

Inspection of Ex Isolating Spark Gaps



Test report no.:	
Date:	

1. General:

Name of company:	
Contact person:	
Address:	
Postcode / city:	
Phone:	
Plant:	
Plant section:	



2. Inspection intervals:

If the Ex isolating spark gaps are applied within the scope of the specified technical data, they are maintenance-free. Inspection is usually carried out at the intervals defined for the plant by the operator.

	Assessment / okay	Remarks
<input type="checkbox"/> Inspection intervals to GefStoffV §7 (Ordinance on Hazardous Substances) BetrSichV §§ 15 and 16 (Ordinance on Industrial Safety and Health) or DIN EN 60079-17 – max. every 3 years	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Inspection intervals to DIN EN 62305-3 depending on the class of lightning protection system (e.g. every 2 years at class 2 of LPS)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

3. Type of inspection – Visual inspection:

	Assessment / okay	Remarks
<input type="checkbox"/> Inspection of the enclosure		
– damaged	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– soiled	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– corroded	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– mounted in right position (only applies for type EXFS L100/200/300)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– clamps secured against self-loosening	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– free from mechanical tensions	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Inspection of the connection cables		
– porous	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– damaged	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– cable length ≤ 300 mm	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Inspection of the electrical contacts		
– corroded	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– damaged	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– loose	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– stable contact (tightening torque)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– all connections are secured against self-loosening by spring rings / spring washers	<input type="checkbox"/> Yes <input type="checkbox"/> No	
– connections are non-sparking	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Inspection of Ex Isolating Spark Gaps



Test report no.:

4. Measuring inspection:

The measuring inspection is performed by a qualified person in compliance with BetrSichV and can be carried out
 – when the spark gap is not installed and outside the Ex zone or
 – by disconnecting one side in the Ex area.

This, however, requires a corresponding work release according to TRBS 1112-1 on the part of the operator.

Recommended test devices see item 6.

	Assessment/okay	Remarks
<input type="checkbox"/> Inspection of Ex isolating spark gaps of types EXFS L... (Part No. <input type="checkbox"/> 923 060, <input type="checkbox"/> 923 061, <input type="checkbox"/> 923 062, <input type="checkbox"/> 923 019)		
Measuring of the insulation resistance; (set point $\geq 10 \text{ k}\Omega$ @ 500 V DC); Indicated value: _____ $\text{k}\Omega$ Test passed? <input type="checkbox"/> Yes <input type="checkbox"/> No Note: Insulation measuring devices recommended for the inspection, see item 6.		
<input type="checkbox"/> Inspection of Ex isolating spark gaps of types EXFS 100... (Part No. <input type="checkbox"/> 923 100, <input type="checkbox"/> 923 101)		
Measuring of the insulation resistance; (set point $\geq 500 \text{ k}\Omega$ @ 500 V DC); Indicated value: _____ $\text{k}\Omega$ Test passed? <input type="checkbox"/> Yes <input type="checkbox"/> No Note: Insulation measuring devices recommended for the inspection, see item 6.		
Measuring of the static operating voltage; (measurement value between [600 ... 1000 V DC]); Indicated value: _____ V DC Test passed? <input type="checkbox"/> Yes <input type="checkbox"/> No Note: The static operating voltage of the EXFS 100 ... is tested with the PM 20 arrester test device (Part No. 910 511).		
<input type="checkbox"/> Inspection of Ex isolating spark gaps of types EXFS C1... (Part No. <input type="checkbox"/> 923 070, <input type="checkbox"/> 923 071)		
Measuring of the insulation resistance; (set point $\geq 500 \text{ k}\Omega$ @ 50 V DC); Indicated value: _____ $\text{k}\Omega$ Test passed? <input type="checkbox"/> Yes <input type="checkbox"/> No Note: Insulation measuring devices recommended for the inspection, see item 6.		
Measuring of the static operating voltage; (measurement value between [80 ... 122 V DC]); Indicated value: _____ V DC Test passed? <input type="checkbox"/> Yes <input type="checkbox"/> No Note: The static operating voltage of the EXFS 100 ... is tested with the PM 20 arrester test device (Part No. 910 511). The first measurement value is always invalid! \Rightarrow Repeat measuring twice!		

Inspection of Ex Isolating Spark Gaps



Test report no.:

5. Explosion protection:

Inspection of the equipment comprises
 – the mechanical connection of the Ex isolating spark gaps (see item 3) and
 – the proper use of the equipment in compliance with the installation instructions (declarations of conformity or EU type examination certificates).

Assessment / okay

Remarks

Inspection of Ex isolating spark gaps of types EXFS L... (Part No. 923 060, 923 061, 923 062, 923 019)

Installation location of the Ex isolating spark gap?

Where? _____

Ex zone 1 Ex zone 2 outside the Ex area

Do the Ex markings on the Ex isolating spark gap show that it can be used there?

Yes No

ATEX approvals DEKRA 11ATEX0146 X

Ex marking according to EN 60079-0 and EN 60079-1:
Gases II 3 G Ex nC IIC T4 Gc

Inspection of Ex isolating spark gaps of types EXFS 100... (Part No. 923 100, 923 101)

Installation location of the Ex isolating spark gap?

Where? _____

Ex zone 1 Ex zone 2 outside the Ex area

Ex zone 21 Ex zone 22 outside the Ex area

Do the Ex markings on the Ex isolating spark gap show that it can be used there?

Yes No

ATEX approvals DEKRA 11ATEX0178 X

Ex marking according to EN 60079-0 and EN 60079-1:
Gases II 2 G Ex db IIC T6 Gb

Ex marking according to EN 60079-0 and EN 60079-31:
Dust II 2 D Ex tb IIIC T80 °C Db IP 66/67

Inspection of Ex isolating spark gaps of types EXFS C1... (Part No. 923 070, 923 071)

Installation place of the Ex isolating spark gap?

Where? _____

Ex zone 1 Ex zone 2 outside the Ex area

Do the Ex markings on the Ex isolating spark gap show that it can be used there?

Yes No

ATEX approvals ZELM 02 ATEX 0096 X

Ex marking according to EN 50014 and EN 50028:
Gase II 2 G EEx m II T3

Inspection of Ex Isolating Spark Gaps



Test report no.:

6. Measuring and test devices

Following measuring devices are recommended for the measurements:

(*) Insulation measurement:

- Gossen Metrawatt Metriso (up to 1,000 V)
- Fluke, Multifunctional tester 1653 (up to 1,000 V)
- Gossen Metrawatt, Profitest 0100S (up to 500 V)
- Müller und Ziegler, Müzitester (up to 500 V)
- _____

(*) Operating voltage test:

- PM 20
- _____

(*) Please tick or enter the device used for measurement.