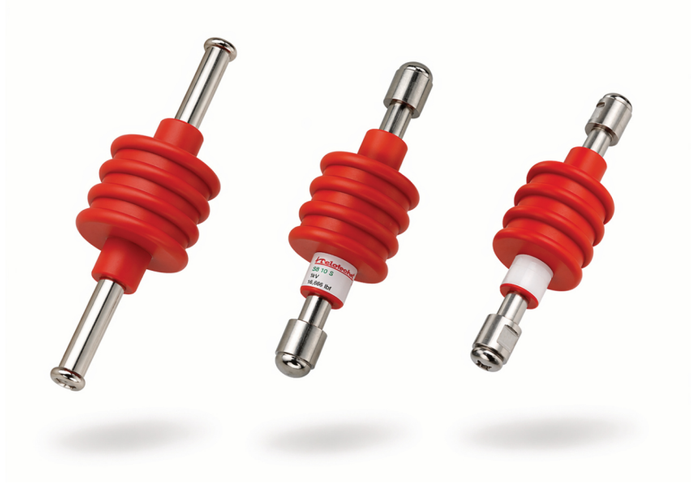
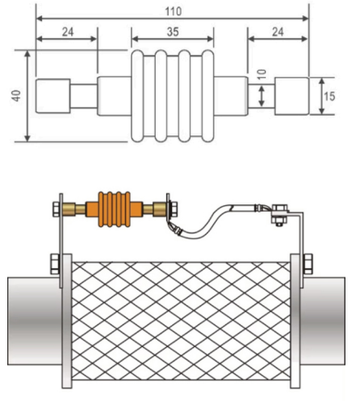
WEC SERIES ISOLATED SPARK GAP





- Provides reliable isolation and protection for equipotential bonding systems in lightning-prone environments
- Complies with IEC 62561-3/EN 62561-3; IEC 62305; EN 60079-0; EN 60079-1; EN 60079-31 for use in hazardous areas (covers Zone 1 & Zone 2).
- Zinc die-cast and plastic enclosure ensures long-term reliability and corrosion resistance

WEC	100	SG
1	2	3

1 ECLIPTOR (Spark Gap) 2 100kA I_{imp}

3 Spark Gap

WOLTIFY MODEL	WEC 50 SG	WEC 100 SG	WEC 100 SGS
Product Code	500101	500102	500103
Manufactured according to IEC 62561-3/EN 62561-3; EN 60079-0; EN 60079-1; EN 60079-31; IEC 62305		Yes	
Maximum Continuous Operating Voltage U_c		250 V	
Rated Impulse Spark Over-voltage U_{rimp}		≤1.25 kV	
Rated power-frequency withstand voltage (50 / 60 Hz) (UwAC)		250 V	
DC withstand voltage (UwDC)		354 V	
Lightning Impulse Current(10/350µs) I_{imp}	50 kA	100 kA	
Lightning Current Carrying Capability		Class H	
Maximum Discharge Current(8/20µs) I_{max}		100 kA	
100% Lightning Impulse Spark Over-voltage U_{as}		≤1.25 kV	
Power Frequency Spark Over-voltage (50Hz) U_{aw}		≤400 V	
Working Temperature		-20 to +60°C	
Length of Enclosure L	113mm	148mm	123mm
Diameter of Enclosure D		39mm	
Capacitance at 1 MHz C		≤10 pF	
Insulation Resistance at 100V R		> 1 GΩ	
Enclosure Material		Thermoplastic, UL94-V0	
Connection		Φ 10 mm	Φ 15 mm
Material (Connection)		Stainless Steel	
Degree of Protection		IP67	
Nominal discharge current (8/20 µs) (I_n)		100kA	

Application Notes

Intended Use: The WEC 50 SG Isolated Spark Gap is specifically designed for creating safe, controlled isolation points in lightning equipotential bonding systems. It prevents dangerous potential differences between separate earthing systems while allowing lightning currents to discharge safely.

Typical Applications:

- Separation of earthing systems in industrial facilities
- Protection of sensitive electronic equipment from ground potential rise
- Lightning protection for telecommunications infrastructure
- Equipotential bonding in explosive atmosphere locations (ATEX zones)
- Connection of isolated structures to main earthing systems
- Protection against stray currents in cathodic protection systems

Installation Best Practices:

- Always install in accordance with local electrical codes and lightning protection standards
- Ensure the spark gap is accessible for periodic inspection and testing
- Mount in a location protected from mechanical damage but accessible for maintenance
- Verify proper earthing continuity on both sides of the installation
- Do not install in areas where sparking could ignite flammable atmospheres (except in properly rated ATEX zones)
- Maintain proper clearances as specified in dimensional specifications
- Use only approved cable types and connection methods
- Document installation location and date for maintenance records

Environmental Considerations:

- Suitable for outdoor installation with direct weather exposure
- Can be buried underground when properly protected
- Resistant to UV degradation and temperature cycling
- Salt spray and industrial pollution resistant when properly maintained

Maintenance Requirements:

- Annual visual inspection recommended
- Testing after any known lightning strike event
- Check for signs of arcing, discolouration, or physical damage
- Verify electrical continuity and insulation resistance
- Replace unit if enclosure integrity is compromised

Important Safety Considerations:

CRITICAL WARNING: It is NOT safe practice to have separate earthing systems. Any potential difference between two earthing systems could create a large enough step voltage and endanger human life. This device should only be used where proper engineering analysis has determined that separated earthing is unavoidable and appropriate safety measures are in place.

Safety Precautions:

- Always follow lockout/tag-out procedures
- Wear appropriate PPE including insulated gloves and safety glasses
- Verify all circuits are de-energised before beginning work
- In ATEX zones, this device should only be used where proper engineering analysis has determined that separated earthing is unavoidable and appropriate safety measures are in place.
- Do not install during thunderstorm conditions
- Ensure proper earthing of all equipment during installation