



Energy Division

**Bowthorpe EMP SPG4 Spark Gap
for use with traction circuits.**

The Bowthorpe EMP SPG4 Spark Gap is designed for use with traction circuits to provide virtually instantaneous protection of both equipment and personnel from power system faults. The unit also provides protection against lightning generated voltages which would otherwise cause damage to signalling and cable circuits.

The SPG4 is constructed in stainless steel of rugged design allowing the SPG to be installed in harsh environments such as track side locations without additional weather protection.

Suitable for use on circuits where standing/induced voltages do not exceed 110v RMS.

Fast operation – Typical 5 microseconds with 11kA fault current.

Internal spark gap module unit can be replaced using a special tool after fault current operation.

Fail safe feature ensures safety to personnel and equipment.

Service proven performance.

High internal impedance with low capacitance – does not interfere with track signalling circuits.

Technical Characteristics

The SPG4 Spark Gap operates to short circuit with power system fault current. All lightning induced overvoltages are passed to earth without permanent connection to earth.

Typical Applications

Protection between overhead catenary structure earth and system earth.

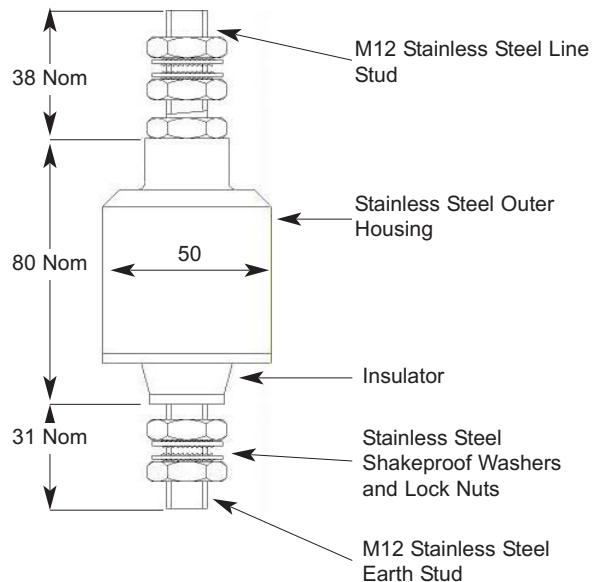
Protection between indirectly earthed systems and system or ground earth.

Protection of single bonded power cable circuits.

Protection of intermediate junction on cross bonded power cable systems.

Protection of cathodic protection power supplies.

Protection of low voltage DC power supplies.



*Max Open Circuit Voltage	300v RMS
*Min Spark Over Voltage 50/60Hz	400v RMS
*Max Spark Over Voltage 50/60HZ	900v RMS
0.1 Second Current Carrying Capacity	10kA
0.5 Second Current Carrying Capacity	5kA
Time to Gap Short Circuit	5 microseconds
High Current Withstand based on 4/10 Microsecond Wave	65kA (2 shots)
Number of Operations based on 10kA 8/20 Microsecond Wave	20