

Mounting & operating instructions

"Emergency-stop device" in SIL enclosure

(translation of the original instructions) V1.5, 18.09.2023, art.no.: 615409910

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

1 About safety

1.1 Safety regulations:

These 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 as well.

1.2 Application:

Schlegel SIL enclosures with emergency-stop devices are electromechanical switch devices to protect persons working with machinery or close to. They are used to stop or switch off machinery and equipments in order to avert impending or minimise existing dangers to persons or damages on machines/material.

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

- Machinery directive 2006/42/EG
- Low-voltage directive 2006/95/EG
- Safety regulations as well as
- Regulations of the accident prevention/safety rules.

Manufacturers and operators of machines using emergency-stop devices 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-stop devices as directed the respective requirements for installation and operation must be observed:

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

Contact blocks are suitable for applications up to PL e acc. to EN ISO 13849-1 and up to SIL CL 3 acc. to EN IEC 62061.

- ⚠ Disconnect equipment and device from the mains before installation!
- ⚠ Emergency-stop devices fulfil the function of human protection. Improper installation or unauthorised modifications may lead to severe personal injuries!
- ⚠ Emergency-stop devices should not be bypassed removed or otherwise disabled!
- ⚠ The switching operation should only be triggered by means of an appropriate emergency-stop button which is securely connected to the contact block!
- ⚠ Suitable connectors to be used with the contact blocks.
- (!) 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.
- (!) The key of emergency-stops with key release must only be inserted during the release procedure.

1.3 Technical Data and connection:

Refer to the catalogue information of the respective emergency-stop, and contact block, the data sheet resp. the product configurator under www.schlegel.biz and the mounting & operating instructions for emergency-stop devices.

2 Product description

2.1 Construction:

The SIL emergency-stop enclosures are designed for cable entries M20 (lateral) and for M12 connection. As an option the emergency-stop device can be illuminated. The button is operated by pushing and reset by turning in either direction.

Features: The emergency-stop heads differ in

- their mode of release: turning in either direction or only to the right; key release by turning to the right; pull release, twist/pull release
- the shape of the protective shroud/anti-lock collar (also illuminated option)
- illumination: illuminated/non-illuminated
- the degree of protection: emergency-stops for standard applications and for the hygiene-critical area acc.to DIN EN 1672-2 and DIN ISO 14159.

The contact blocks are modular or in monoblock design and can be supplied with different connection types (screw type, spring cage, push-in, Faston and PCB-mount terminals).

2.2 Product reference

Pushbuttons	Connection type	Ag/Au
SILH_RXBUVO	cable entry M20	Ag
SILH_RXUVOOII		Ag
SIL(H)_QR(SK)(B)(L)UV(7 O)(SE)(P)(O)(OS)(OO)(O OS)(OI)(OIS)(OOI)(OOIS)(OOO)(OOOS)(OOOO)	4-pole M12	Ag
SIL(H)_QR(SK)(B)(L)UV(7 O)(SE)(P)(O)(OS)(OO)(O I)(_)Mxx(4)	5-pole, M12	Ag
SIL(H)_QR(SK)(B)(L)UV(7 O)(SE)(P)(O)(OS)(OO)(O OS)(OI)(OIS)(OOI)(O OIS)(OOO)(OOOS)(_)M xx(5)	8-pole M12	Ag
SIL(H)_QR(SK)(B)(L)UV(7 O)(SE)(P)(O)(OS)(OO)(O OS)(OI)(OIS)(OOI)(O OIS)(OOO)(OOOS)(OO OO)(_)Mxx(8)		

3 Assembly and commissioning

3.1 Assembly instructions

- Mount lower enclosure part on an appropriate surface.
- When using the M20 cable entry the blind plug for break out needs to be removed with a suitable tool (Figure 1).
- Insert wiring cable in the enclosure or rather connect it to the enclosure.
- ⚠ Respect the tightening torques stated in the data sheet!
- ⚠ Make sure that the contact blocks used in the enclosure are connected correctly in order to comply with the clearance and creepage distance requirements for insulated enclosures on proper use.
- ⚠ Check whether contact block and emergency-stop head are snap-fitted correctly. Close the enclosure.

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- ⚠ Make sure to have the enclosure closed tightly (tighten all screws...)
- ⚠ Make sure that the emergency-stop device is always easily accessible. This particularly applies to emergency-stop devices with high protective shroud!

4 Testing before first operation:

Mechanical test: emergency-stop device latches when operated.
Electrical test: 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 device at least once a year to ensure its proper functioning.
- mechanical and electrical functional test acc. to paragraph 4
- secure mounting
- no visible unauthorised modifications or damages
- no loose connections

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 device. Make functional tests as mentioned under 5.

8 Disposal and recycling

The low-polluting emergency-stop devices 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>)

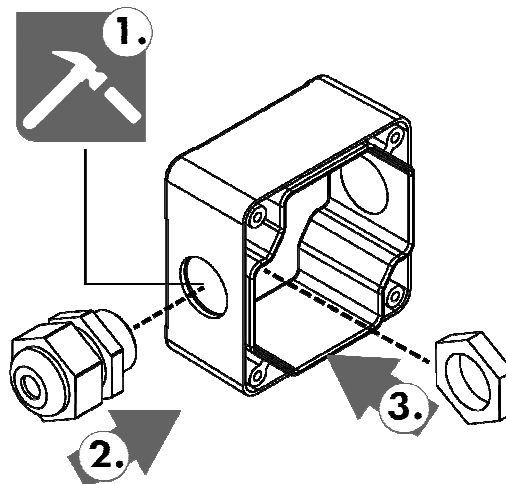


Figure 1: Mounting of cable gland (respect the tightening torque of the cable gland!)

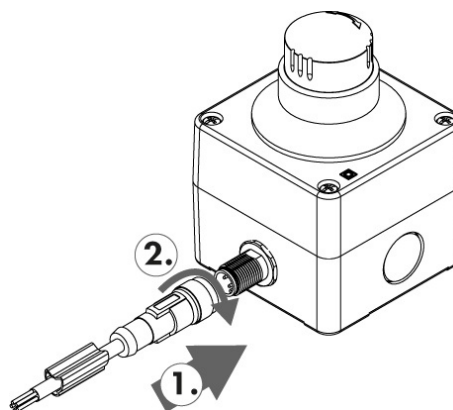


Figure 2: In order to ensure the stated IP degree the union nut of the M12 connector to be tightened with max. 0.4 Nm

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Product description Type references:	emergency-stop device in SIL enclosure refer to above table 2.2
The specified products comply with the provisions of the following directives:	applied norms:
Directive: of:	
2006/42/EG 17.05.2006	EN 60947-5-5:1997/A2:2017 EN ISO 13850:2015 (D)