

Emergency-Stop FRVKD - Operating Instructions

(Translation of the Original Operating Instructions)

V1.6 22.02.2024, Art.-Nr.: 615409930



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- The product properties and technical data stated therein do not represent any warranty -

1 About safety

- 1.1 **⚠ Safety regulations:** This operating instructions must be provided to the person who installs the emergency-stop device. Please read it carefully and keep it for future reference.

For customised types the information in the data sheet has to be considered additionally.

- 1.2 **Application:** Schlegel emergency-stops devices are electromechanical switch components to protect persons working with machinery or close to it. They are used to stop or switch off machinery and equipments in order to avert impending or minimize existing dangers to persons or damages on machines / material.

Application possibilities for the illuminated "active/inactive" emergency-stop devices:

- pluggable operation stations
- wireless operation stations
- pluggable plant parts (plant components, stationary available but only temporarily in operation)

in connection with at least one emergency-stop available on the machine.

The following (inter)national statutory provisions apply to installation, commissioning and regular technical inspections:

- Machinery directive 2006/42/EG
- Low-voltage directive 2014/35/EU
- Safety regulations as well as
- Regulations of the accident prevention / safety rules.

Manufacturers and operators of machines using emergency-stops should retain the responsibility for the adherence of these instructions as well as for compliance with the relevant safety regulations and rules.

For the application of emergency-stops as directed the respective requirements for installation and operation must be observed:

- EN60204-1
- EN13849-1
- EN ISO 13850

- ⚠ Disconnect equipment and device from the mains before installation!
- ⚠ Emergency-stops fulfil the function of personal protection. Improper installation or unauthorised modifications may lead to severe personal injuries!
- ⚠ Emergency-stops should not be bypassed, removed or otherwise disabled!
- ⚠ The perceptibility of the active status of the emergency-stop is indicated by the change of colour of the mushroom head by illumination (Fig. 3).
- (!) Improper installation or tampering may result in machinery and material damage!
- (!) The emergency stop function should not replace the applicable safety precautions or other safety functions but should rather be used as a back-up safeguarding measure.
- (!) The emergency stop function should not impair the effectiveness of other safety devices or equipment with other safety functions.

- (!) Based on the hazard analysis the design engineer must ensure that in combination with the control system the emergency-stop meets the required safety category.

- ⚠ A correct voltage and current supply acc. to the data sheet has to be provided for the illumination of the emergency-stop in order to ensure the perceptibility of the "active" operation status.
- ⚠ The emergency-stop may only be used in light conditions ensuring a clear and definite perceptibility of the red illuminated (active) mushroom head.
- ⚠ The emergency-stop may only be used indoors or in covered places without direct sunlight (normal industrial environment).
- ⚠ Before using the emergency-stop a safety appraisal of the entire system is necessary.
- ⚠ Depending on the designer's risk assessment, the illumination of the emergency-stop has to be monitored by means of a "diagnostic unit", and in case of a failure one has to react in accordance with the risk evaluation.
- ⚠ The illumination of the emergency-stop has to be checked regularly as to its clear perceptibility. The emergency-stop has to be exchanged in case the clear perceptibility is no longer given.

- 1.3 **Approvals and technical data:** Refer to the catalogue information of the respective emergency-stop and contact blocks, the data sheet resp. the product configurator under www.schlegel.biz.

Unless otherwise stated in the data sheet, the altitude of the place of use may not be more than 2,000 m above sea level.

2 Product description

- 2.1 **Construction:** Emergency-stop devices consist of variants of different contact configurations. They are operated by pressing the button. Release by twisting left or right.

Features:

Connection: Faston, PCB-mount or M12 connection

Illumination, status indication "active/inactive": acc. to EN ISO13850:2015(D)

Mushroom head non-illuminated = "grey": "inactive", no emergency-stop

Mushroom head illuminated = "red": "active" emergency-stop

2.2 Emergency-stop heads and contact blocks

Pushbuttons	Ø	Contact blocks
FRVKD(O)(OO)(OI) (P) (L_AU) (L_R0) *1)	22.3	Emergency-stops with integrated contact block
FRVKD(O)(OO)(OI) (L_AU) (L_R0) _C001 ...C999	22.3	Emergency-stops with integrated contact block and M12 connector

3 Assembly and commissioning

3.1 Assembly Instructions

- 1) Provide the required mounting hole in an appropriate mounting plate (refer to the relative catalogue drawings)
- 2) Insert the emergency-stop in the cutout.
- 3) Fasten the emergency-stop with the plastic nut. (max. tightening torque to be considered: for 22 mm thread = 1.3 – 1.9 Nm)

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- ⚠ Make sure that the emergency-stop is always easily accessible.
- ⚠ Connecting the R0 variants:
Do not connect the terminals X1-X2 directly to voltage. Observe LED data in the data sheet!
The LED must not be used without a series resistor.

4 Testing before first operation:

Mechanical test: emergency-stop latches when operated

Electrical test:

- Mushroom head is illuminated in "red" in "active" condition (Fig. 3)
- Mushroom head is non-illuminated and "grey" in "inactive" condition (Fig. 3)
- Machine stops / switches off when operated

5 Regular technical inspection

- Based on the risk assesment, the machine designer has to determine the inspection intervall. It is, however, recommended that the competent safety officer activates and tests the emergency-stop at least once a year to ensure its proper function.
- Mechanical and electrical functional test acc. to paragraph 4
- Secure mounting
- No visible unauthorised modifications or damages
- No loose connections
- The emergency-stop must be replaced if the clear visibility is no longer given.

6 Dismounting:

- ⚠ Before dismounting disconnect equipment and device from the mains!

7 Incident operating instructions:

- ⚠ Mechanical overload or external impact damage may impair the function of the emergency-stop.
Make functional tests as mentioned in paragraph 5.

8 Disposal and recycling

The low-polluting emergency-stops can be recycled. For an environmentally friendly recycling and disposal of your waste device please contact a company certified to deal with electronic waste.

9 EC Declaration of Conformity:

(Download under
<http://www.schlegel.biz/web/de/manuals.php><http://www.schlegel.biz/web/de/manuals.php>)

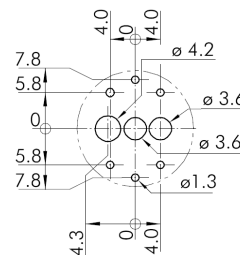


Fig. 2: hole pattern (FRVKD)



Fig. 3: active inactive



Fig. 4: connection M12 connect

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Product descriptions	Emergency-stop devices
Type references:	refer to above table 2.2

The specified products comply with the provisions of the following directives:

Directive:	of:	applied norms:
2006/42/EG	17.05.2006	EN 60947-5-5:1997+A1:2005+ A11:2013 + A2:2017 EN ISO 13850:2015 (D)

**1) Versions with Faston terminals: use partially or all-insulated Faston clamps.