation Patent FR2953337	
Reliability of the protection – Repeatability of the answer of the upward leader	Stability of the laboratory tests and in situ tests (Ampère CNRS / In situ France telecom)	
Safety in extreme climatic conditions	Direct electrostatic activation with internal and external double spark gaps	
Security of the lightning current flowing	Manufacturing with passed through axle of 16mm diameter	
Resistance to corrosion	AISI / Solid 316L stainless steel	
Testing device	Checking with **IONITEST®** device	

INSTALLATION AND ACCESSORIES

Installation	Delivered ready to be installed – without electronic components
Connection to the down conductor	Stainless steel or tinplated copper collar
Accessories	High safety fastening piece
Documentation	Warranty and authentication certificate can be download on www.checkioniflash.com Guide book – Control report

CERTIFICATIONS

NFC 17102/2011 C	Certificate Bureau Veritas N°6075094-1
Underwriter Laboratories (UL)	**UL certified N° 20180105-E493082**
Qualifoudre (INERIS)	Certificate N° 051168729019
Carbon Footprint	**Carbon Footprint 0933 C240 Ademe**
ISO 9001/2015	Certificate N° FR 034743-1

CERTIFIED

Qualifoudre INERIS N° : 051168729019

IONIFLASH MACH® 33 kg Eq CO2

CE

CONFORM TO NF C 17-102 : 2011 IEC 60060-1

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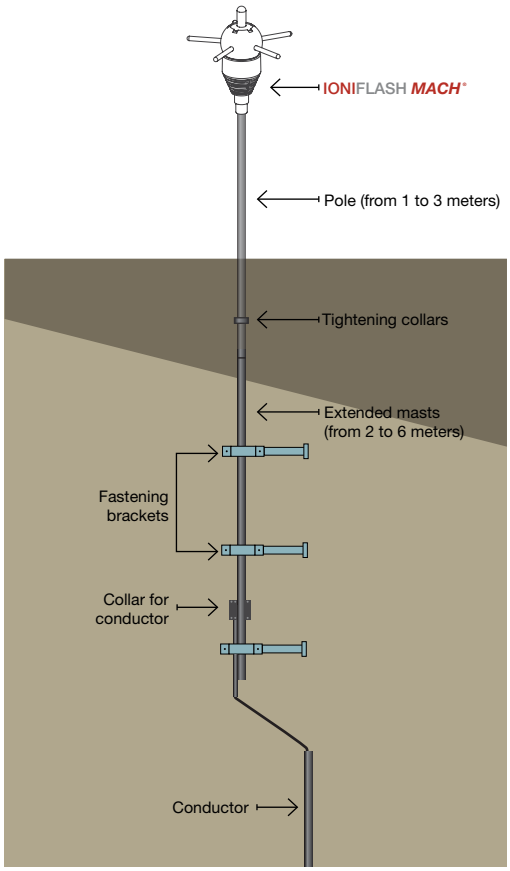
IONIFLASH *MACH*® NG60

EARLY STREAMER EMISSION AIR TERMINAL

RADIUS OF PROTECTION

RADIUS OF PROTECTION OF IONIFLASH MACH® NG60 NFC 17102 (2011)				
Height (m)	**Level I**	**Level II**	**Level III**	**Level IV**
2	31	35	39	43
5	79	86	97	107
8	79	87	98	108
10	79	88	99	109
15	80	89	101	111
20	80	89	102	113
30	79	90	104	116
45	76	89	105	119
60	69	85	104	120

The level of protection is given using NFC 17-102 ed. 2011, or EN 62305-2, or using the FDC 17-108 guide. If the site presents a risk for the environment the protection radius must be reduced of 40%. For a level of protection I++ [cf. 5.2.3.5 NFC 17-102], the radius of protection must be reduced of 40%



RELIABILITY OF THE IONIFLASH MACH®

- Higher efficiency demonstrated
- Double security thanks to the two spark gaps dimensioned to have an operating range adapted to the frequential spectrum of the lightning (0 to 10 MHz)
- Electrical and physical continuity from the IONIFLASH® tip to the earth
- Reliable and autonomous device even in extreme climatic conditions
- Support tools fort the study and installation (software IONEXPERT 3000®, operational tests devices IONICHECK®, IONICOUNT® impulse counter)
- 10 years guarantee. Lifetime of 35 years.
- 316L stainless steel, protective fairing.
- Lowest carbon footprint 33kg eq. CO2 / unit
- Net weight: 2.2kg – quick fastening
- Tested in accordance to the standards NFC 17-102 ed. 2011, EN 50164-1, IEC 60060-1, UNE 21186, manufacturing in accordance with ISO 9001: 2015

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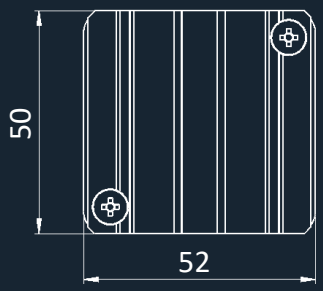
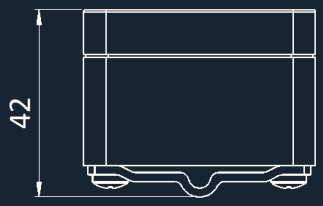
IONICOUNT®

ELECTROMECHANICAL LIGHTNING IMPULSE COUNTER

TECHNICAL DATASHEET





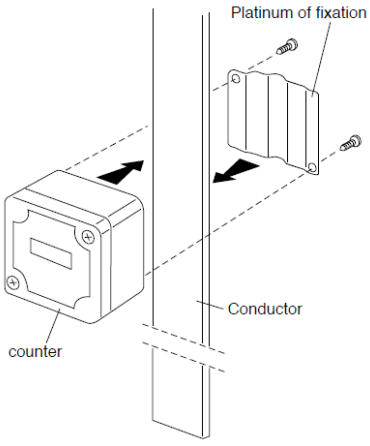
CHARACTERISTICS

Reference	30 002
Description	**IONICOUNT®**
Technology	Electromechanical
Function mode	The fields generated by lightning current activates the electromechanical counter
Detection range	1 kA – 100 kA
Registering	Until 999 999 events
Tested in the factory	Counter delivered with display : 000001
Power suplly	Totally autonomous. Does not need any power supply
Protection Index	IP66
Operating temperatures	-25°C to +70°C
Dimensions	52 x 50 x 35 mm
Weight	200 g

INSTALLATION

Parallel fastening	Without conductor disconnection
Connection	Directly on the earth conductor
Size	Discrete installation on the down conductor
Solidity and reliability	High resistance to extreme climatic conditions (rain, sun,freezing…)

External Installation



Internal Installation

CERTIFICATIONS AND STANDARDS

NF EN 62 561-6	Lightning protection system components (LPSC) - - Part. 6: Requirements for lightning strike counters (LSC)
Tested in COFRAC laboratory	Waranteed until 100kA,on negative or positive strikes

Qualifoudre INERIS N° 051168729019

BE SECURE FRANCE PARATONNERRES

CE

CONFORM TO NF EN 62 561-6

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