

Potential Equalization Clamp (PEC Series)



Technical Specifications:	
Model:	PEC100
Electrical Characteristics:	
U_{DC} spark over (100 V/s)	350 V
U_{din} (1 kV/ μ s)	1000 V
I_{max} (8/20 μ s)	100 kA
Capacitance	< 10 pf
Resistance	> 1 G Ω
Dimensions:	
Nom. outer diameter	28 mm (1.1 inches)
Nom. length	140 mm (5.5 inches)
Length with cables	approx. 1 m
Cable:	
Cross sectional area	16 mm ² (#5 AWG)
Length	450 mm (17 inches) approx.
Number of conductors	$\geq 462/0.21$
Insulation	Double insulated
Environmental protection	UV stabilised, flame retardant
Resistant	Acids, solvents and oils
Connection	Suitable for screw or lug termination
Physicals:	
Housing	IP 66/67
Application	Below / above grade
Weight	0.5 kg. 1.1 lb approx.
Service/Operating temperature	-30 °C..+ 70 °C
Conditions of Use:	1. Local heating by pipelines and other hot surfaces in the vicinity of the installation of the product must be considered by the installer to ensure that the specified maximum ambient temperature is not exceeded. 2. Connection of the integral cables must be in accordance with the applicable requirements of IEC 60079-0 and IEC 60079-15 for field wiring connections.

WARNING:

- nVent products shall be installed and used only as indicated in nVent product instruction sheets and training materials. Instruction sheets are available at www.nVent.com and from your nVent customer service representative.
- nVent products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings.
- All instructions must be completely followed to ensure proper and safe installation and performance.
- Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and/or death, and void your warranty.

SAFETY INSTRUCTIONS:

All governing codes and regulations and those required by the job site must be observed.

Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

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Purpose:

In communications and computer installations it is not uncommon to install separate ground systems for lightning, mains power, computer (quiet ground), and communications (for security, and tempest requirements). Although this approach may be desirable for certain operating reasons, when lightning or other transient voltages occur, differences in ground potentials between the ground electrodes are inevitable and equipment damage can result.

The Potential Equalization Clamp (PEC) is an isolation spark gap that is designed to help prevent ground potential differences by operating under transient conditions to effectively clamp the grounds together. Normally the PEC presents an effective open circuit. Once the ground potential difference exceeds the breakdown voltage of the PEC, the circuit immediately closes and the ground potentials are equalized. The PEC is fully resettable and has a life of over ten thousand operations.

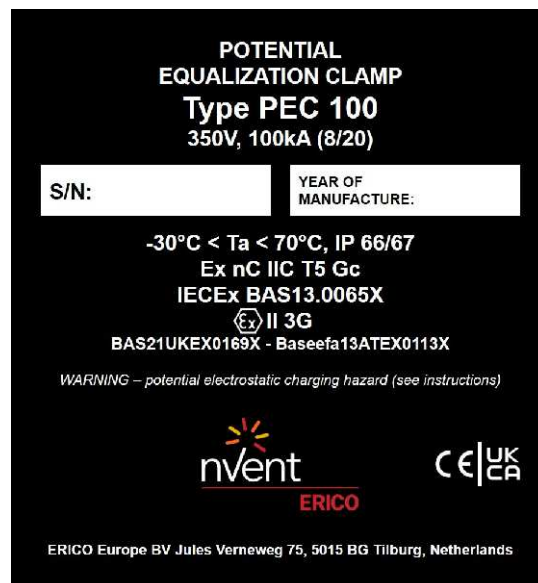
Many buried pipelines are protected from corrosion by cathodic protection systems. To maintain the insulation integrity of the pipe at metering and telemetry stations, insulating joints are inserted into the pipe and those sections between insulating joints are grounded at the station. With long lengths of pipelines, induced voltages in the pipe caused by local lightning or power line faults activity can be in the order of tens of kilovolts. The result is that insulated joints failure is almost inevitable, with flange type insulated joints particularly susceptible.

To help protect against insulated joint break-down, the PEC can be connected directly across the joint. In its inactive state the PEC presents an effective open circuit across the joint. Should the insulated joint voltage start to rise due to transients, the PEC will conduct and safely pass the transient current to ground, limiting the voltage stress across the joint. After conduction the PEC will automatically reset to its inactive state.

Installation:

- Installation and/or replacement of a PEC should only be carried out by qualified personnel
- The product must be installed in compliance with all national regulations and conditions
- The PEC may be damaged if exposed to lightning discharges in excess of rated values
- Unauthorized tampering or opening of the PEC is not permitted and invalidates the warranty

Markings:



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