

PDC.E 60 RT

Early Streamer Emission Lightning Rod – PDC Remote

Remote Testing
Bluetooth

High Protection
Class I

AISI 316L
Stainless Steel

200kA
Tested

Electronic
System

Total control
No intermediaries

Mobile App
iOS - Android

100%
Efficiency

LEVEL



LIGHTNING PROTECTION



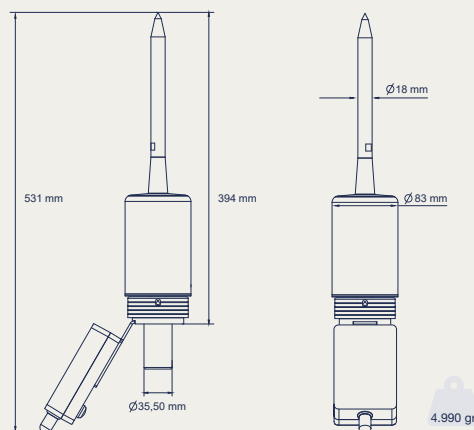
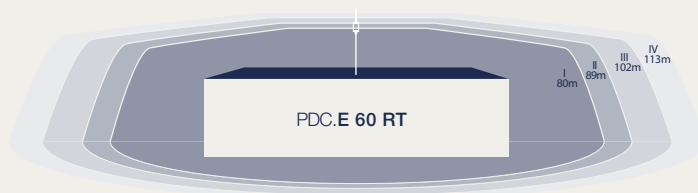
Protection

PDC.E 60 RT ($\Delta t = 60\mu s$)
Ref.102058

● LEVEL I	80 m
● LEVEL II	89 m
● LEVEL III	102 m
● LEVEL IV	113 m

Radio de protección calculado de acuerdo con las normas NFC 17-102:2011, UNE 21186:2011 y NP 4426:2013, basado en una diferencia de altura de 20 m entre la punta del pararrayos y el plano de referencia horizontal.

Protection Radius



Quality

PDC.E 60 RT complies with all current regulations according to **UNE 21186:2011** and **NFC 17-102:2011** standards.

The testing device complies with IEC 62561-1:2023 standard and with electromagnetic compatibility requirements according to IEC 61000-6-2:2019 and IEC 61000-6-4:2019 standards. Our company holds ISO 9001:2015 certification and ISO 14001:2015 environmental certification.

Double ESE System

Latest-generation capacitive circuit and an atmospheric accelerator generating the upward leader. It has been tested by **LABELEC** (High Voltage Laboratory accredited by ENAC No. 307/LE681 according to **ISO 17025**) and has also been tested under natural field conditions.

Warranty

The INGESCO PDC.E 60 lightning rod includes an extended **5-year** warranty against any manufacturing defect, offering effective performance under all types of atmospheric and environmental conditions. The remote testing module is subject to the standard warranty of its components: **3 years** against manufacturing defects. Operating temperature range of the testing device: from -20°C to 50°C.



INSTALLATION INSTRUCTIONS

Important: Turn on the lightning rod testing device using the button located on the back of the unit. Before proceeding with the installation, register the device. Refer to the app manual for more information about the registration and configuration process.

LIGHTNING ROD

- The **PDC.E 60 RT** lightning rod is supplied with an integrated adapter for a 1 1/4" mast (Ø 35.5 mm).
- Pass the down conductor through the mast and connect it to the adapter base. Secure it using two Allen screws.
- Orient the photovoltaic panel toward the sun (South in the northern hemisphere, North in the southern hemisphere).
- Fit the adapter inside the mast and secure it to the mast using its screw.
- Connect with spark gaps all metallic structures located within the safety distance.

DOWN CONDUCTOR

- Fix the mast to the structure using the most suitable support and, if necessary, secure the mast to the roof using guy wires.
- Secure the down conductor with fixing clamps, ensuring it is properly tensioned and, as a reference, using three fixings per meter.
- Install the lightning counter on the lower part of the conductor, two or three meters above the ground.
- Protect the lower section of the down conductors using a protective tube of at least two meters length.
- Each PDC shall be connected to earth by two down conductors. Four down conductors will be required in buildings higher than 60 m.

EARTHING SYSTEM

- There are two types of earthing systems, Type A and Type B:
 - Type A1: horizontal electrodes in a "crow's foot" configuration.
 - Type A2: vertical electrodes in line or triangle configuration.
 - Type B: ring-shaped electrodes outside the structure.
- Another possible configuration, recommended for rocky terrains that do not allow for deep excavation, consists in the installation of a plate electrode vertically with respect to the ground in a trench of at least 1 m³. The addition of Quibacsol mineral compound is recommended to improve soil conductivity.
- Connect the lightning rod earthing system to the building's general grounding network with spark gaps.

OPERATION

Upon the approach of a downward leader from a storm cloud, **INGESCO® PDC.E 60 RT** early streamer emission lightning rod is designed to detect the increase in the electric field and accumulate energy in its capacitor.

When the electric field reaches a critical level, the atmospheric accelerator of the **INGESCO® PDC.E 60 RT** releases the stored energy, thus generating an upward ionized leader that creates a preferential path to channel the lightning discharge safely to ground, preventing impacts on the protected area or structure.

The **INGESCO® PDC.E 60 RT** combines:

- The use of latest-generation electronic technology.
- A robust mechanical design ensuring long service life.
- A remote testing system with mobile APP for periodic verification of the lightning rod.

All of this makes the **INGESCO® PDC.E 60 RT** the most reliable lightning rod in its class.

The device performance is defined by the Δt value, representing the early streamer emission advance compared to a conventional lightning rod, which allows for the calculation of its protection radius according to **NFC 17-102:2011**, **UNE 21186:2011** and **NP4426:2013** standards.

TESTS AND CERTIFICATIONS

The **INGESCO® PDC.E 60 RT** has successfully passed the following certification tests and trials:

- ESE lightning rod triggering time evaluation test (Annex C UNE 21186:2011 and NFC 17-102:2011) at **LABELEC High Voltage Laboratory**.
- Mechanical test (tensile and bending tests up to failure).
- **IEC 62561-1:2023** Lightning Protection System Components (LPSC) – Part 1: Requirements for connection components.
- **IEC 61000-6-2:2019** and **IEC 61000-6-4:2019** Electromagnetic Compatibility (EMC).
- The PDC.E 60 RT testing device includes an integrated LiPo battery. UN 3481 / PI 967.



DENA DESARROLLOS SL

Cardener 5 | 08223 Terrassa
Barcelona | Spain
Export (+34) 937 300 314
export@ingesco.com
ingesco.com