

PRODUCT DATA SHEET

Ex – EXPLOSION PROOF ISOLATION SPARK GAPS (ISGs)

Code: 66 01 101

ed.01/2021

Brand Name: ISG - Ex
Application: Ex – explosion proof isolation spark gap

Description

The Isolating Spark Gaps ISGs explosion proof type are intended to provide indirectly equipotential bond in structures which are installed in explosive environments where also direct bond is not permissible for functional reasons. They are installed between the two conductive parts that need to be bonded on different earthing systems and in the event that the potential difference between the ISGs terminals exceeds the spark over voltage of it, the ISG operates causing the equalisation of the earth potentials without allowing any arc or spark to be generated out of its chamber even at after heavy discharges. After the equalisation the ISG will return to normal position. They have applications mainly in the following cases:

- in earthing systems of oil refineries;
- in earthing systems of tanks and pipes containing explosive fuels;
- in earthing systems of natural gas applications;
- in installations with cathodic protection and stray current systems;
- in bypass bonding of insulated flanges and insulated couplings of pipelines.



Technical characteristics

DC sparkover voltage at 100V/s	100 V ± 20%
AC sparkover voltage at 50Hz	70 V ± 20%
Typical impulse sparkover voltage at 1kV/μs	650 V
Max impulse sparkover voltage at 1kV/μs	950 V
Lightning current discharge 10/350μs, I _{imp}	3x75 kA + (Class N)
DC follow current after the I _{imp}	150 A / 0,5 s (NOT FOR Ex USE)
Surge current discharge 8/20μs	10x100 kA
High energy surge current discharge 10/45μs	20x60 kA
AC current discharge 50Hz, t=1s	5x100 A _{rms}
AC current discharge 50Hz, t=0,5s	1x200 A _{rms}
AC current discharge 50Hz, t=0,25s	1x4000 A _{rms}
Follow current extinguish capability	At 70 V < 20 A _{rms}
Insulation resistance at 100V DC	1 GΩ
Capacitance at 1kHz	20 pF
Dimensions (Diameter / length)	50x155 mm
Mounding connections	M10 Thread
Tightening torque	17 Nm
Relative humidity	10% ÷ 95%
Operating temperature range	-20°C ÷ +80°C
Housing material	Metal SS, Ceramic, EPOXY
Housing protection category	IP 67
ATEX protection class	II 2 G Ex mb IIC T4 Gb
Installation only by qualified electrician	IEC 60417 – 6182
End of life failure mode	Short circuit in fail safe mode

Testing

The component has successfully passed the testing requirements of standard IEC EN 62561-3 “Lightning protection system components (LPSC) – Part 3 : Requirements for isolating spark gaps (ISG)”.

Test report **No 30754** by accredited laboratory as per ISO 17025

The component has successfully passed the testing requirements of standards, EN 60079-0 “Explosive atmospheres. Equipment. General requirements” & EN 60079-18 “Explosive atmospheres. Equipment protection by encapsulation “m”. Test report No **ZELM 02 ATEX 0095X**

Manufacturing Quality Control

Manufacturing quality control according standard ISO 9001

Unit: piece / Package: 1 piece

We reserve the right to introduce changes in the component due to technical evolution.