



Installation, Operating and Maintenance Instructions for

Jola Floating Electrodes SCHE 2/Ex...

⊕ II 1 G Ex ia IIB T6 Ga or

⊕ II 2 G Ex ia IIB T6 Gb

**and the system with the obligatory connection
box OAK/SCHE/NR/.x1MΩ ⊕ II 2 G Ex ia IIC T6 Gb**

**and the Jola Electrode Relay
NR 5/Ex, Version A ⊕ I (M1) / II (1) GD
[Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC**

**These Installation, Operating and Maintenance
Instructions must always be handed over to the
fitter/operator/service personnel
of our products together with all other user
documentation and information!**

**They should be stored in a safe place together
with all other user documentation and information
so they can be consulted again when necessary at
any time!**

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1. Area of application

The combination of a conductive floating electrode SCHE 2/Ex...,

JOLA
D-67466 Lambrecht

CE 0080

SCHE 2/Ex...

Ex II 1 G Ex ia IIB T6 Ga or

Ex II 2 G Ex ia IIB T6 Gb

(serial number)
(production year)

Tamb : - 20°C to + 60°C
INERIS 03ATEX0157X

Special precondition for safe use:

The installer has to make sure that there is no difference in potential between all the connection points to the earth of the floating electrode, of their accessories and of the obligatory connection box and that no derangement could degrade this equipotentiality.

The galvanic insulation has to be realized by the electrode relay

**NR 5/Ex, Version A Ex I (M1) / II (1) GD
[Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC**

**The maximum length of the mounting frame in 1 piece has to be less than 6 m.
The maximum length of the mounting frame divided into 2 pieces has as well to be less than 6 m.**

the obligatory connection box OAK/SCHE/NR/.x1MΩ and one or two electrode relays NR 5/Ex, Version A is designed to transmit electrical switching signals coming from a **conductive floating electrode SCHE 2/Ex... installed in a potentially explosive atmosphere,**
to non-hazardous areas via one or two **electrode relays NR 5/Ex, Version A.**



The components of the system can/have to be installed:

in above-ground areas which could be at risk due to a potentially explosive atmosphere		only outside potentially explosive atmospheres
zone 0, 1 or 2	zone 1 or 2	
SCHE 2/Ex...-0G ⊕ II 1 G	SCHE 2/Ex...-1G ⊕ II 2 G	NR 5/Ex, Version A ⊕ I (M1) / II (1) GD [Ex ia Ma] I [Ex ia Ga] IIC [Ex ia Da] IIIC
	OAK/SCHE/NR/.x1MΩ ⊕ II 2 G	

As mentioned before, the abovementioned electrodes are devices for use:

- ◆ in above-ground areas which could be at risk due to a potentially explosive atmosphere:

SCHE 2/Ex... -0G ⊕ II 1 G: in zone 0, 1 or 2,

SCHE 2/Ex... -1G ⊕ II 2 G: in zone 1 or 2.

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Floating electrodes are designed for use in pits, collection reservoirs, pump shafts, separating systems for liquids that are lighter than water ("light liquids") or similar areas.

Please note that floating electrodes can only be used for the detection of a layer of an electrically non-conductive "light liquid" that is not soluble in water on the surface of water or another electrically conductive liquid that has a higher specific gravity than the respective "light liquid" and that is sufficiently tranquil to allow phase formation (layer formation).

The precondition for the proper functioning of the floating electrodes is the possibility of clear separation between the heavier, electrically conductive liquid and the lighter, electrically non-conductive liquid to be detected in the application locations such as pits, collection reservoirs, pump shafts, separating systems or similar locations.

In analogy with DIN 1999-100, DIN EN 858-1 and DIN EN 858-2 (separators for "light liquids"), separation is proven in the case of "light liquids" that are not soluble in water and are insaponifiable, such as benzines, diesel and fuel oils, and other oils of mineral origin with specific gravities up to max. 0.95. The functionality of the floating electrodes is therefore assured when used in self-contained monitoring areas without drainage (pits, collection reservoirs, pump shafts) and in separating systems in accordance with DIN 1999-100, DIN EN 858-1 and DIN EN 858-2 for the specified media. Application tests have shown that an alarm is emitted when non-conductive liquids have formed in a layer of between approx. 3 mm and 10 mm on the conductive heavy liquid to be monitored (e.g. water).

Before using the floating electrodes in any other area of application, it must first be proven that the prevailing operating conditions (such as flow ratios, potential dwell time of the "light liquid" to be detected at the application location etc.) allow the phase



formation with the corresponding minimum layer height of the non-conductive "light liquid" required for accurate functioning.

In case of doubt, you should consult a specialist from Jola or from a monitoring organisation (e.g. the TÜV in Germany) to ascertain the suitability of the installation environment for the use of the floating electrodes.

It is also important to note that, although the floating electrodes may in principle be used in the respective temperature ranges specified in the product brochure, **it is essential that both media are present in low-viscosity form to ensure proper functioning of the electrodes**. This means, for example, that proper functioning is only assured with water above temperatures of 0°C.

Proper functioning of the floating electrodes also **requires a minimum liquid level above the floor** (see the technical data of the respective floating electrodes). If this minimum liquid level is not present, the tips of the electrode rods are not in the liquid – in other words, they are not electrically bridged by the electrically conductive liquid. The result is normally undesired activation of the alarm via the connected electrode relay. The SCHE 2/Ex (Variant ILS) .. is the only type equipped with an alarm bridging contact for this eventuality.

All the **technical parameters of the conductive floating electrodes and/or the electrode relay** are listed in this brochure and/or the accompanying product descriptions. These documents also contain the corresponding **installation recommendations**.

You must always observe and follow all the instructions relating to these parameters and installation recommendations. The units may not be used for applications outside the specified parameter range.

If the product descriptions are not supplied with the products or are lost, **you must always request a copy of the descriptions prior to installation, connection or start-up and ensure that they are read and observed by the suitably qualified specialist personnel. Otherwise the conductive floating electrode and/or the electrode relay(s) may not be installed, connected and started up.**

2. Preconditions for safe use

- ◆ **Maximum parameters of the conductive floating electrodes SCHE 2/Ex... fitted with a connecting cable**

Electrode type	Type designation	Li	Ci	Ui	li
Floating electrode	SCHE 2/Ex...	0 + 1µH per metre connecting cable	0 + 200 pF per metre connecting cable	42 V	0.1 A
Floating electrode	SCHE 2/Ex (Variant 3 tiges)...				
Floating electrode	SCHE 2/Ex (Variant ILS)...				



◆ **Special requirements/conditions for the safe use of the conductive floating electrodes SCHE 2/Ex...**

Power supply to the conductive floating electrode SCHE 2/Ex... must be via a voltage source which is approved for use in potentially explosive atmospheres in explosion groups IIC or IIB with an output circuit which is approved as intrinsically safe and galvanically separated from the other circuits.

The maximum output parameters of this voltage source must be compatible with the input parameters of the floating electrode, see above.

◆ **Maximum parameters of the electrode relay NR 5/Ex, Version A**

Rated supply voltages (terminals J15, J16):

U = AC 24 V, AC 110 V, AC 115 V, AC 230 V or AC 240 V

Maximum electrical parameters of the electrical circuit connected to terminals J9, J10 and J11:

U_{max.} = 250 V; I_{max.} = 4 A, **but max. P = 100 VA**

Maximum electrical parameters at output terminals J1 and J7:

U_o = 11.5 V; I_o = 11.6 mA, **but max. P_o = 64 mW**

◆ **Special requirements/conditions for the safe use of the electrode relay NR 5/Ex, Version A**

The maximum parameters of the external circuits that may be connected to **terminals J1 and J7** are as follows:

For explosion group IIB	For explosion group IIA
Co(L=0) = 11.1 μF	Co(L=0) = 45 μF
Lo(C=0) = 672 mH	Lo(C=0) = 972 mH
or	or
Lo/Ro = 707 μH/Ohm	Lo/Ro = 1.05 mH/Ohm

3. Additional conditions for safe operation

Before using the conductive floating electrodes SCHE 2/Ex..., you must ensure that the materials used in the respective floating electrode are sufficiently chemically and mechanically resistant to the liquids to be monitored and all other external influences.

In case of doubt, consult a suitably trained expert prior to use. Do not use the product before these questions have been fully clarified.

4. Installation, connection, start-up and maintenance, general regulations

Installation, connection, start-up and maintenance of the conductive floating electrode and the electrode relay(s) may only be performed by suitably qualified specialist personnel in line with all the information material and documentation supplied with the units and following all instructions contained therein.

The qualified specialist personnel must ensure that they are familiar with all valid standards, regulations, local requirements and specific conditions, in particular the standards, regulations, local requirements and specific conditions relating to explosion protection – and must proceed accordingly.

In potentially explosive atmospheres with gas hazards, the entire installation set-up of the the floating electrode SCHE 2/Ex... the obligatory connection box OAK/SCHE/NR/.x1MΩ and the electrode relay(s) NR 5/Ex, Version A must always comply with the standard EN 60 079-14 resp. the replacing standard.

You must always read – and adhere to the instructions outlined in - the yellow DIN A 5 leaflet "User information/Instructions for use with mounting, operating and maintenance instructions for the product...". If the leaflet is not supplied with the product or is lost, you must always request a replacement leaflet from Jola.

5. Installation of the floating electrodes SCHE 2/Ex...

General:

The floating electrodes SCHE 2/Ex... must be installed **by qualified specialist personnel**.

Installation is not allowed if an explosive atmosphere is present.

The absence of explosive atmosphere has to be verified by qualified and competent personnel.

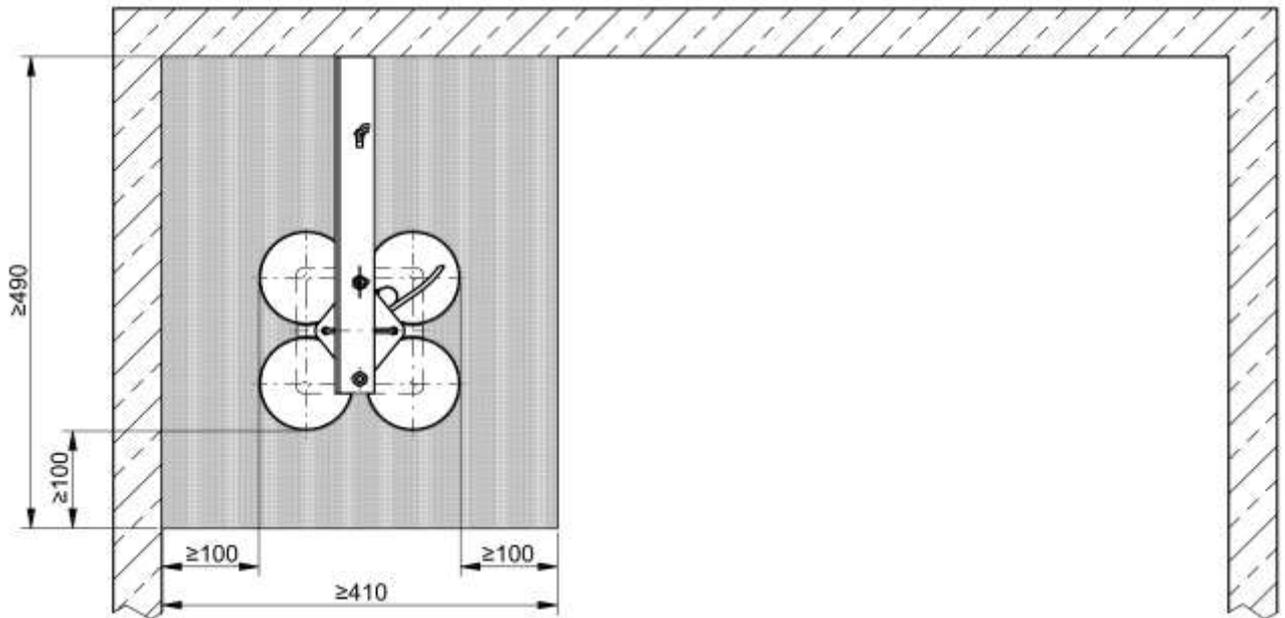
Mounting frame:

In order to prevent uncontrolled movement of the floating electrode on the liquid surface and to ensure that the proper functioning of the floating electrode is not impaired we highly recommend the use of a **mounting frame with two guide ropes**. A suitable mounting frame has to be purchased from Jola. **This mounting frame has an integrated antistatic (conductive) anti-spark-plate and must also be connected to the potential equalisation system at the appropriate point.**

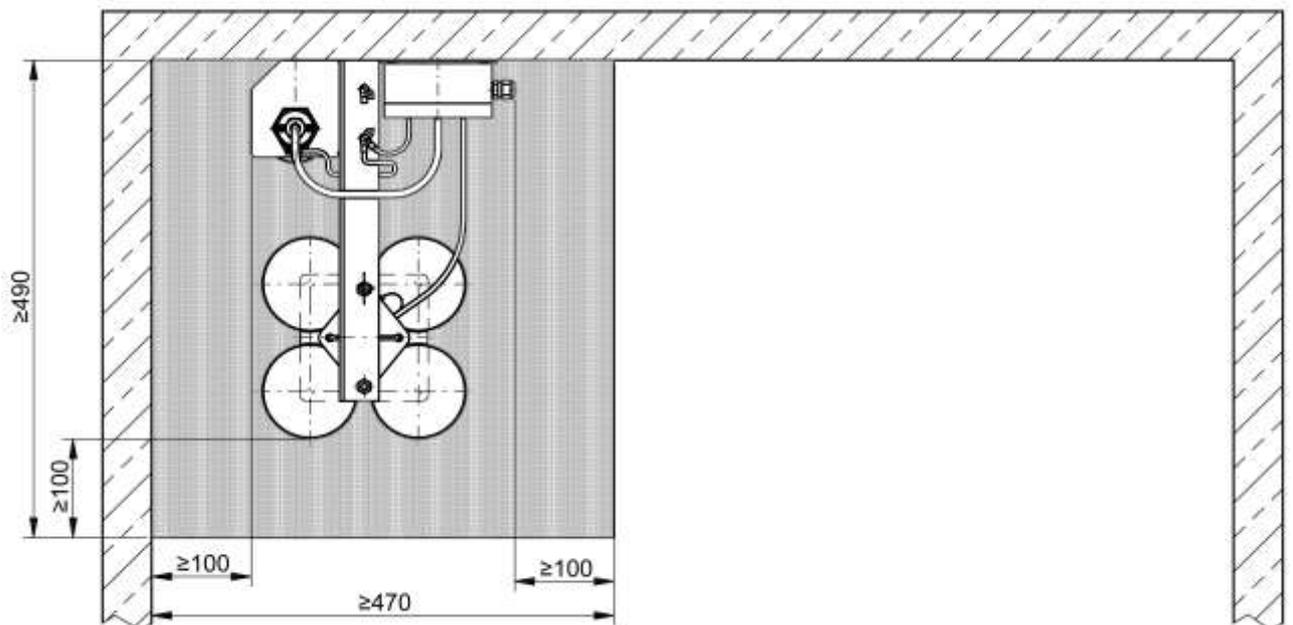
In order to prevent formation of dangerous sparks, the mounting frame and the floating electrode has to be installed in such a way that the floating electrode does not touch any metal piece of the installation.

The mounting frame has to be fixed well in order to keep it in its place.

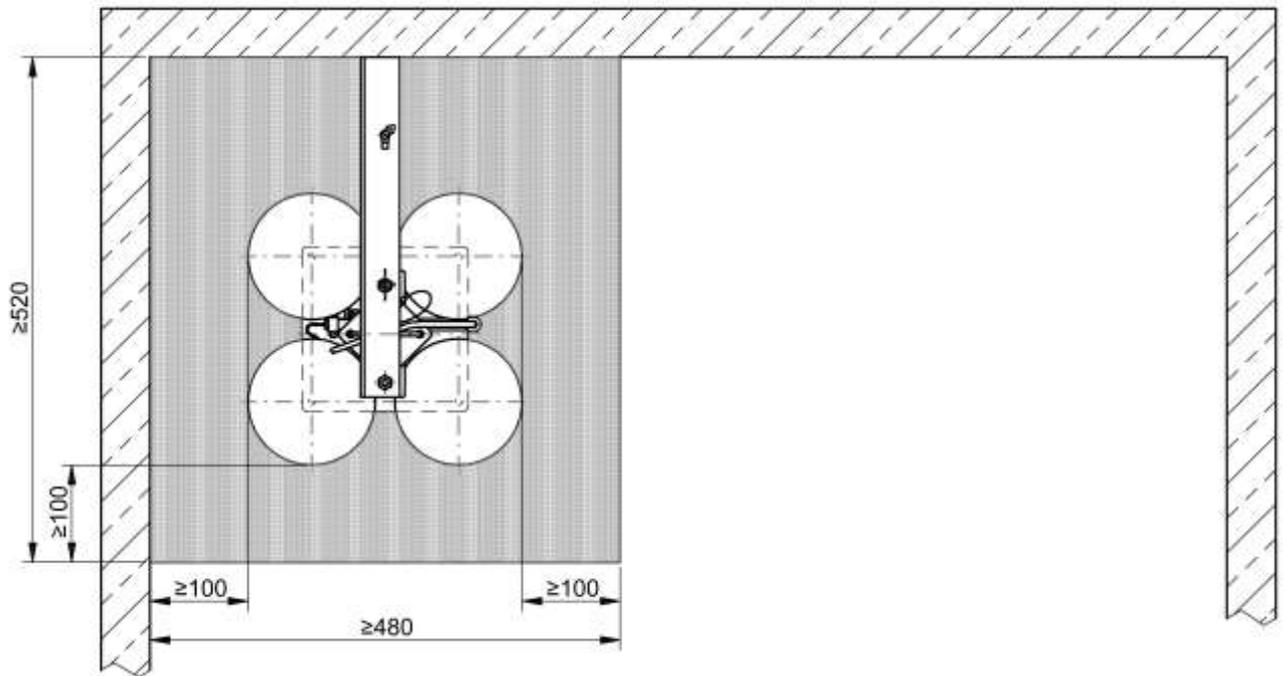
Required space when using a mounting frame equipped with a SCHE 2/Ex-.G



Required space when using a mounting frame equipped with a SCHE 2/Ex-.G, a TSR/FED/E8/Variante 0/Ex-.G and a OAK/SCHE/NR/2x1MΩ



Required space when using a mounting frame equipped with a SCHE 2/Ex (Variante ILS)-G

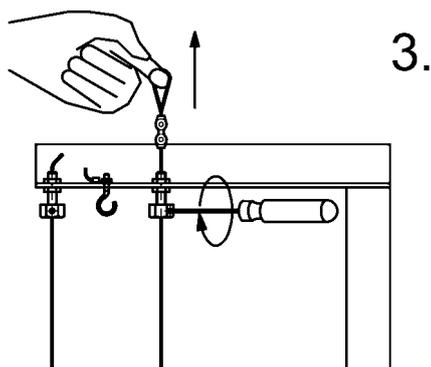
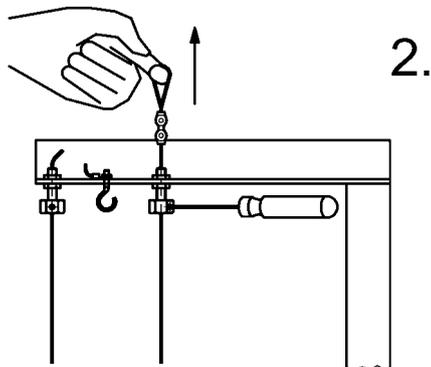
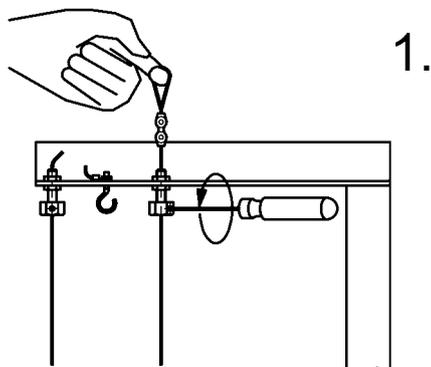


The maximum length of the mounting frame in 1 piece has to be less than 6 m.
 The maximum length of the mounting frame divided into 2 pieces has as well to be less than 6 m.

In order to ensure a good functioning of the leakage-detector the guiding ropes have always to be stretched correctly. Stretching of the guiding ropes has to be done prior to start-up, at the event of all maintenance interventions and eventually as well more often.

First, the Allen screw of the guiding ropes fixing device must be loosened with a 2 mm Allen key in order to stretch the guiding ropes manually using the loop as shown above. When the guiding ropes are correctly stretched, the Allen screw must be retightened.

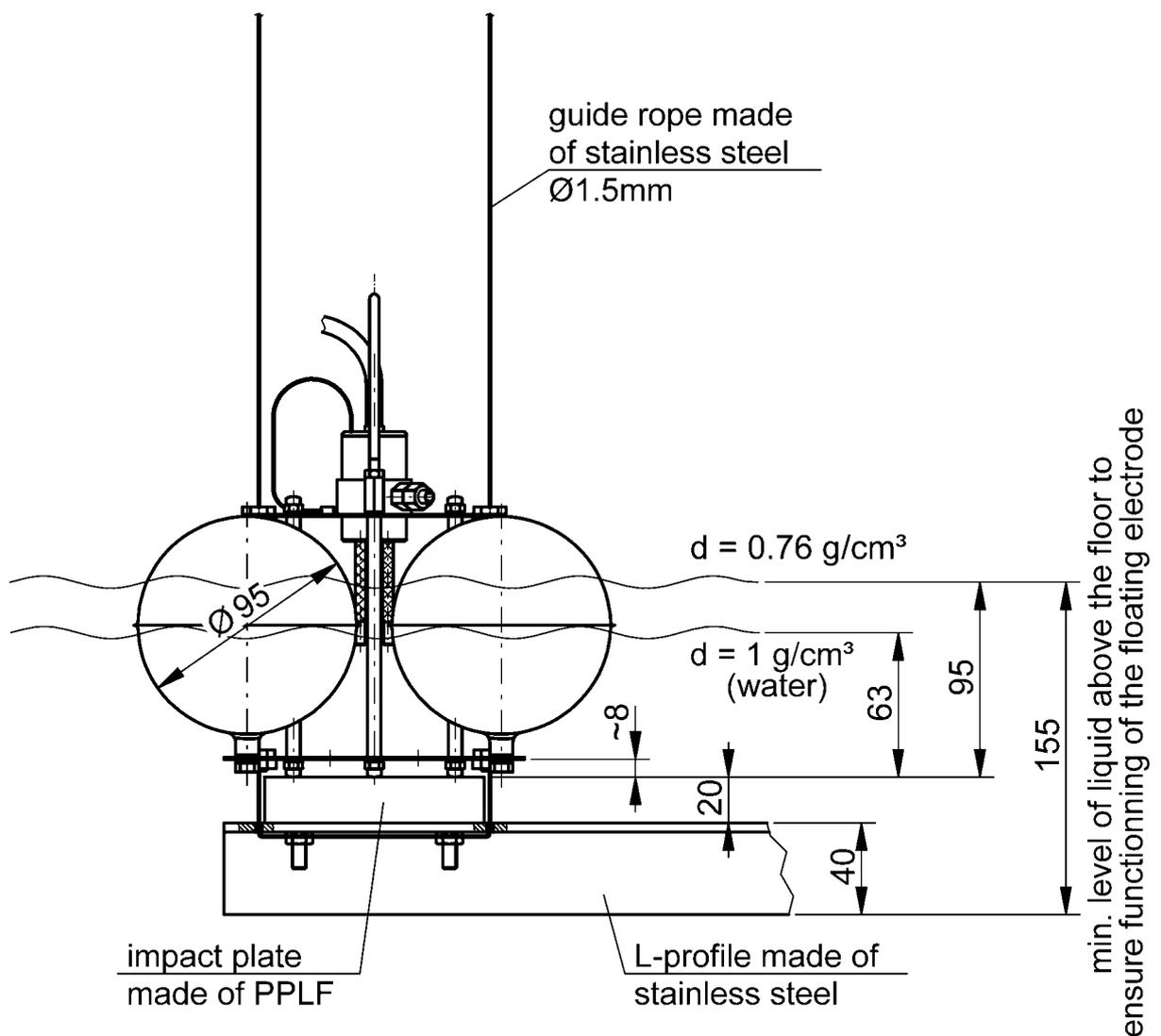
Stretching of the guiding ropes has to be effected by a competent and suitably qualified personnel.



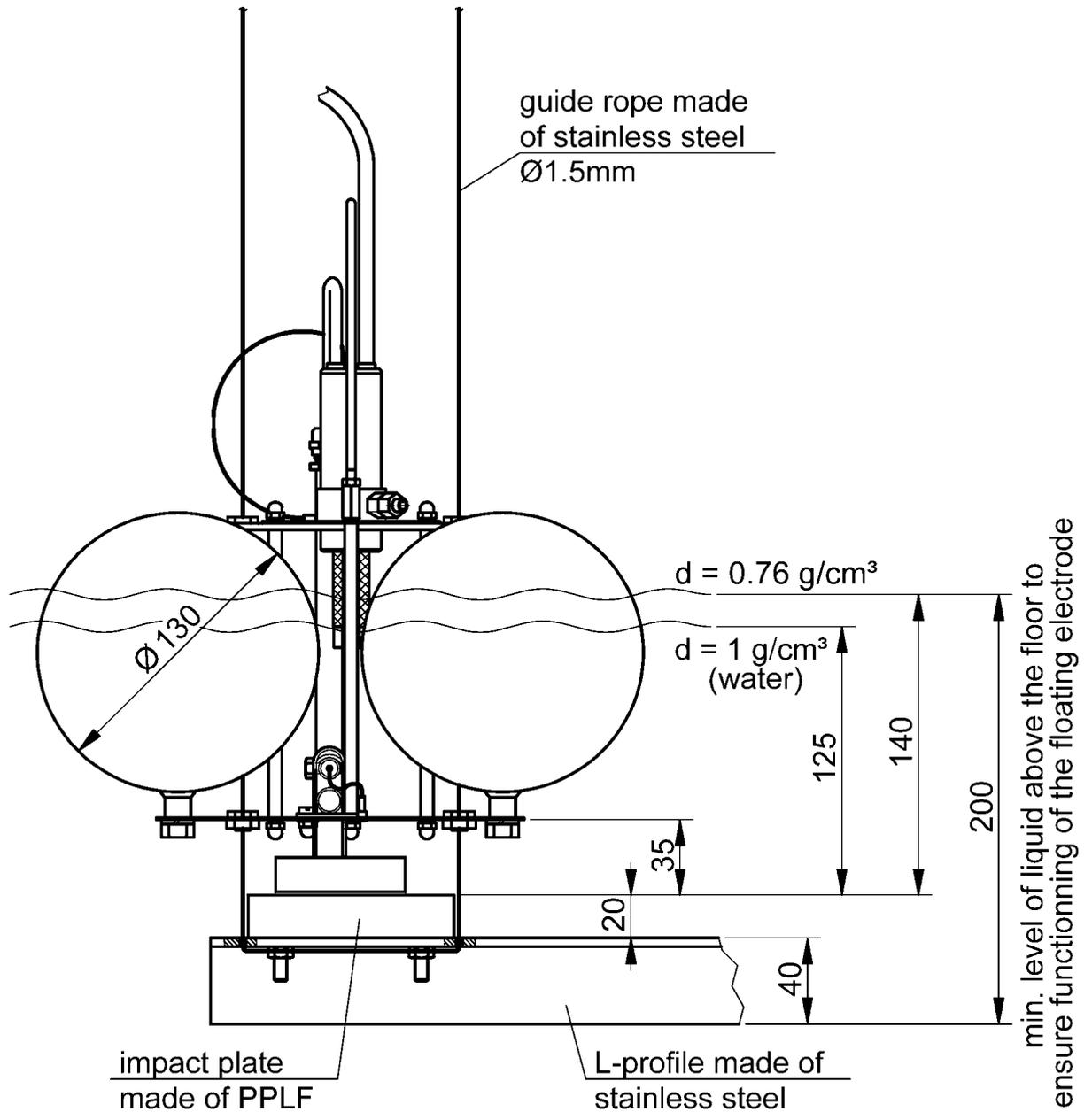
If a Jola mounting frame is not foreseen by the installer, the floating electrode must be mounted in such a way that it cannot touch any metallic part of the installation in order to prevent formation of dangerous sparks.

When using a Jola mounting frame the min. level of liquid above the floor to ensure functioning of the floating electrode changes

For SCHE 2/Ex-G



For SCHE 2/Ex (Variante ILS)-G



Auxiliary float :

We recommend that a **float** be attached to the connecting cable of the floating electrode to ensure the signalling accuracy of the floating electrode **when used in deep shafts with high liquid movement** requiring a long floating electrode connecting cable that needs to follow the movement of the liquid. When the liquid level is high, this float bears the weight of the connecting cable and prevents the floating electrode from tilting or falling over due to a one-sided load.

This auxiliary float must be supplied by Jola. In order to prevent formation of dangerous sparks it is made of antistatic (conductive) polypropylene and equipped with a potential equalisation line. **This potential equalisation line must be connected to the floating element of the floating electrode at the appropriate point.**

Orientation of the floating electrode:

The floating electrode is placed on the surface of the liquid to be monitored in such a way that the electrode rod tips point downwards and the cable points upwards.

Length of the cable:

The **cable of the floating electrode** must be sufficiently long and flexible to ensure that the floating electrode can follow the expected upward and downward movement of the liquid.

6. Adjustment of the floating electrode

The floating electrode SCHE 2/Ex... normally floats on an electrically conductive liquid – on water, for example.

The height of the rod electrode integrated in the floating electrode is set to ensure that the two electrode rod tips are permanently under water if the surface of the water is tranquil.

For model SCHE 2/Ex (Variante 3 tiges) ... the height of the rod electrode integrated in the floating electrode is set to ensure that the electrode rod tip of the upper electrode rod and the electrode rod of the earth electrode E0 are permanently under water if the surface of the water is tranquil.

Depending on the degree of movement of the surface of the liquid, the position of the rod electrode must be set lower to a greater or lesser degree.

The position of the rod electrode is adjusted by loosening the fastening screw(s) and pushing the rod electrode shaft up or down in the corresponding guide.

When adjusting the rod electrode, its position should be optimised in such a way that the two electrode rod tips (model SCHE 2/Ex (Variante 3 tiges) ... the electrode rod tip of the top electrode rod) is permanently but only just under water – so that if an electrically non-conductive liquid (e.g. fuel oil) forms on top of the electrically

conductive liquid (e.g. water), a thin layer of the electrically non-conductive liquid suffices to lift the electrode rod tips out of the electrically conductive water phase up into the electrically non-conductive fuel oil phase, thereby interrupting the control current from the electrode relay at the rod electrode and activating the alarm.

7. Installation of the electrode relay NR 5/Ex, Version A

The electrode relay NR 5/Ex, Version A must be installed **by qualified specialist personnel**.

The Installation, Operating and Maintenance Instructions for the Jola electrode relay NR 5/Ex have to be respected in all points.

The NR 5/Ex, Version A electrode relay is fitted with a response sensitivity of approx. 30 k Ω (approx. 33 μ S) as a standard. For applications during long lasting rainfalls which cause a decrease of conductivity, this response sensitivity might not be sufficient. In this case, the NR 5/Ex, Version A electrode relay **can be fitted with a higher response sensitivity of approx. 200 k Ω (ca. 5 μ S). If this is the case, it is absolutely necessary to refer to the reduced maximum length of cable (see table on page 15/28).**

8. Connection in the form of an intrinsically safe system

The attached connection diagrams show how to connect a conductive floating electrode SCHE 2/Ex... via the obligatory connection box OAK/SCHE/NR/.x1M Ω to one or two electrode relays NR 5/Ex, Version A to create an intrinsically safe system.

The intrinsically safe system composed of the **floating electrode SCHE 2/Ex... with 2 electrode rods,** the obligatory connection box OAK/SCHE/NR/2x1M Ω and one electrode relay NR 5/Ex, Version A must be installed and connected according to the connection diagrams

51P-7560-2 dated 28.08.2020,
90P-7587-2 dated 28.08.2020,
51P-7566-2 dated 28.08.2020 and
90P-7588-2 dated 28.08.2020
to be found in the annex.

The installation personnel has to control that the 2 resistors of 1 MOhm each are present in the obligatory connection box OAK/SCHE/NR/2x1M Ω and correctly connected as shown on the above mentioned connection diagrams.

The intrinsically safe system composed of the **floating electrode SCHE 2/Ex... with 3 electrode rods,** the obligatory connection box OAK/SCHE/NR/3x1M Ω and the two electrode relays NR 5/Ex, Version A must be installed and connected according to the connection diagrams



51P-7563-2 dated 28.08.2020,
90P-7589-2 dated 28.08.2020,
51P-7569-2 dated 28.08.2020 and
90P-7590-2 dated 03.09.2020
to be found in the annex.

The installation personnel has to control that the 3 resistors of 1 MOhm each are present in the obligatory connection box OAK/SCHE/NR/3x1MΩ and correctly connected as shown on the above mentioned connection diagrams.

Always observe the following when connecting the unit:

◆ **Potential equalisation**

To avoid the danger coming from the static electricity, potential equalisation is necessary with the floating electrode SCHE 2/Ex... .

The green-yellow potential equalisation line of the cable of the floating electrode, the potential equalisation terminal of the obligatory connection box, the potential equalisation terminal of the optional mounting frame and the potential equalisation line of the optional auxiliary float must be connected to the potential equalisation system.

Connection to the potential equalization system is essential for safe operation and must never be neglected.

In potentially explosive atmospheres with gas hazards, the entire installation set-up of the floating electrode SCHE 2/Ex... the obligatory connection box OAK/SCHE/NR/.x1MΩ and the electrode relay(s) NR 5/Ex, Version A must always comply with the standard EN 60 079-14 resp. the replacing standard.

The installer has to make sure that there is no difference in potential between all the connection points to the earth of the floating electrode, of their accessories and of the obligatory connection box and that no derangement could degrade this equipotentiality.

◆ **Maximum cable length between floating electrode and electrode relay NR 5/Ex, Version A**

Electrode type	Con- nection to "x" elec- trode relay(s) NR 5/Ex, Version A	Maximum length of cable between floating electrode and electrode relay(s) NR 5/Ex, Version A with a cable where C ≤ 200 pF/m and L ≤ 1 μH/m	Maximum length of cable between floating electrode and electrode relay(s) NR 5/Ex, Version A with a cable where C ≤ 100 pF/m and L ≤ 1 μH/m
when using NR 5/Ex, Version A electrode relay with standard response sensitivity of 30 kΩ (33 μS)			
SCHE 2/Ex...	1	1000 m	1000 m
SCHE 2/Ex (Variante ILS)...	1	1000 m	1000 m
SCHE 2/Ex (Variante 3 tiges)...	2	350 m	700 m
when using NR 5/Ex, Version A electrode relay with higher response sensitivity of 200 kΩ (5 μS)			
SCHE 2/Ex...	1	150 m	150 m
SCHE 2/Ex (Variante ILS)...	1	150 m	150 m
SCHE 2/Ex (Variante 3 tiges)...	2	on request	

◆ **Obligatory connection box**

The intrinsically safe system composed of the floating electrode SCHE 2/Ex... with 2 electrode rods, **the obligatory connection box OAK/SCHE/NR/2x1MΩ** and one electrode relay NR 5/Ex, Version A must be installed and connected according to the connection diagrams 51P-7560-2 dated 28.08.2020, 90P-7587-2 dated 28.08.2020, 51P-7566-2 dated 28.08.2020 and 90P-7588-2 dated 28.08.2020 to be found in the annex.

The installation personnel has to control that the 2 resistors of 1 MΩ each are present in the obligatory connection box OAK/SCHE/NR/2x1MΩ and correctly connected as shown on the above mentioned connection diagrams.

The intrinsically safe system composed of the floating electrode SCHE 2/Ex... with 3 electrode rods, **the obligatory connection box OAK/SCHE/NR/3x1MΩ** and two electrode relays NR 5/Ex, Version A must be installed and connected according to the connection diagrams 51P-7563-2 dated 28.08.2020, 90P-7589-2 dated 28.08.2020, 51P-7569-2 dated 28.08.2020 and 90P-7590-2 dated 03.09.2020 to be found in the annex.

The installation personnel has to control that the 3 resistors of 1 MOhm each are present in the obligatory connection box OAK/SCHE/NR/3x1MΩ and correctly connected as shown on the above mentioned connection diagrams.

9. Start-up

Prior to start-up, you must re-check the mounting position, the mechanical fastening and the electrical connection of the units.

In particular, you must check once again that the conductive floating electrode is also connected to the corresponding, admissible intrinsically safe circuit(s).

In addition, you must also check and verify that there is no possibility whatsoever of hazardous conditions occurring due to non-adherence to any of the relevant instructions, standards or official regulations.

Only then may the unit in question be started up electrically.
You must then perform the first maintenance routine.

10. Response in the event of an alarm

No action on site is allowed if an explosive atmosphere is present. The absence of explosive atmosphere has to be verified by qualified and competent personnel.

After every alarm, the floating electrode in question, the connecting cable and the operating area must be cleaned thoroughly.
If the floating electrode or its cable show signs of mechanical or chemical aggression, the floating electrode must be replaced.

11. Maintenance

No action of maintenance is allowed if an explosive atmosphere is present. The absence of explosive atmosphere has to be verified by qualified and competent personnel.

The floating electrode and the the system with the obligatory connection box OAK and the electrode relay must be serviced **directly after start-up and then at regular intervals by qualified specialist personnel.**

The intervals depend under among other things on the risk of soiling to the respective floating electrode and its environment.

If the floating electrode and the the system with the obligatory connection box OAK and the electrode relay are installed **as safety elements** within a system, they must always be checked and a maintenance must be done at intervals to be agreed with the local supervisory authorities.

A monthly check-up is recommended.

A visual inspection and, if necessary, maintenance work have necessarily to be done:

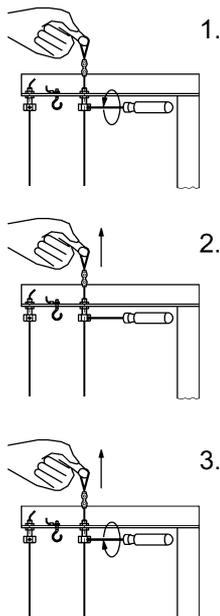
- **After a storm;**
- **After long lasting rainfalls;**
- **After strong winds;**
- **After mowing operations nearby**

Prior to all maintenance work, the qualified specialist personnel must inform themselves of all valid standards, regulations, local guidelines and special conditions, in particular standards, regulations, local guidelines and special conditions concerning explosion protection and proceed accordingly.

Maintenance work should include the following:

- ◆ Sight check of the electrode and its environment.
- ◆ Cleaning of the electrode and its environment, e. g. from sand on the electrode, from residues of moving, little branches etc.
- ◆ Sight check of the 4 guide pieces made of plastic (integrated in the floating electrode) for the 2 stainless steel guiding ropes. If traces of a heavy use are visible, the leakage detector has to be returned to the manufacturer Jola in order to replace these guide pieces. As an alternative, 4 new guide pieces made of plastic may be purchased from Jola in order to replace the old-ones by competent and suitably qualified repair personnel.

- ◆ If necessary, stretching of the guiding ropes has to be effected.
First, the Allen screw of the guiding ropes fixing device must be loosened with a 2 mm Allen key in order to stretch the guiding ropes manually using the loop as shown above. When the guiding ropes are correctly stretched, the Allen screw must then be retightened.



- ◆ Function check of the electrode as follows:

All types with the exception of type SCHE 2/Ex (Variant ILS)..:

Lift the floating electrode by the electrode body or, if present, by the special handle-shaped holder, **but not by its cable!** Then lift the electrode rod tips of the rod electrode mounted on the floating electrode out of the water phase.

An alarm must then be emitted.

Type SCHE 2/Ex (Variant ILS)..:

Check that the activation arm of the alarm bridging contact can move easily in every position.

Lift the floating electrode by the special handle-shaped holder (**but not by its cable!**) so that the rod tips of the rod electrode mounted on the floating electrode out of the water phase without activating the alarm bridging contact via the activation arm (the activation arm must be freely suspended!).

An alarm must then be emitted.

Then test the alarm bridging contact by lifting and lowering the activation arm. During the test, the electrode rod tips may not be electrically bridged by the water.

No alarm should be given when the activation arm is raised.

An alarm must be emitted when the activation arm is lowered.



12. Repair

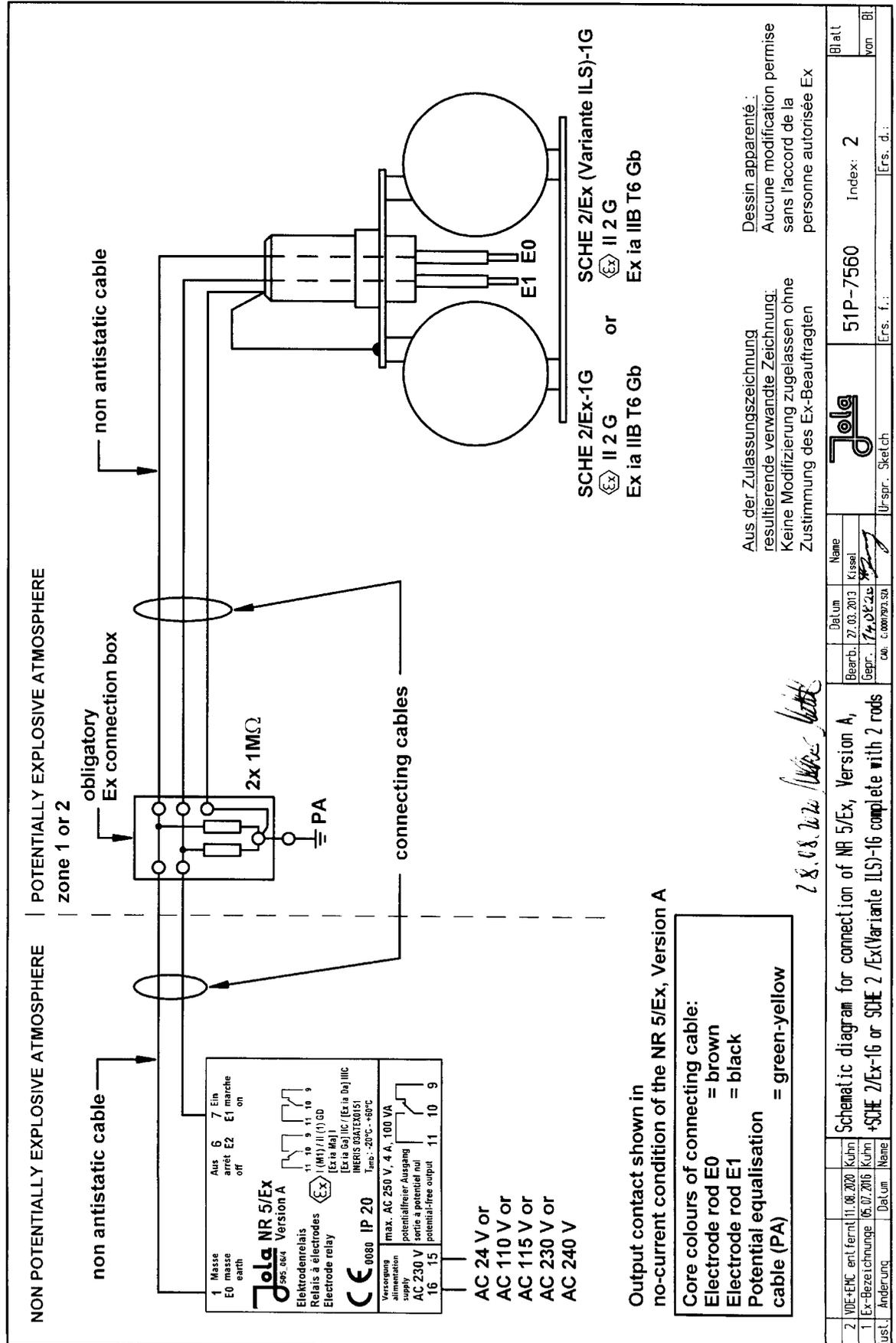
All alterations and repairs to the floating electrode SCHE 2/Ex..., the obligatory connection box OAK/SCHE/NR/.x1M Ω and/or the electrode relay(s) NR 5/Ex, Version A must be performed in the manufacturer's facility. Under no circumstances may other individuals or companies perform unauthorised alterations or repairs.

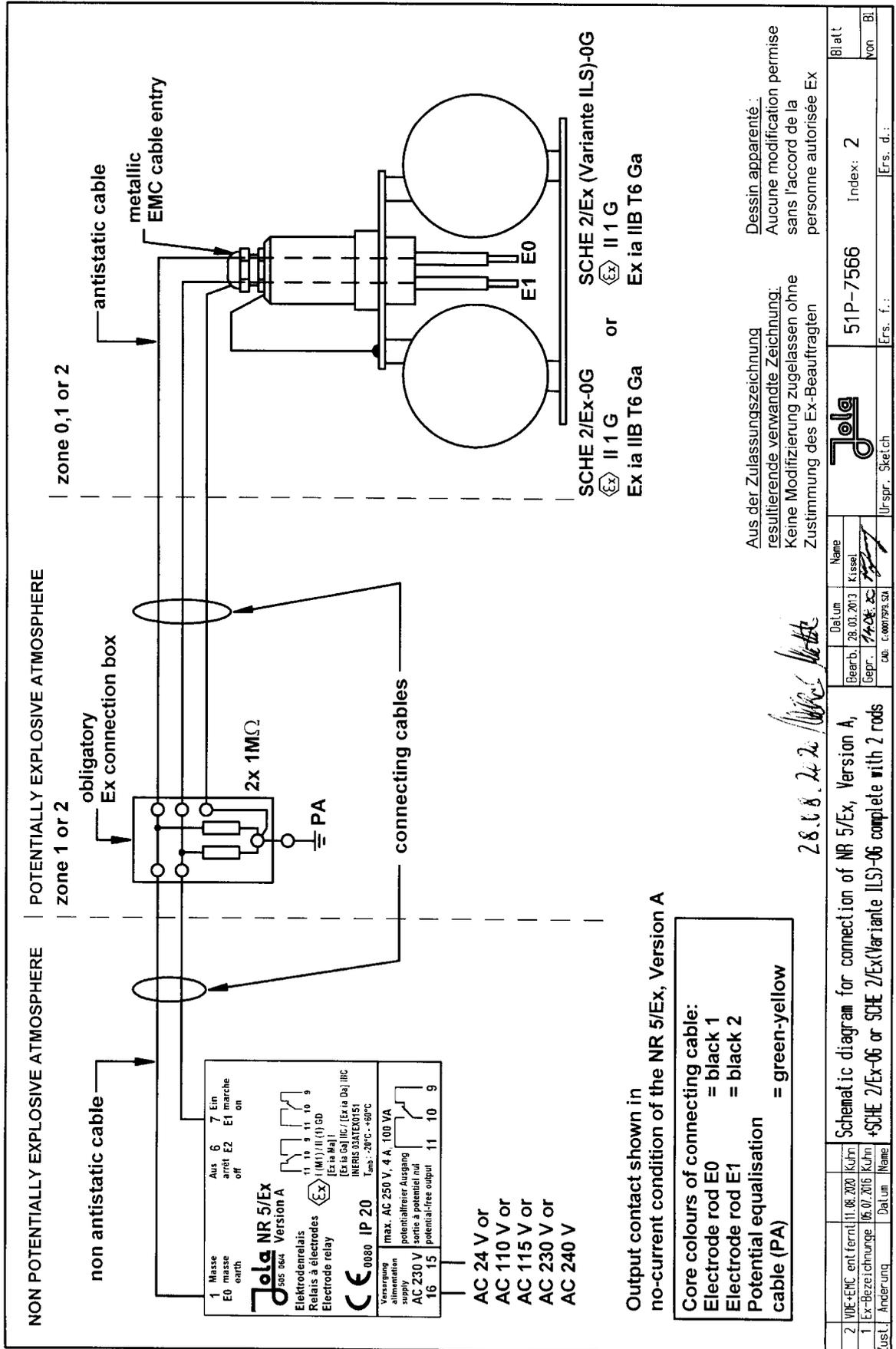
If only the 4 guide pieces for the 2 stainless steel guiding ropes have to be replaced, 4 new guide pieces made of plastic may (as an alternative to send the leakage detector back to Jola) be purchased from Jola in order to replace the old-ones by competent and suitably qualified repair personnel.

The replacement is not allowed if an explosive atmosphere is present. The absence of explosive atmosphere has to be verified by qualified and competent personnel.

13. Disposal

The units must be disposed of by depositing them in conformity with the law at an appropriate collection point for electrical and electronic devices.





Aus der Zulassungszeichnung resultierende verwandte Zeichnung: Keine Modifizierung zugelassen ohne Zustimmung des Ex-Beauftragten

Dessin apparenté: Aucune modification permise sans l'accord de la personne autorisée Ex

51P-7566 Index: 2

Blatt von Bl.

Urspr. Sketch Ers. f.: Ers. d.:

28.08.2020

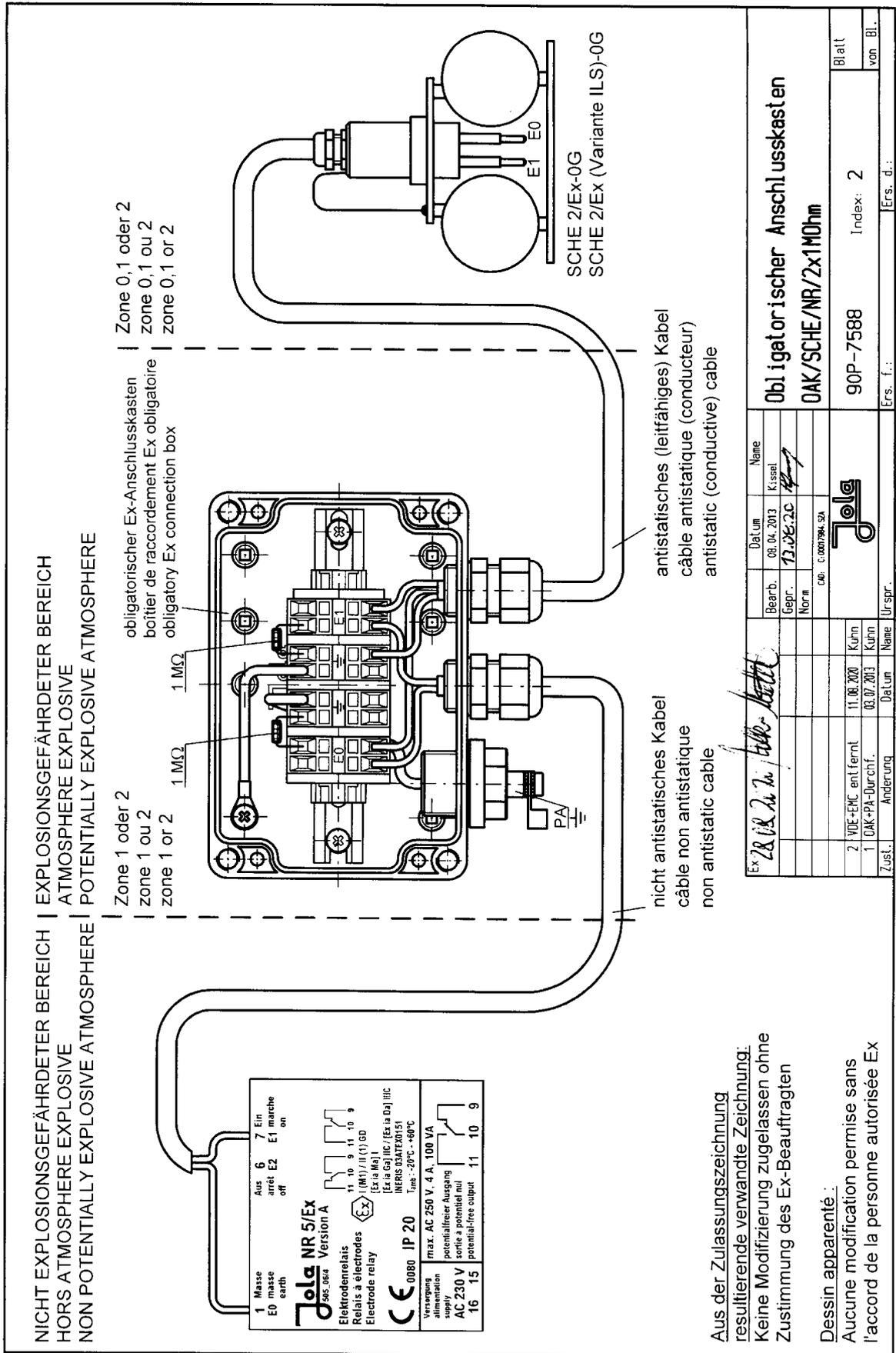
28.03.2023

14.04.2023

28.03.2023

28.03.2023

Schematic diagram for connection of NR 5/Ex, Version A, +SCHE 2/Ex-0G or SCHE 2/Ex(Variante ILS)-0G complete with 2 rods	
Zust.	Änderung
ent.fertigt	ent.fertigt
11.06.2020	11.06.2020
Kuhn	Kuhn
16.07.2016	16.07.2016
Kuhn	Kuhn
11.06.2020	11.06.2020
Kuhn	Kuhn



NICHT EXPLOSIONSGEFÄHRDETER BEREICH | EXPLOSIONSGEFÄHRDETER BEREICH
 HORS ATMOSPHERE EXPLOSIVE | ATMOSPHERE EXPLOSIVE
 NON POTENTIALLY EXPLOSIVE ATMOSPHERE | POTENTIALLY EXPLOSIVE ATMOSPHERE

Zone 1 oder 2
 zone 1 ou 2
 zone 1 or 2

Zone 0,1 oder 2
 zone 0,1 ou 2
 zone 0,1 or 2

obligatorischer Ex-Anschlusskasten
 boîtier de raccordement Ex obligatoire
 obligatory Ex connection box

1 Masse EO Masse earth	Aus 6 auget E2 on	7 Ein E1 marche on
Jola NR 5/Ex 595.084 Version A		
Elektrodenrelais Relais à électrodes Electrode relay		
CE 0080 IP 20		
max. AC 250 V, 4 A, 100 VA potential-free output		
AC 230 V sortie à potentiel nul		
16 15	11 10 9	11 10 9

SCHE 2/Ex-0G
 SCHE 2/Ex (Variante ILS)-0G

nicht antistatisches Kabel
 câble non antistatique
 non antistatic cable

antistatisches (leitfähiges) Kabel
 câble antistatique (conducteur)
 antistatic (conductive) cable

Aus der Zulassungszeichnung
 resultierende verwandte Zeichnung:
 Keine Modifizierung zugelassen ohne
 Zustimmung des Ex-Beauftragten

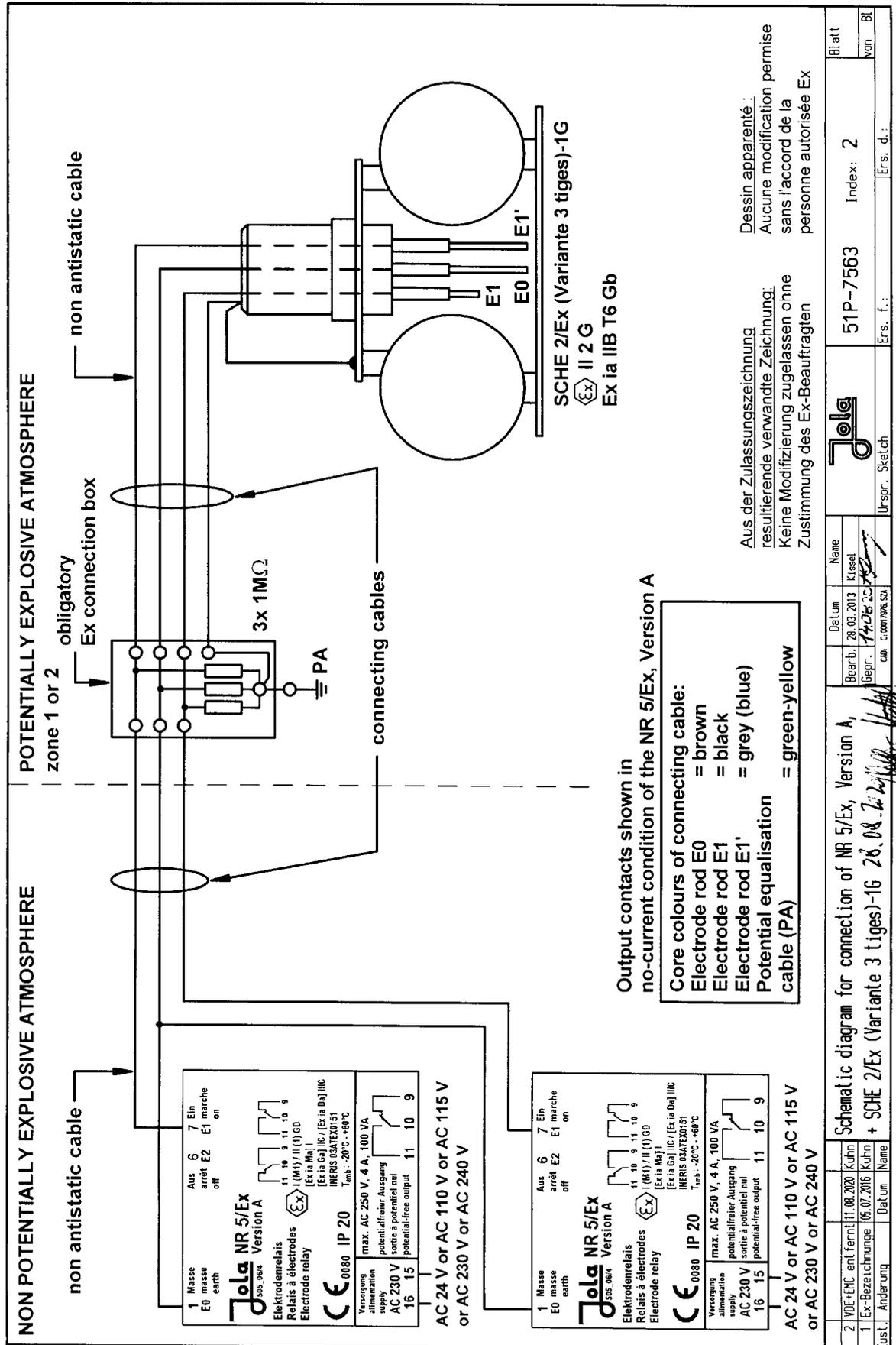
Dessin apparenté:
 Aucune modification permise sans
 l'accord de la personne autorisée Ex

Ex 28.02.2013	28.02.2013	13.02.2013	K. Jassel	Name
Bearb.	08.04.2013	08.04.2013	K. Jassel	Name
Gepr.	13.02.2013	13.02.2013	K. Jassel	Name
Norm	cap. 0.0007994.53A			
Zust.	2 VDE-EMC entfern	11.08.2003	Kühn	Blatt
	1 OAK-PA-Durchf.	03.07.2013	Kühn	von Bl.
	Änderung	03.07.2013	Kühn	Index: 2
				Ers. f.:
				Ers. d.:

Obligatorischer Anschlusskasten
 OAK/SCHE/NR/2x1M0hm

90P-7588

Blatt
 von Bl.



Aus der Zulassungszeichnung resultierende verwandte Zeichnung. Keine Modifizierung zugelassen ohne Zustimmung des Ex-Beauftragten

Dessin apparenté : Aucune modification permise sans l'accord de la personne autorisée Ex

Output contacts shown in no-current condition of the NR 5/Ex, Version A

Core colours of connecting cable:
 Electrode rod E0 = brown
 Electrode rod E1 = black
 Electrode rod E1' = grey (blue)
 Potential equalisation cable (PA) = green-yellow

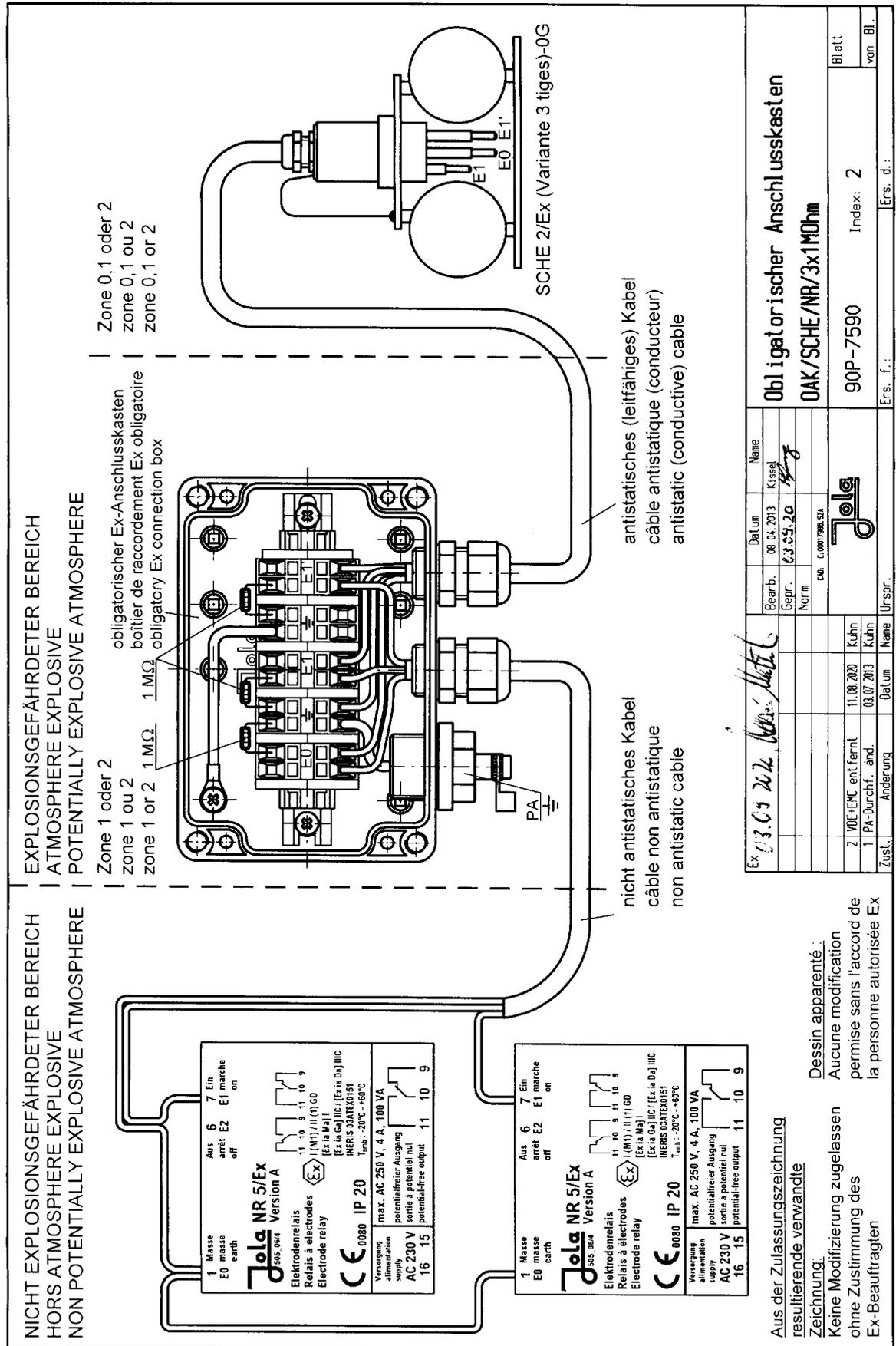
Name		Name		Name	
Bearb.	28.03.2013	Kessel			
Gepr.	14.05.2013				
Urspr.	Sketch	Urspr.	Sketch	Ers. f.:	
Urspr.	Sketch	Urspr.	Sketch	Ers. d.:	
Date			Date		
28.03.2013			28.03.2013		
Index			Index		
51P-7563			51P-7563		
Blatt			Blatt		
von			von		
81			81		

Schematic diagram for connection of NR 5/Ex, Version A, + SCHE 2/Ex (Variante 3 tiges)-16

Zust. Änderung Datum Name

2 VDE-ENC ent fern 11.08.2020 Kuhn

1 Ex-Bezeichnung 06.07.2016 Kuhn



NICHT EXPLOSIONSGEFÄHRDETER BEREICH
 HORS ATMOSPHERE EXPLOSIVE
 NON POTENTIALLY EXPLOSIVE ATMOSPHERE

EXPLOSIONSGEFÄHRDETER BEREICH
 ATMOSPHERE EXPLOSIVE
 POTENTIALLY EXPLOSIVE ATMOSPHERE

Zone 1 oder 2
 zone 1 ou 2
 zone 1 or 2

Zone 0,1 oder 2
 zone 0,1 ou 2
 zone 0,1 or 2

1 Masse
 E0 masse
 earth

Jola NR 5/Ex
 505 064 Version A

Elektrodenrelais
 Relais à électrodes
 Electrode relay

CE 0080 IP 20

max. AC 250 V, 4 A, 100 VA
 potentiel-freier Ausgang
 AC 230 V
 sortie à potentiel nul
 potential-free output 11 10 9

Verriegelung
 alimentation
 supply

Aus 6 7 Ein
 arrêt E2 E1 marche
 off on

11 10 9 11 10 9
 (M1)/(1)GD
 (Ex ia Ma) I
 (Ex ia Ga) IIC / (Ex ia Da) IIC
 INERIS 00ATEX0151
 T_{amb.}: -20°C...+60°C

1 Masse
 E0 masse
 earth

Jola NR 5/Ex
 505 064 Version A

Elektrodenrelais
 Relais à électrodes
 Electrode relay

CE 0080 IP 20

max. AC 250 V, 4 A, 100 VA
 potentiel-freier Ausgang
 AC 230 V
 sortie à potentiel nul
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Verriegelung
 alimentation
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Aus 6 7 Ein
 arrêt E2 E1 marche
 off on

11 10 9 11 10 9
 (M1)/(1)GD
 (Ex ia Ma) I
 (Ex ia Ga) IIC / (Ex ia Da) IIC
 INERIS 00ATEX0151
 T_{amb.}: -20°C...+60°C

nicht antistatisches Kabel
 câble non antistatique
 non antistatic cable

antistatisches (leitfähiges) Kabel
 câble antistatique (conducteur)
 antistatic (conductive) cable

obligatorischer Ex-Anschlusskasten
 boîtier de raccordement Ex obligatoire
 obligatory Ex connection box

SCHE 2/Ex (Variante 3 tiges)-0G

Ex 1/3.03.2022

Gepr. 03.09.20

Obligatorischer Anschlusskasten
 OAK/SCHE/NR/3x1M0hm

Aus der Zulassungszeichnung
 resultierend verwendete
 Zeichnung:
 Keine Modifizierung zugelassen
 ohne Zustimmung des
 Ex-Beauftragten

Dessin apparenté:
 Aucune modification
 permise sans l'accord de
 la personne autorisée Ex

Bearb.	Da/Lun	Name
08.04.2013	Kissel	
Gepr.	03.09.20	
Norm		
Da/Lun	03.07.2013	Kuhn
Urspr.		

2	VDE+EHC ent.fernt	11.08.2020	Kuhn
1	PA-Durchf. and.	03.07.2013	Kuhn

90P-7590	Index: 2	Blatt
		von Bl.



EU Declaration of Conformity

Jola Spezialschalter GmbH & Co. KG
Klostergartenstr. 11
67466 Lambrecht (Germany)

declares as manufacturer under its sole responsibility that the following product, which is new and designed for use in potentially explosive atmospheres:

**Floating electrode
SCHE 2/Ex...**
⊕ II 1 G Ex ia IIB T6 Ga or
⊕ II 2 G Ex ia IIB T6 Gb
+
obligatory connection box
OAK/SCHE/NR/.x1MΩ ⊕ II 2 G Ex ia IIC T6 Gb ⊕ I M2 Ex ia I Mb
for connection to the electrode relay
NR 5/Ex, Version A ⊕ I (M1) / II (1) GD
[Ex ia Ma] I / [Ex ia Ga] IIC / [Ex ia Da] IIIC

complies with:

the directive 2014/34/EU (ATEX directive),
the directive 2014/30/EU (EMC directive) and
the directive 2011/65/EU (RoHS directive)

and the standards:

EN 60079-0:2012+A11:2013,

EN 60079-11:2012,

EN 13463-1:2009

and DIN EN 60730-1 (VDE 0631-1):2012-10, EN 60730-1:2011

Sections 23, H.23, Annex ZD,

DIN EN 61000-6-3 (VDE 0839-6-3):2011-09, EN 61000-6-3:2007+A1:2011,

DIN EN 61000-6-2 (VDE 0839-6-2):2006-03, EN 61000-6-2:2005

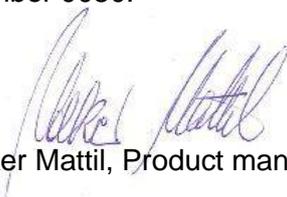
and the design types (according to annex III of directive 94/9/EC or 2014/34/EU) of EC type examination certificate n° 03ATEX0157X and its first, second and third addendum, issued by INERIS, rue J. Taffanel, 60550 Verneuil-en-Halatte (France), notified body, with the number 0080.

The standard EN 60079-0:2012+A11:2013 is not harmonised any more. Neither the changes of the type classified as “extension” nor the changes of the type classified as “major technical changes” of the new harmonized standard EN IEC 60079-0:2018 have, however, an impact on the conformity of the equipment.

The standard EN 13463-1:2009 is not harmonised any more. Neither the changes of the type classified as “extension” nor the changes of the type classified as “major technical changes” of the new standard EN ISO 80079-36:2016 has, however, an impact on the conformity of the equipment.

The production facility in Lambrecht has got the quality assurance notification n° 03ATEXQ405 for the production according to annex IV and VII of directive 94/9/EC or 2014/43/EU. The approval was issued by INERIS, rue J. Taffanel, 60550 Verneuil-en-Halatte (France), notified body with the number 0080.

Lambrecht, 21 July 2022


Volker Mattil, Product manager