CRITEC®

PEC-Potential Equalization Clamp

Features

High peak current capability
Fully sealed enclosure
Explosion proof
Can be direct buried
Self resetting
5 year limited warranty

In communications and computer installations it is not uncommon to install separate grounds for lightning, mains power, computer (quiet ground), and communications (for security, and tempest requirements). Although this may be highly desirable under normal operating conditions, when lightning or other transient voltages occur, differences in ground potentials between the ground electrodes are inevitable and equipment damage is the result.
The Potential Equalization Clamp (PEC) is an isolation spark gap that prevents these 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.
Note that the use of separated grounding systems is not permitted by code in some regions and is generally NOT recommended. Where such systems are used, the PEC offers a mechanism to minimize equipment damage.
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 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.

Applications

Equipotential bonding of systems with separate ground systems
Protection of oil and gas pipeline insulated joints

Ordering Information

Part No.	Part No. for Europe	Description
PEC100C	702900	Potential Equalization Clamp, 100kA, 350V

Vic/Tas/SA	NSW	NZ	QLD/NT	WA
03 9993 7500	02 9663 2322	09 414 5080	07 3890 8533	08 9248 8999