

Lock switch contact.

WINDOW HARDWARE

DOOR HARDWARE

SLIDING DOOR HARDWARE

VENTILATION TECHNOLOGY

BUILDING TECHNOLOGY

DOOR HARDWARE

KFV

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Target group of this documentation

This documentation is intended for use by specialists only. All work described in this document is to be performed by experienced professionals with training and practice in the assembly and installation of door locks in connection with electronic components. Safe and proper assembly of this electronic door lock is not possible without expert knowledge.

Intended use

- The lock switch contact is suitable for use in striker plates or locking rails with Q-adjustment in combination with KfV multi-point locks with hook bolts or pin-hook-bolt combination.
- The lock switch contact is used in systems, e.g. alarm systems that provide feedback on the status of the door lock.
- The lock switch contact is suitable for installation in timber, aluminium, steel and PVC front doors in residential and public buildings.
- All assembly and electrical installation work must be carried out according to our assembly and installation instructions.
- Use the lock switch contact only when it is in a technically sound condition. Do not modify the unit's components in any way.
- Use the lock switch contact only with genuine accessories from KfV.
- Switching voltage 30 V DC, 0.2 A

Improper use

- When used in steel frames and /or doors made of timber, aluminium and PVC with steel reinforcement, it must be ensured that there is sufficient clearance to the magnetic parts. This area must be milled if necessary.
- Application of mechanical force to the housing e.g. during assembly, could damage the casing of the reed switch. Installation using heavy tools (e.g. hammers) is strictly prohibited!
- The magnet loses its field strength if it is subjected to intense heat, vibration or mechanical processing.
- Wiring the unit incorrectly can irreparably damage the component.
- Operating voltage >30 V DC; switching current > 0.2 A
- Temperatures outside the specifications in the technical data

Technical information on magnetic contacts

Lock switch contacts based on reed contact are sensitive to excessive voltage or currents. As reed contacts open their contact extremely quickly, very high self-induction voltages are generated when switching off inductive and capacitive switching devices such as e.g. relays. The lock switch contact must be protected here.

Electrical values

Please observe the technical specifications on page 14. These specifications are max. values and may never be exceeded, not even for brief periods of time. Therefore, under no circumstances may continuity testers with in-built bulbs be used for the testing/inspection of lock switch contacts. The current flowing through the lock switch contact in these devices is so high that the contact could be damaged irreparably. Only use the control device magnetic switch ZUPG0010 for testing or inspection purposes. (Fig. 6)

Contact protection

To avoid overloading the switch, we recommend the provision of a protective circuit for the switching of lamp loads, capacity or inductivity. The electrical values (current, voltage and output) defined in the technical specifications of the magnetic contacts are applicable for purely ohmic loads. Usually, however, the loads are combined with inductive or capacitive components or lamp loads are switched. In all these cases, the magnetic contacts must be protected against the occurrence of peak voltages and currents.

When is a contact protection necessary?

- VdS burglar alarm systems are designed for the activation of alarm contacts and do not require any further contact protection. Contact protection is appropriate if alarm contacts are operated outside units/systems that are not designed for reed contacts.

Alarm contacts loaded with capacitive or inductive switching devices must be safeguarded with a contact protection.

Below you will find some recommendations of how magnetic contacts should be wired for different types of load in order to prevent wear and tear or premature failure.

Capacitive loads

In contrast to inductive loads, increased inrush currents could occur with capacitive loads and lamp loads, which could lead to interference - including contacts possibly welding together.

When charged capacitors are switched (e.g. also cable capacitors), a sudden discharge occurs, the intensity of which depends on the capacity and length of the supply line to the switch to be regarded as series resistor. The discharge current peak is reduced to a greater extent by a series resistor to the capacitor.

Its dimensions are determined by the possibilities of the relevant circuit. In any case, it should be as large as possible to limit the discharge current to an admissible value. These considerations also apply to the charging of capacitors.

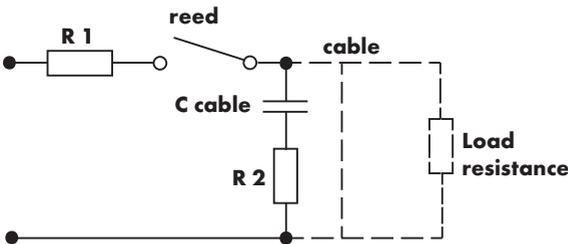


Fig. 1
Protection against high discharge current from capacitors. According to circuit, R 1 or R 2 or both should be used.

Lamp loads

It is a well-known fact that light bulb filaments when cold, i.e. when switched off, have a resistance that is approximately one tenth of the resistance when burning. This means that on activation, even for a short time, a current flows that is ten times higher than the current when the lamp is static. This 10-fold inrush current can be reduced to an admissible level by means of a current-limiting resistor connected in series. Another possibility is the parallel connection of a resistor to the switch which continually pre-heats the deactivated lamp filament to an extent that it is not quite yet glowing. Both types of protection are associated with a loss in performance.

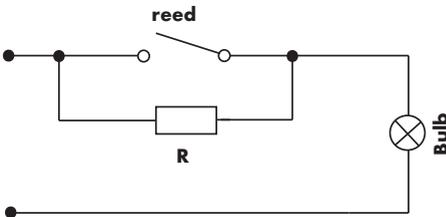


Fig. 2
Parallel connection of the lamp load to the switch

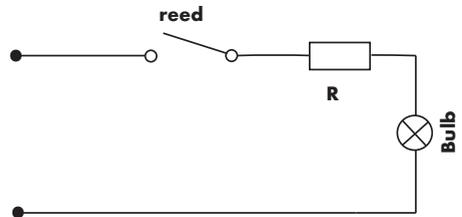


Fig. 3
Connection in series of the lamp load to the switch

Direct current

For switching of direct current, a free-wheeling diode must be connected in parallel to the load. The polarity must be accomplished out to ensure that the diode locks at the normal operating voltage and, on opening the switch, inversely short circuits occurring voltage peaks.

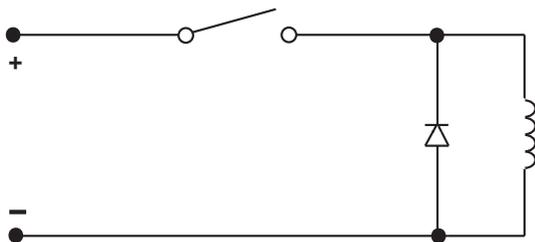


Fig. 4
Direct current

Alternating current

An electric arc attenuator must be used when switching to alternating current. In general this is an RC element, which is connected in parallel to the switch and therefore connected in series with the load.

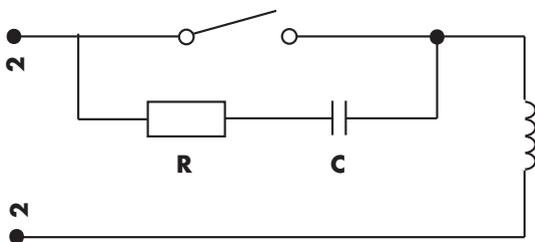


Fig. 5
Alternating current

Magnetic switch test unit ZUPG0010

You can check the function of the magnetic contact and the NO or NC contacts with the aid of the magnetic switch ZUPG0010.

To do this, connect the three cables of the magnetic contact to the connections 1-3 with the aid of the test terminals provided. When disconnected, the two LEDs of the NC contact light up.

If a metal bar is now pushed between the magnetic contact, the two LEDs of the NO contact light up.

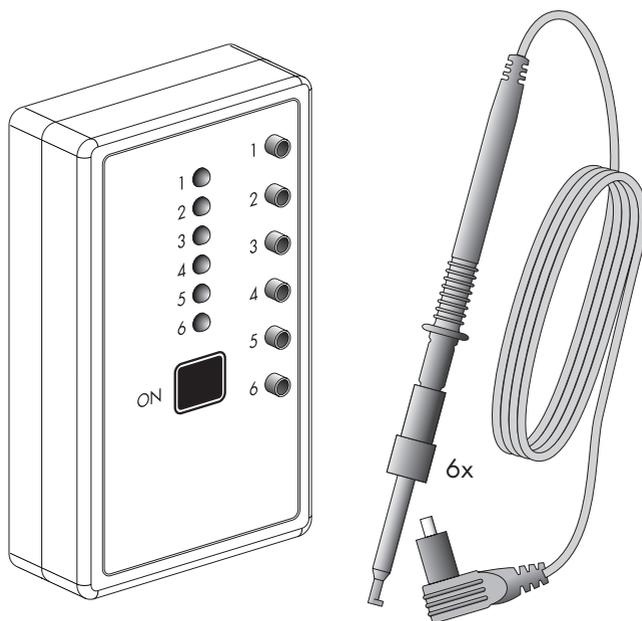
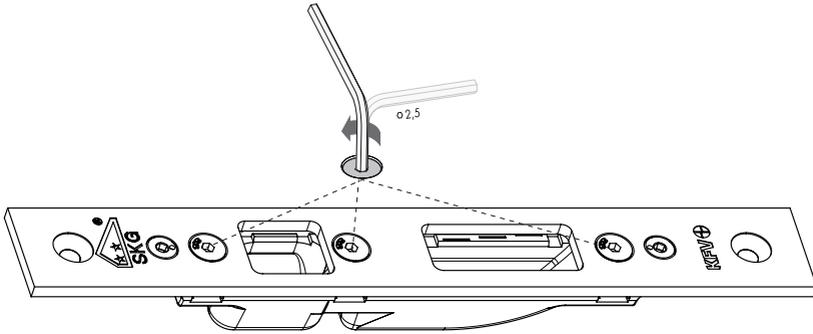


Fig. 6
Magnetic switch test unit ZUPG0010

Assembly

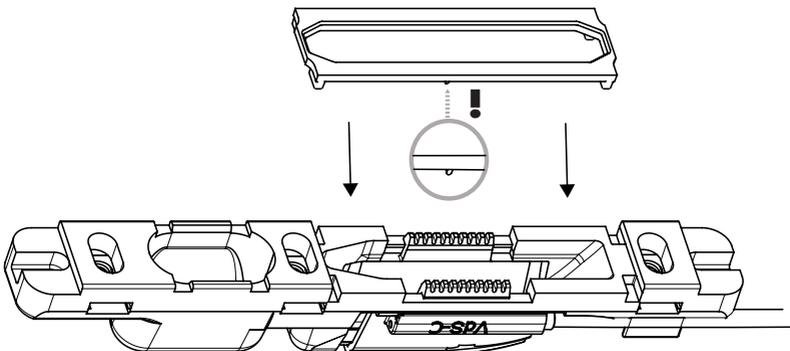
Unscrew the existing Q-adjustment

Attention: You will also require screws and eccentric mandrels!

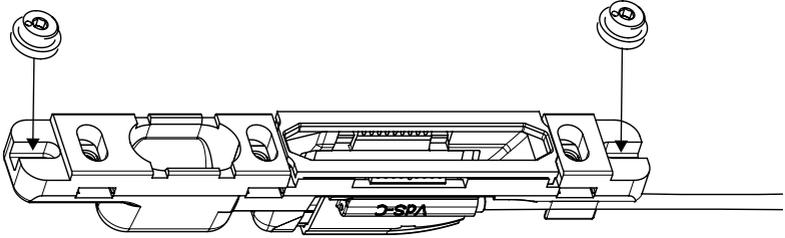


Assembling a new lock switch contact

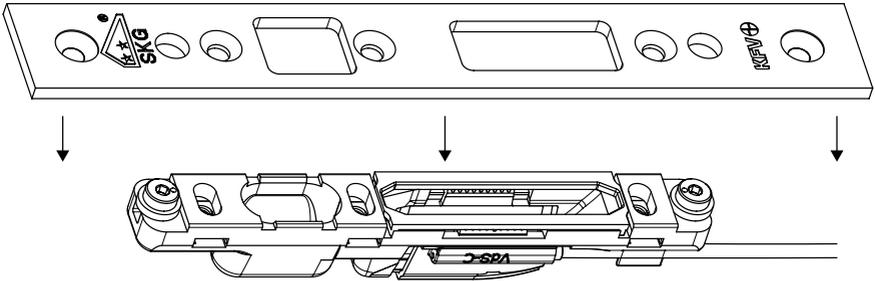
1. Mount the fixing plate



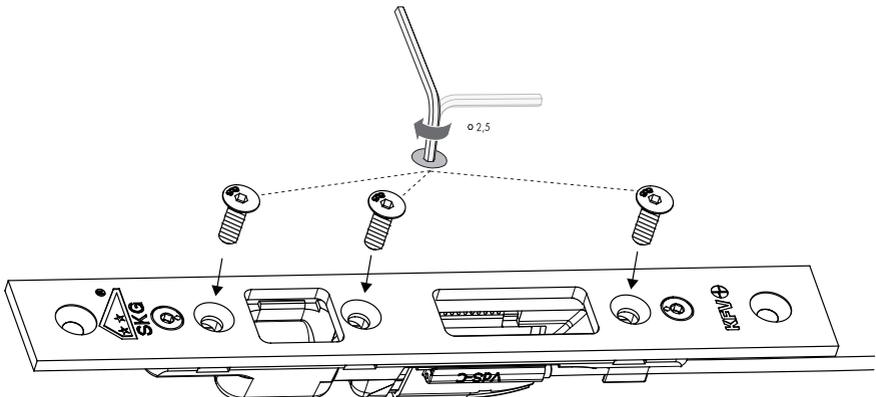
2. Position the eccentric mandrels



3. Position the striker plates or locking rail



4. Screw on the striker plate or locking rail



Wiring diagram

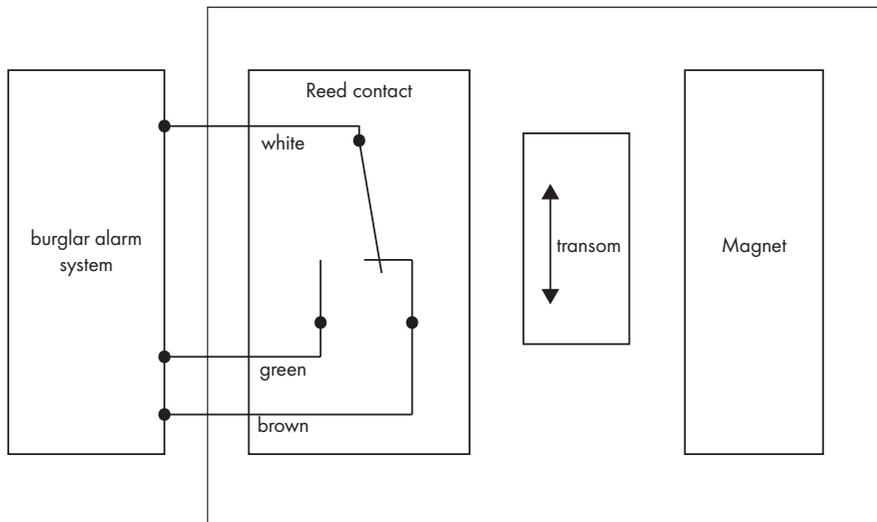


Fig. 7
Wiring diagram

Checking functionality

On completion of the assembly, the dead bolt monitoring device must be checked for electrical switching function (e.g. with a multimeter or the test unit ZUPG0010).

If the desired switching point is not reached immediately, the lock casing must be adjusted as described in the following pages (adjustment of the trigger contact).

The magnet slider (trigger) is height-adjustable by +/- 3 mm. To achieve this, loosen the 3 fixing screws of the Q-adjustment and carefully lift the magnet slider out of the locking mechanism using a flathead screwdriver and push upwards or downwards. The gear teeth will engage in 1.5 mm steps. To achieve a later trigger point, push the magnet slider further upwards – for an earlier triggering, push further downwards.

Adjustment of the trigger contact magnet

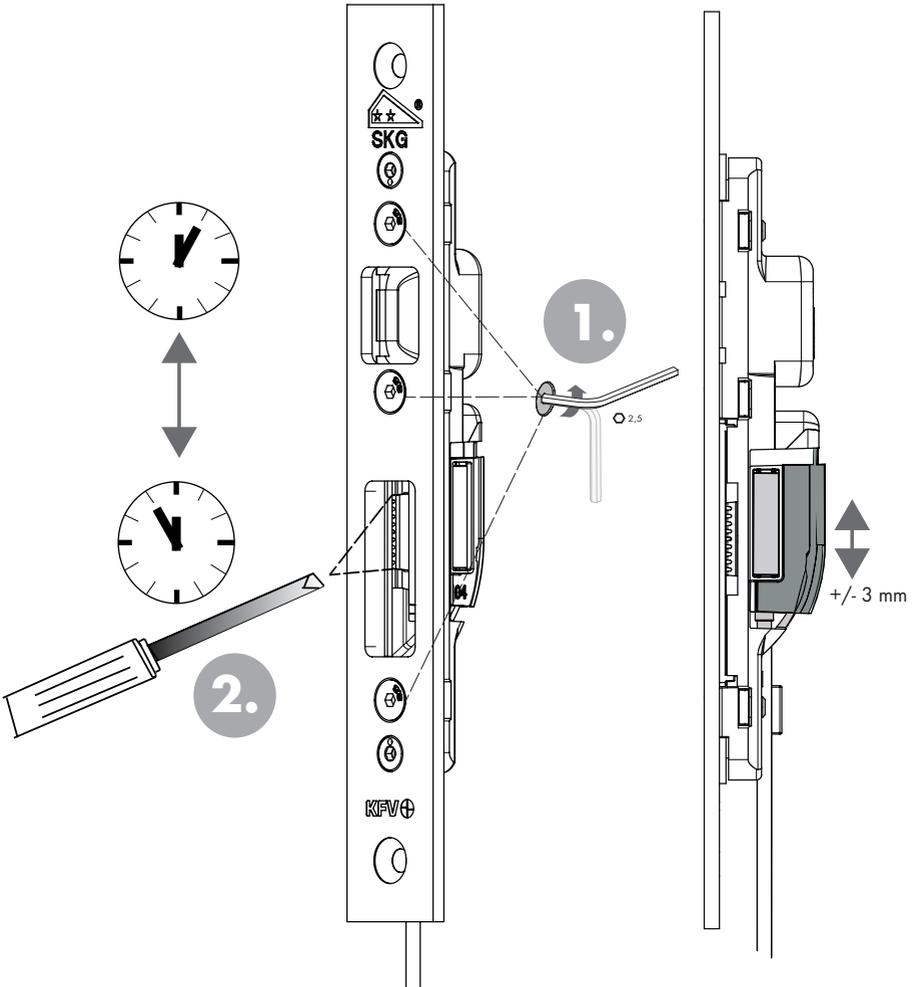


Fig. 8
Adjustment of the switch contact

Adjustment of the frame parts

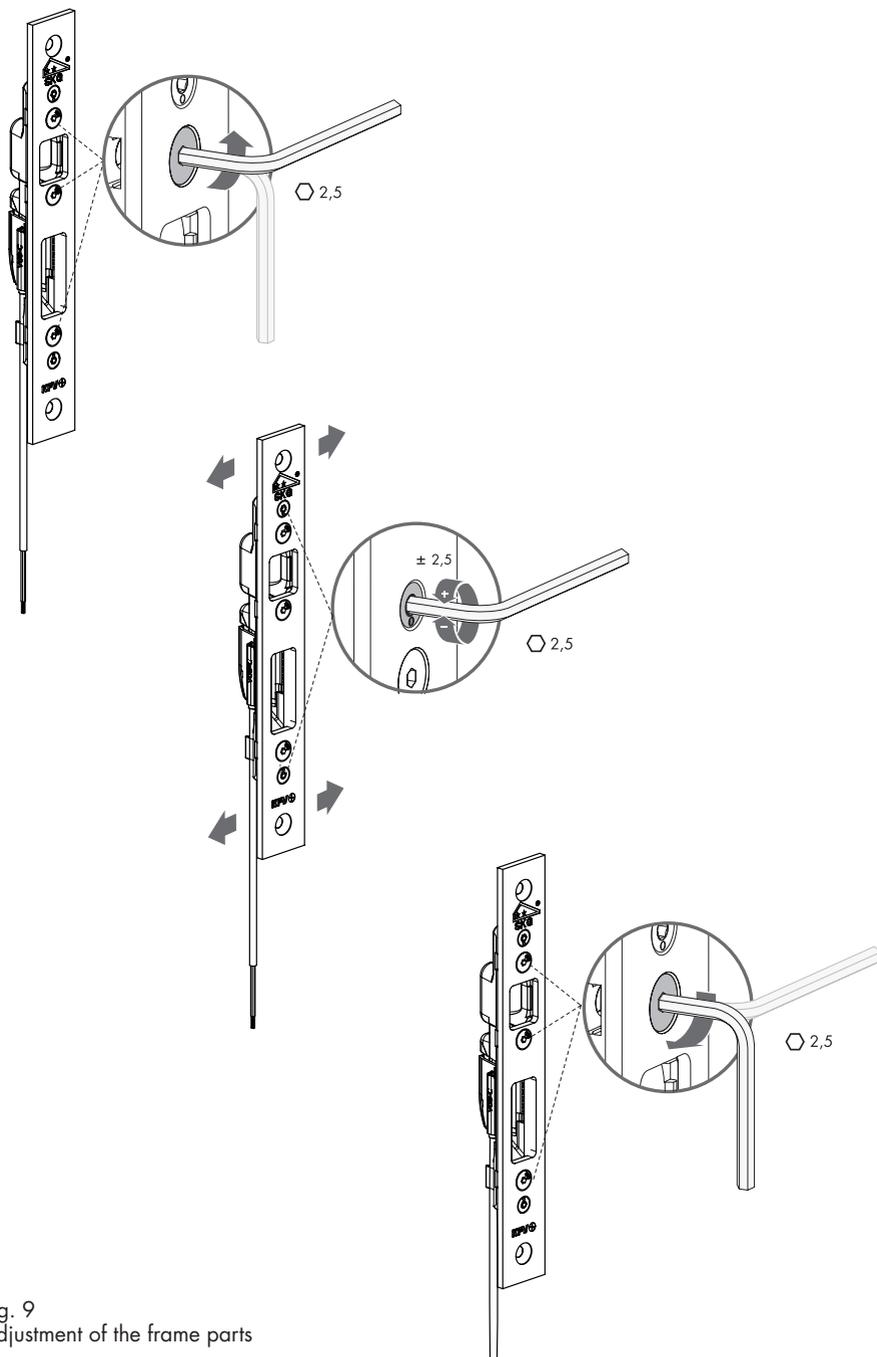


Fig. 9
Adjustment of the frame parts

Technical specifications

| | |
|---|------------------------------------|
| Cable | LiYY 3 x 0.14 mm ² |
| Protection class in accordance with DIN 40050 | VdS environmental class III, IP 67 |
| Contact type: | Changeover contact |
| Switching capacity | max. 3 W / VA |
| Switching voltage | max. 30 V DC |
| Switching current | max. 0.2 A |
| Continuous current | max. 0.5 A |
| Temperature with permanently installed cables | 25 °C to 70 °C |
| Temperature with moved cables | 5 °C to 50 °C |
| Installation site | External and internal doors |
| Switching point | adjustable |
| VdS class C certification | G 114009 |

Liability

Intended use

Any use of this product that is not in accordance with its intended use, or any adaptation of or modification to the product and its associated components for which our express consent has not been obtained, is strictly prohibited. We accept no liability whatsoever for any material losses or injury to people caused by failure to comply with this stipulation.

Product liability

Our products are guaranteed – subject to correct installation and proper use – for a period of one year from the date of receipt by a company (according to our general terms and conditions) or as otherwise agreed, and for a period of two years for end consumers, in accordance with statutory provisions. As part of our ongoing improvements, we reserve the right to replace individual components or entire products. Consequential losses resulting from defects are excluded from the warranty within the limits of the law. The warranty shall become void if modifications that are unauthorized by us or have not been described in this documentation are performed on the product and/or individual components, or if the product and/or individual components is/are dismantled or partly dismantled, and the defect is due to the changes made.

Exclusion of liability

The product and its components are subject to stringent quality controls. As a result, they function reliably and safely when used correctly. Our liability for consequential losses and/or claims for damages is excluded, except in the case of wilful misconduct or gross negligence, or where we are responsible for injury to life, limb or health. Strict liability under the German Product Liability Act (Produkthaftungsgesetz) remains unaffected. Liability for the culpable violation of significant contractual obligations also remains unaffected; liability in this case is limited to losses that are specific to the contract and that could have been foreseen. The above regulations do not imply a change in the burden of proof to the detriment of the consumer.

EU Declaration of Conformity



We, KFV KG, declare with full responsibility that this product complies with the provisions of Directives 2008/108/EC and 2006/95/EC of the Council of the European Union.

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