



EN Operating instructions.pages 1 to 10
Original

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1. About this document

1.1 Function

This operating instructions manual provides all the information you need for the mounting, set-up and commissioning to ensure the safe operation and disassembly of the safety switchgear. The operating instructions must be available in a legible condition and a complete version in the vicinity of the device.

1.2 Target group: authorised qualified personnel

All operations described in this operating instructions manual must be carried out by trained specialist personnel, authorised by the plant operator only.

Please make sure that you have read and understood these operating instructions and that you know all applicable legislations regarding occupational safety and accident prevention prior to installation and putting the component into operation.

The machine builder must carefully select the harmonised standards to be complied with as well as other technical specifications for the selection, mounting and integration of the components.

1.3 Explanation of the symbols used



Information, hint, note:

This symbol is used for identifying useful additional information.



Caution: Failure to comply with this warning notice could lead to failures or malfunctions.

Warning: Failure to comply with this warning notice could lead to physical injury and/or damage to the machine.

1.4 Appropriate use

The products described in these operating instructions are developed to execute safety-related functions as part of an entire plant or machine. It is the responsibility of the manufacturer of a machine or plant to ensure the correct functionality of the entire machine or plant.

The safety switchgear must be exclusively used in accordance with the versions listed below or for the applications authorised by the manufacturer. Detailed information regarding the range of applications can be found in the chapter "Product description".

1.5 General safety instructions

The user must observe the safety instructions in this operating instructions manual, the country specific installation standards as well as all prevailing safety regulations and accident prevention rules.



Further technical information can be found in the Schmersal catalogues or in the online catalogue on the Internet: products.schmersal.com.

The information contained in this operating instructions manual is provided without liability and is subject to technical modifications. There are no residual risks, provided that the safety instructions as well as the instructions regarding mounting, commissioning, operation and maintenance are observed.

1.6 Warning about misuse



In case of improper use or manipulation of the safety switchgear, personal hazards or damages to machinery or plant components cannot be excluded. The relevant requirements of the standard ISO 14119 must be observed.

1.7 Exclusion of liability

We shall accept no liability for damages and malfunctions resulting from defective mounting or failure to comply with this operating instructions manual. The manufacturer shall accept no liability for damages resulting from the use of unauthorised spare parts or accessories.

For safety reasons, invasive work on the device as well as arbitrary repairs, conversions and modifications to the device are strictly forbidden; the manufacturer shall accept no liability for damages resulting from such invasive work, arbitrary repairs, conversions and/or modifications to the device.

2. Product description

2.1 Ordering code

This operating instructions manual applies to the following types:

Solenoid Interlock SHGV-①/②③④/⑤/⑥+⑦

No.	Option	Description
①	Z	Default locking system
	P	Central locking system
	P	PACRI standard locking system
	ZP	PACRI central locking system
②	B	Lock barrel at the bottom
	L	Left-hand side locking cylinder
	R	Right-hand side locking cylinder
③	D	Additional lock barrel (front)
④	01	with one actuating head
	1.1	with two actuating heads for double-leaf doors
⑤	...	Key number
⑥	...	Key number of the additional lock barrel
	BO	Straight actuator
	BOW	Angled actuator
	BOR	Radius actuator
	BOWR	Angled radius actuator
	BOF/HIS.1	Telescopic actuator, rearside fixing.
	BOF/HIS.2	Telescopic actuator, topside fixing.

Key-operated selector switch SHGV①/ESS21S2/②/103

No.	Option	Description
①	Z	Default locking system
	P	Central locking system
	P	PACRI standard locking system
	ZP	PACRI central locking system
②	...	Key number

Key-operated selector switch-interlocking device SVE①②-③-④⑤

No.	Option	Description
①	1	1 key-operated selector switches
	2	2 key-operated selector switches
	3	3 key-operated selector switches
②		Default locking system
	Z	Central locking system
	P	PACRI standard locking system
	ZP	PACRI central locking system
③	...	Key number(s)
	④	Magnet: 1 NC/1 NO contact
④		Key-operated selector switch: 1 NC/1 NO NC contacts in series
	3NC	Magnet: 1 NC/1 NO contact
		Key-operated selector switch: 2 NC/1 NO NC contacts in series
	W	Magnet: 1 NC/1 NO contact
⑤		Key-operated selector switch: 2 NC/1 NO NC contacts separately
	⑤	U _s 24 VDC
	24 VAC	U _s 24 VAC
	115 VAC	U _s 115 VAC
	230 VAC	U _s 230 VAC

Key distribution station SVM1①/②-③/④/⑤

No.	Option	Description
①	Z	Default locking system
	P	Central locking system
	P	PACRI standard locking system
	ZP	PACRI central locking system
②	...	Key number primary key
③	6	6 secondary keys
	10	10 secondary keys
④	...	Key number secondary key
⑤	E	Mounting plate
	A	Assembly housing

Not all component variants, which are possible according to this order code, are available.



Only if the information described in this operating instructions manual are realised correctly, the safety function and therefore the compliance with the Machinery Directive is maintained.

2.2 Special versions

For special versions, which are not listed in the order code below 2.1, these specifications apply accordingly, provided that they correspond to the standard version.

2.3 Purpose

The trapped key system, consisting of the components SHGV..., SHGV/ESS... and SVM..., has been designed to prevent, in conjunction with the control part of the machine, movable safety guards from being opened before hazardous conditions have been eliminated.

By turning the key-operated selector switch from the trapped position into the removable position, the NC contacts are positively opened and the NO contacts closed.



This combination can only be used for applications, in which the hazardous situation is eliminated without delay (e.g. run-on movements) after the switch-off command from the key-operated selector switch.

..., SVE... and SVM..., has been designed to prevent, in conjunction with the control part of the machine, movable safety guards from being opened before hazardous conditions have been eliminated. If the control part of the machine transmits a signal to the SVE... that the hazardous situation has been eliminated, the key can be withdrawn from the SVE..., as a result of which the movable safety guard can be opened.



If a delay device (e.g. fail-safe delay timer SRB-E-302FWS-TS) is used to bypass the stopping time, a failure of this device must not cause the delay time to be reduced.



Please implement the necessary organisational measures to ensure that only one main key is in use for each system. The user imperatively must ensure that a key number (coding) is only used just once in every plant (factory premises).



The safety switchgears are classified according to ISO 14119 as type 2 interlocking devices.



The user must evaluate and design the safety chain in accordance with the relevant standards and on the required safety level.

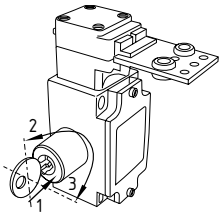


The entire concept of the control system, in which the safety component is integrated, must be validated to the relevant standards.

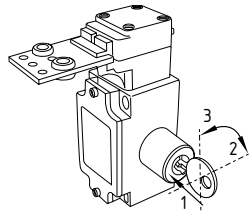
Interlocking device with key tumbler cylinder SHGV/L01/...; SHGV/R01/...; SHGV/B01/...

Insert the key from a SHGV/ESS..., SVE... or SVM... in the key tumbler cylinder (1) and turn it into position (2). The interlocking device is unlocked, the safety guard can be opened. The key can only be returned into position (3) and withdrawn, when the safety guard is closed.

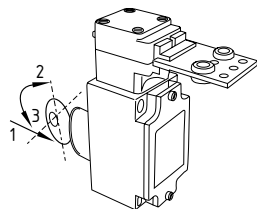
SHGV/L01...



SHGV/R01...



SHGV/B01...

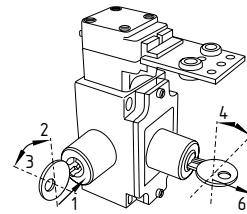


If on the basis of the risk assessment it cannot be excluded that persons are trapped inside the hazardous zone, the interlocking device with 2 lock barrels of type SHGV/LD1/... or SHGV/RD1/... must be used.

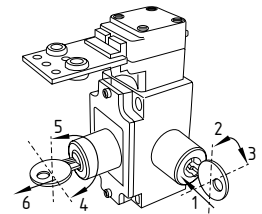
Interlocking device with two key tumbler cylinders SHGV/LD1/...; SHGV/RD1/...

Insert the key from a SHGV/ESS..., SVE... or SVM... in the key tumbler cylinder (1) and turn it into position (3). The interlocking device is unlocked, the safety guard can be opened. In this position, the second key (6) can be turned from position (4) into position (5) and withdrawn. The guard door cannot be locked by means of key (1) as long as the key (6) is inserted in the key tumbler cylinder and turned into position (4). In position (4), the key (6) cannot be withdrawn. The key (1) can only be returned to position (2) and withdrawn, if the key (6) is in position (4) and the safety guard is closed.

SHGV/LD1...



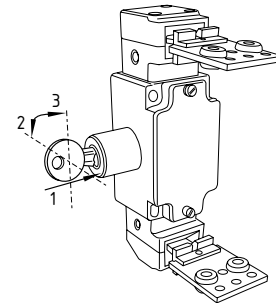
SHGV/RD1...



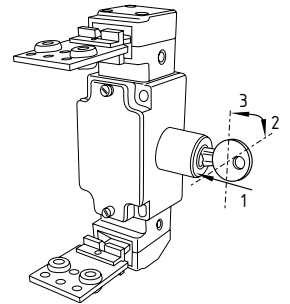
Interlocking device with two actuators SHGV/L1.1/...; SHGV/R1.1/...; SHGV/B1.1/...

Insert the key from a SHGV/ESS..., SVE... or SVM... in the key tumbler cylinder (1) and turn it into position (2). The interlocking device is unlocked, both safety guards can be opened. The key can only be returned to position (3) and withdrawn, when both safety guards are closed.

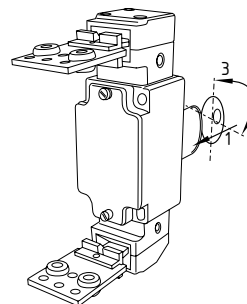
SHGV/L1.1...



SHGV/R1.1...

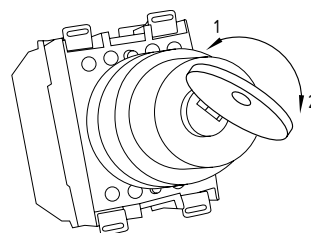


SHGV/B1.1...



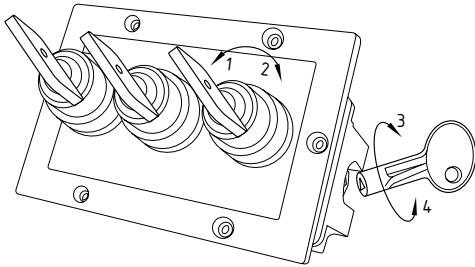
Key-operated selector switch SHGV/ESS...

In position (1), the key is trapped and cannot be withdrawn. The NC contact(s) is/are closed. The NO contact(s) is/are opened. By turning the key into position (2), the NC contact(s) is/are positively opened and the NO contact(s) closed. In this position, the key can be withdrawn.



Key-operated selector switch-interlocking device SVE...

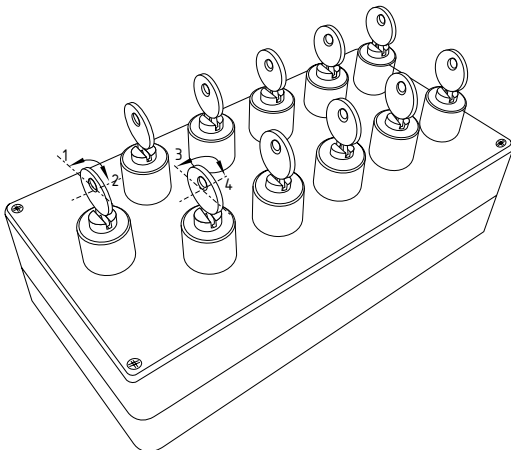
In position (1), the key(s) is/are trapped and cannot be withdrawn. The NC contacts of the key-operated selector switch are closed. The NO contacts are open. The NC contact of the magnet monitoring is closed and the NO contact is open. If the magnet is in de-energised condition, the keys cannot be turned and withdrawn. If the magnet is energised, it will unlock the key-operated selector switch. The NC contact of the magnet monitoring is opened and the NO contact closed. After the keys are turned into position (2), they can be withdrawn. In this position, the NC contacts of the key-operated selector switch are positively opened and the NO contacts closed. In this key position, the solenoid cannot switch to the "locked" position when the voltage supply is switched off.



Manual release (during set-up, maintenance, etc.) The manual release is realised by turning the triangular key (included in delivery) to the right (3), so that the solenoid is pulled into the release position. The normal locking function is only restored after the triangular key has been returned to its original position (4). The manual release must be sealed after being put into operation (e.g. sealant etc.).

Key distribution station SVM1...

In position (1), the primary key can be withdrawn. When the primary key is removable, the secondary keys can only be in position (3) and will be trapped (i.e. cannot be withdrawn). If the primary key is turned into position (2), the secondary keys can be turned into position (4) and be withdrawn. If one or more secondary keys are in position (4) either removed, the primary key cannot be withdrawn. The primary key is coming either from a SHGV/ESS... key-operated selector switch or a SVE... key-operated selector switch interlocking device. Multiple SHGV/... interlocking devices can be unlocked by means of the secondary keys.



2.4 Technical data

Interlock SHGV...:

Standards:	ISO 14119
Enclosure / cover:	Aluminium / chromated steel
Actuator and locking bolt:	Galvanised steel / zinc die-cast
Coding level according to ISO 14119:	
- Actuator:	low
- Key:	high
Protection class:	IP65
Ambient temperature:	-25 °C ... +70 °C
Actuating speed:	0.2 m/s
Actuating frequency:	max. 5/h
Mechanical life:	100.000 operations
F _{max} :	1,250 N; SHGV/B...: 1,750 N
F _{Zh} :	950 N; SHGV/B...: 1,300 N
Latching force:	5 N

Key-operated selector switch SHGV/ESS...:

Standards:	IEC 60947-5-1, ISO 14119
Installation diameter:	22.3 mm
Front plate thickness:	1 ... 6 mm
Mounting position:	any
Ambient temperature:	-25 °C ... +75 °C
Protection class:	IP65
Front ring material:	Aluminium anodised
Mounting:	with mounting flange
Max. tightening torque for the ELM fixing screws:	0.6 Nm
Actuating frequency:	max. 5/h
Mechanical life:	100.000 operations

Contact element (in combination with SHGV/ESS...):

Contact material:	Silver
Protection class:	Wiring level: IP20 Wiring compartment: IP40
Contact type:	Change-over contact with double break type Zb, with galvanically separated contact bridges
Switching system:	⊖ IEC 60947-5-1, slow action, NC contact with positive break
Connection:	screw terminals
Cable type:	solid wire
Cable section:	max. 2 × 0.5 ... 2.5 mm ²
Cable type:	stranded wire
Cable section:	max. 2 × 0.5 ... 1.5 mm ² with conductor ferrules
Positive break travel:	approx. 2 mm after the opening point
Mechanical life:	10 million operations
Ambient temperature:	-25 °C ... +50 °C
Utilisation category:	AC-15, DC-13
Rated operating current/voltage I _q /U _q :	8 A / 230 VAC; 5 A / 24 VDC

Rated insulation voltage U _i :	400 V
Rated impulse withstand voltage U _{imp} :	4 kV
Thermal test current I _{thc} :	10 A
Max. fuse rating:	10 A gG D-fuse to IEC 60269-1

Key-operated selector switch-interlocking device SVE...:

Standards:	IEC 60947-5-1, ISO 13849-1, ISO 14119
Enclosure:	glass-fibre reinforced thermoplastic, self-extinguishing
Latching bolt:	Plastic
Contact material:	Silver
Protection class:	IP65
Protection class:	II
Contact type:	Change-over contact with double break type Zb, with galvanically separated contact bridges
Switching system:	⊖ IEC 60947-5-1, slow action, NC contact with positive break
Termination:	Connector plug with screw terminals
Cable type:	solid and stranded wire
Cable section:	
- solid:	0.2 ... 2.5 mm ²
- stranded wire:	0.2 ... 2.5 mm ² with conductor ferrules

Rated impulse withstand voltage U_{imp} :	4 kV
Rated insulation voltage U_i :	250 V
Thermal test current I_{the} :	4 A
Degree of pollution:	2
Overvoltage category:	II
Utilisation category:	AC-15, DC-13
Rated operating current/voltage I_e/U_e :	4 A / 230 VAC; 4 A / 24 VDC
Max. fuse rating:	4 A gG D-fuse to EN 60269-1
Positive break travel (unlocked):	2 × 3.5 mm
Positive break force (unlocked):	20 N
Duty ratio solenoid:	100 %
Rated control voltage U_s :	24 VDC, 110 VAC: 50 / 60 Hz; 230 VAC: 50 / 60 Hz
Power consumption:	max. 8.5 W
Ambient temperature:	0 °C ... +50 °C
Actuating frequency:	max. 5/h
Mechanical life:	100.000 operations

Key distribution station SVM...

Standards:	ISO 13849-1, ISO 14119
Enclosure:	Design .../A: Aluminium
Front plate:	Design .../E: Stainless steel
Latching bolt:	Brass
Protection class:	IP65 (SVM1.../A) IP40 (SVM1.../E)
Ambient temperature:	-25 °C ... +50 °C
Actuating frequency:	max. 5/h
Mechanical life:	100.000 operations

2.5 Safety classification

Classification

Interlock SHGV... / Key distribution station SVM...:

Standards:	ISO 13849-1
MTTF _D :	150 years
Category:	applicable up to PL d
Mission time (dependent on actuation frequency):	20 years

Classification Key-operated selector switch SHGV/ESS...:

Standards:	ISO 13849-1
B _{10D} (NC contact):	100,000
B _{10D} (NO contact):	100,000
Mission time:	20 years

Classification of SVE... interlocking device/

key-operated selector switch release circuit and auxiliary contact:

Standards:	ISO 13849-1
Envisaged structure:	
- Basically:	applicable up to cat. 1 / PL c
- With 2-channel usage and fault exclusion mechanism:	applicable up to cat. 3 / PL d with suitable logic unit
B _{10D} NC contact:	100,000
B _{10D} NO contact at 10% ohmic contact load:	100,000
Mission time:	20 years

$$MTTF_D = \frac{B_{10D}}{0,1 \times n_{op}} \quad n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

(Determined values can vary depending on the application-specific parameters h_{op} , d_{op} and t_{cycle} as well as the load.)

Classification of the guard locking function

SVE... / key release:

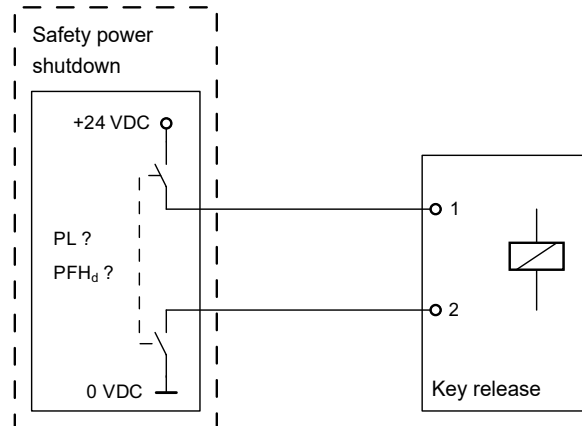
The key release must always be classified.

The following classification of the key release is based on the application of the principle of safety energy disconnection for the solenoid connection.

A fault exclusion for the locking device of the solenoid interlock of the interlocking device can be assumed by a fail-safe energy disconnection.

In this case, the locking device of the interlocking device does not have an effect on the failure probability of the key release.

The safety level of the key release is also determined by the external safety power shutdown.



Fault exclusion with regard to wiring routing must be observed.

3. Mounting

3.1 General mounting instructions



Please observe the relevant requirements of the standards ISO 12100, ISO 14119 and ISO 14120.

Interlocking device

Four mounting holes are provided for fixing the interlock. Any mounting position. The mounting position must be chosen so as to avoid the penetration of dirt in the used holes. For the lock barrel, the SHGV-SK dust-proof flap (accessory) can be used as required. In case of painting activities, the components must be covered.

If another actuating direction is desired, the four screws of the actuating head must be loosened. Turn the actuating head in the desired direction and retighten the screws (tightening torque 0.5 Nm). To satisfy manipulation protection requirements, the two standard screws must be replaced with the non-removable screws supplied. The actuator must be inserted when the actuating head is turned.

The solenoid interlock must not be used as an end stop.

Key-operated selector switch SHGV/ESS...

Any mounting position. The mounting position however must be chosen so that the ingress of dirt and soiling in the lock barrel is avoided. If necessary, use the dust protection cap SHGV-SK (accessories). Mount the key-operated selector switch in the provided mounting hole Ø 22.3 by means of the mounting flange, align and tighten. (tightening torque: 0.6 Nm). Snap the contact elements onto the mounting flange. Check for a correct and firm fixation of the elements.

Key-operated selector switch-interlocking device SVE...

Six mounting holes are provided for fixing the device. Any mounting position. The mounting position however must be chosen so that the ingress of dirt and soiling in the lock barrel is avoided, use the SHGV-SK dust-proof flap (accessory) if necessary. In case of painting activities, the components must be covered.



The key-operated selector switch interlocking device SVE... must be installed in a switch cabinet/enclosure with protection class IP54 at a minimum.

Key distribution station SVM...

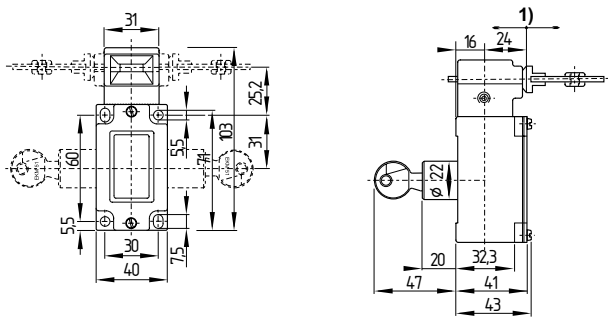
Four mounting holes are provided for fixing the device. Any mounting position. The mounting position however must be chosen so that the ingress of dirt and soiling in the lock barrel is avoided, use the SHGV-SK dust-proof flap (accessory) if necessary. In case of painting activities, the components must be covered.

3.2 Dimensions

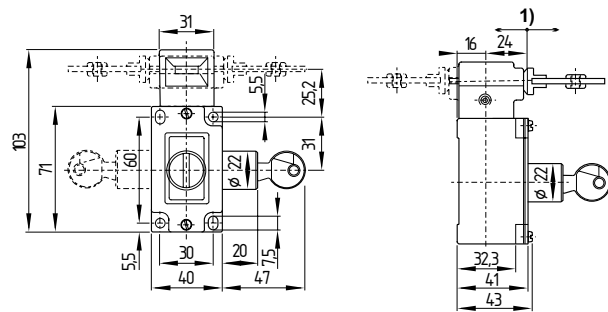
All measurements in mm.

Interlock SHGV...

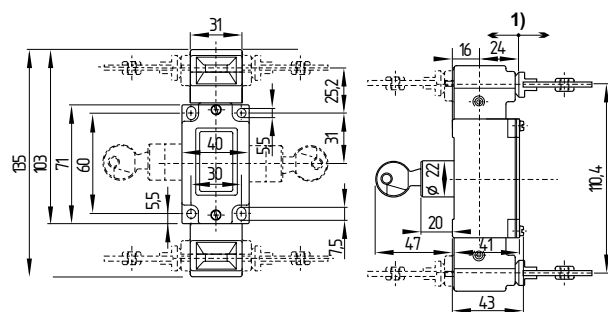
SHGV/R01/..., SHGV/L01/..., SHGV/B01/...



SHGV/RD1/..., SHGV/LD1/...

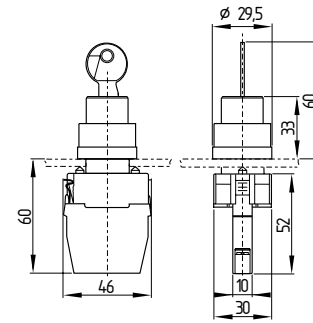


SHGV/R1.1/..., SHGV/L1.1/..., SHGV/B1.1/...



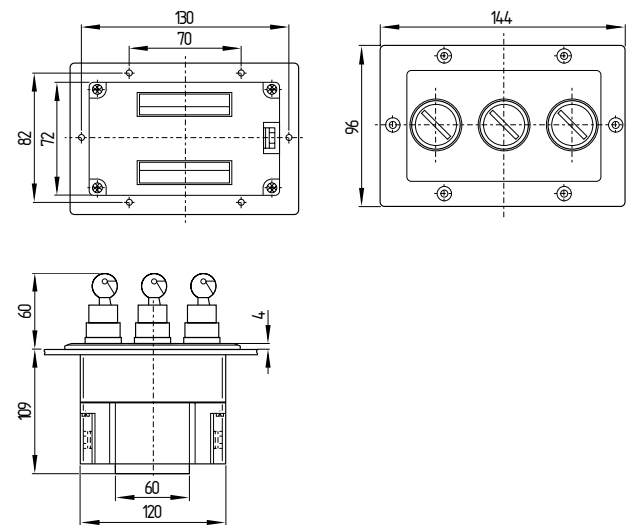
Key-operated selector switch SHGV/ESS...

SHGV/ESS21S2/.../103



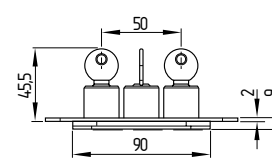
Key-operated selector switch-interlocking device SVE...

SVE.....

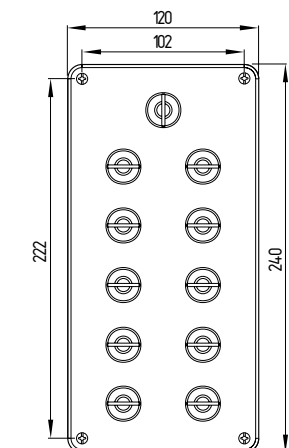
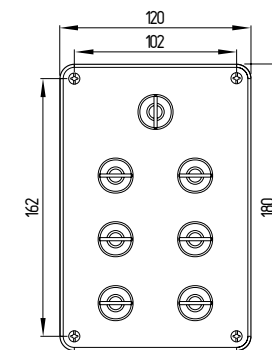
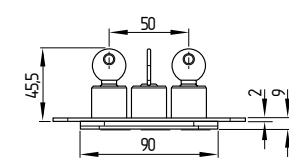


Key distribution station SVM...

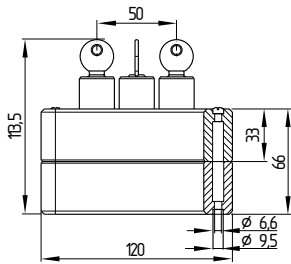
SVM1/...-6/.../E



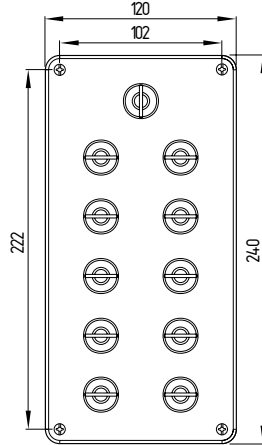
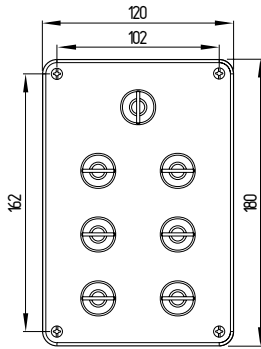
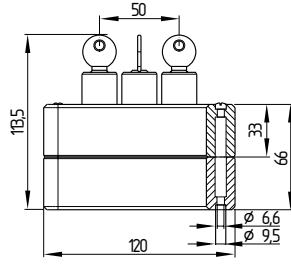
SVM1/...-10/.../E



SVM1/...-6/.../A



SVM1/...-10/.../A



4. Electrical connection

4.1 General information for electrical connection



The electrical connection may only be carried out by authorised personnel in a de-energised condition.

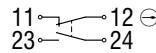
After wiring, the wiring compartment must be cleaned (i.e. remove excess cables etc.).

4.2 Contact variants

Key-operated selector switch SHGV/ESS...

The contacts are shown with the key-operated selector switch in a non-actuated condition and the key in unremovable condition.

SHGV/ESS21S2/.../103

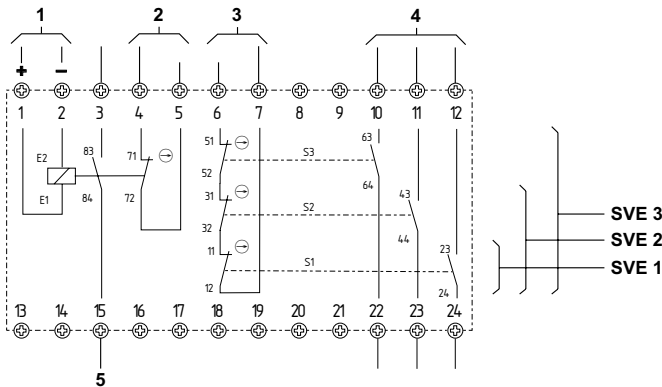


4.3 Wiring examples

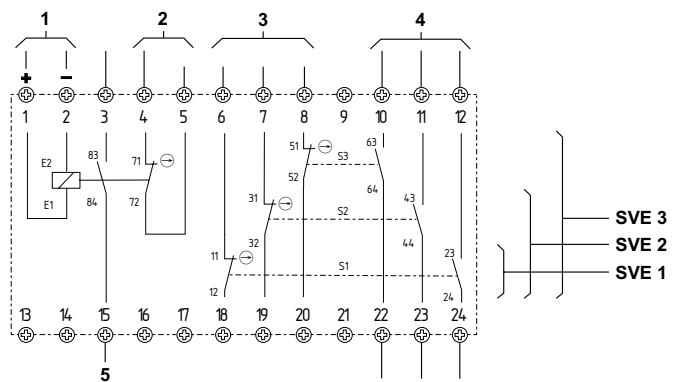
Key-operated selector switch-interlocking device SVE...

Depiction of contacts: solenoid dead and key switch activated (key cannot be removed).

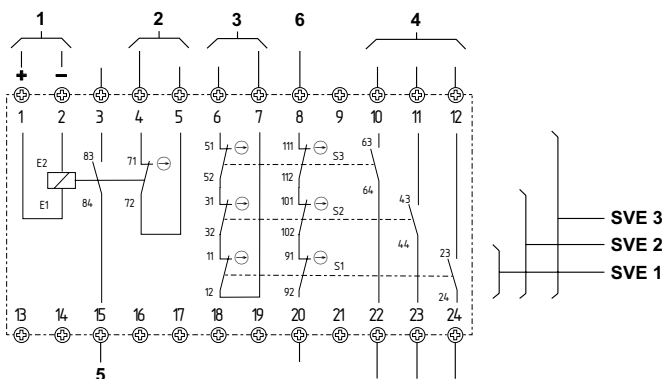
SVE.../...



SVE.../.../W..



SVE.../.../-3Ö...



Key

- ⊕ Positive break
- ⊙ Solenoid connection
- ① Enabling circuit solenoid monitoring
- ② Enabling circuit key-operated selector switch channel 1
- ③ Auxiliary contacts key-operated selector switch
- ⑤ Auxiliary contact solenoid
- ⑥ Enabling circuit key-operated selector switch channel 2



Connection to the machine control is carried out by the customer and is not shown.

Application examples:

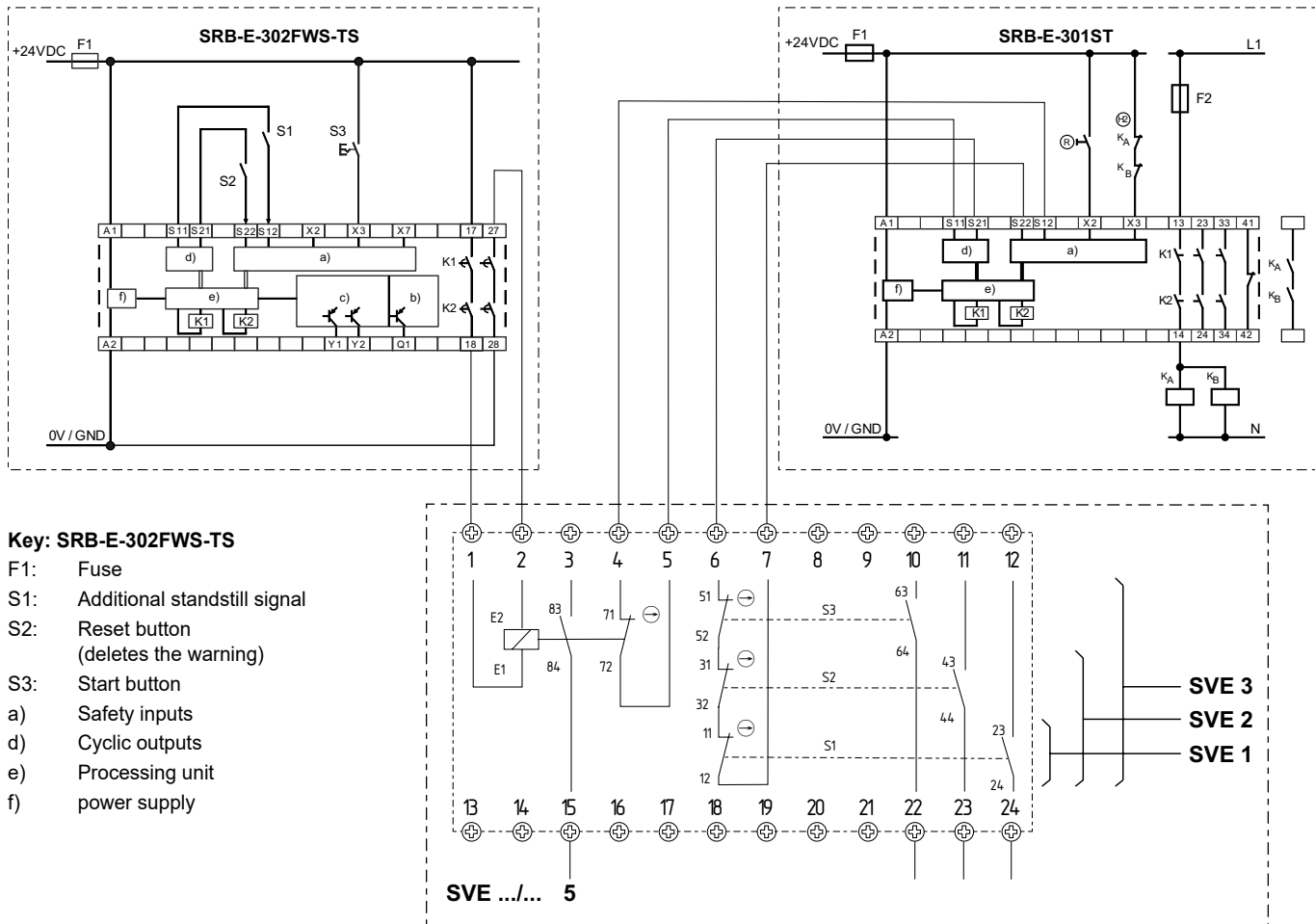
The application examples shown are suggestions. They however do not release the user from carefully checking whether the switchgear and its set-up are suitable for the individual application.



Additional information on connection and settings can be found in the SRB-E-302FWS-TS and SRB-E-301ST operating instructions. The solenoid monitoring and key-operated selector switch release circuits must be integrated into the additional safety monitoring.

Application example 1:

Fail-safe time-delay monitoring SRB-E-302FWS-TS for solenoid control and safety evaluation SRB-E-301ST with SVE... for applications to PL d.



Key: SRB-E-302FWS-TS

- F1: Fuse
- S1: Additional standstill signal
- S2: Reset button (deletes the warning)
- S3: Start button
- a) Safety inputs
- d) Cyclic outputs
- e) Processing unit
- f) power supply

Key: SVE.../...

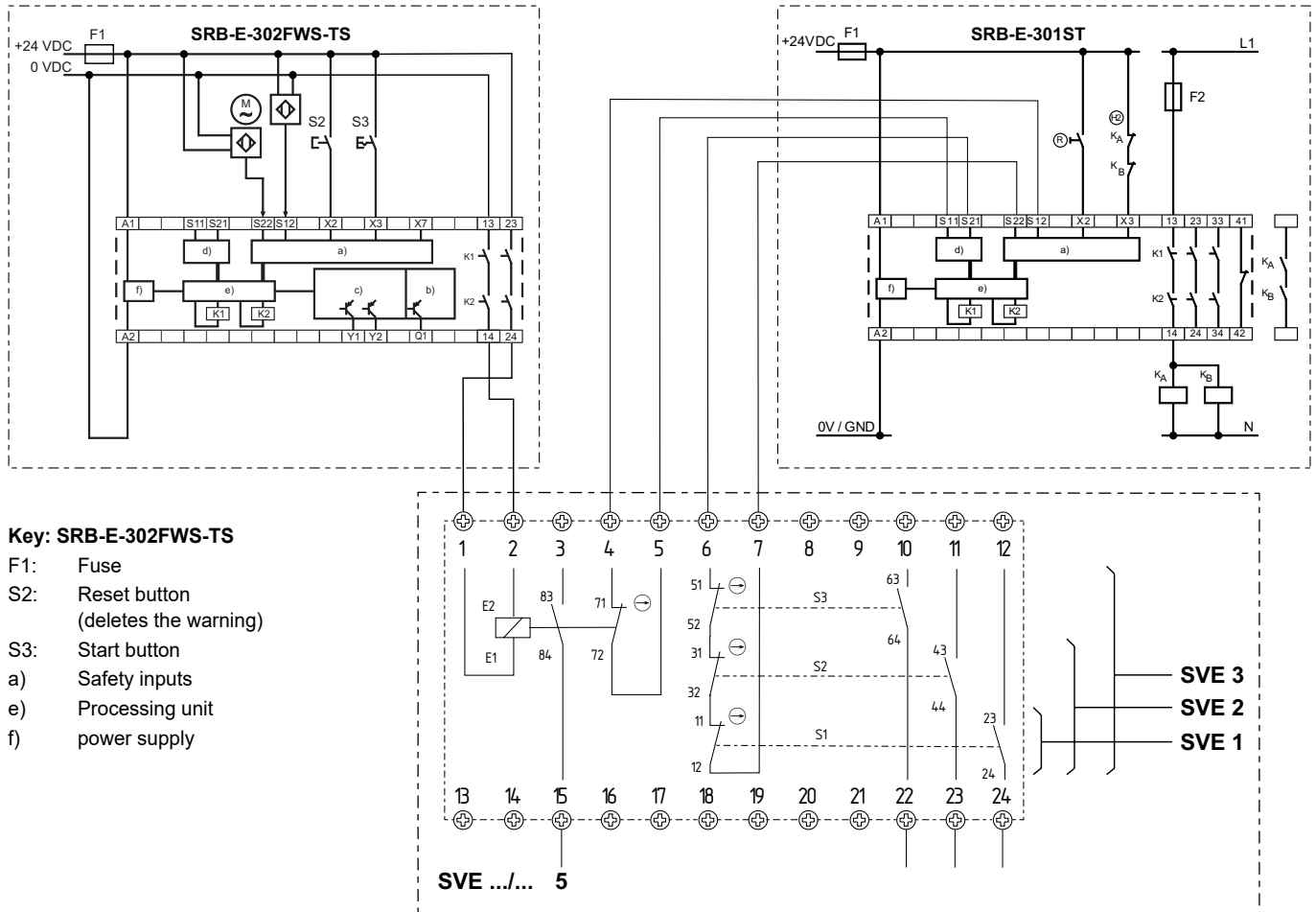
- 1/2: Solenoid connection
- 4/5: Enabling circuit solenoid monitoring
- 6/7: Enabling circuit key-operated selector switch
- 3/15: Solenoid auxiliary contact (connection to e.g. machine control)
- 10/22: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)
- 11/23: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)
- 12/24: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)
- SVE1, SVE2, SVE3: Key-operated selector switches 1, 2 or 3

Key: SRB-E-301ST

- F1, F2: Fuse
- a) Safety inputs
- d) Cyclic outputs
- e) Processing unit
- f) power supply
- (R) Start button
- (H2) Feedback circuit

Application example 2:

Safe standstill monitoring SRB-E-302FWS-TS for solenoid control and safety evaluation SRB-E-301ST with SVE... for applications to PL d.



Key: SRB-E-302FWS-TS

- F1: Fuse
- S2: Reset button
(deletes the warning)
- S3: Start button
- a) Safety inputs
- e) Processing unit
- f) power supply

Key: SVE.../...

- 1/2: Solenoid connection
- 4/5: Enabling circuit solenoid monitoring
- 6/7: Enabling circuit key-operated selector switch
- 3/15: Solenoid auxiliary contact (connection to e.g. machine control)
- 10/22: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)
- 11/23: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)
- 12/24: Key-operated selector switch auxiliary contacts (connection to e.g. machine control)

SVE1, SVE2, SVE3: Key-operated selector switches 1, 2 or 3

Key: SRB-E-301ST

- F1, F2: Fuse
- a) Safety inputs
- d) Cyclic outputs
- e) Processing unit
- f) power supply
- (R) Start button
- (H2) Feedback circuit

5. Set-up and maintenance

5.1 Functional testing

The safety function of the safety components must be tested. The following conditions must be previously checked and met:

1. Fitting of the solenoid interlock and the actuator.
2. Check the integrity of the cable entry and connections.
3. Check the switch enclosure for damage.

5.2 Maintenance

We recommend the following checks at regular intervals:

1. Check for tight installation of the actuator and the switch.
2. Remove particles of dust and soiling.
3. Check cable entry and connections.
4. Functional test min. once annually in accordance with ISO 14119



Adequate measures must be taken to ensure protection against tampering either to prevent tampering of the safety guard, for instance by means of replacement actuators.

Damaged or defective components must be replaced.

6. Disassembly and disposal


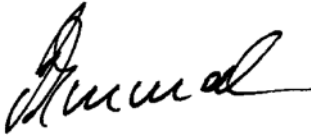
6.1 Disassembly

The safety switchgear must be disassembled in a de-energised condition only.

6.2 Disposal

The safety switchgear must be disposed of in an appropriate manner in accordance with the national prescriptions and legislations.

7. EU Declaration of conformity

EU Declaration of conformity		 SCHMERSAL
Original	K.A. Schmersal GmbH & Co. KG Möddinghofe 30 42279 Wuppertal Germany Internet: www.schmersal.com	
We hereby certify that the hereafter described components both in their basic design and construction conform to the applicable European Directives.		
Name of the component:	SHGV, SHGV/ESS, SVE, SVM	
Type:	See ordering code	
Description of the component:	Interlocking device with electromagnetic interlock for safety functions	
Relevant Directives:	Machinery Directive RoHS-Directive	2006/42/EC 2011/65/EU
Applied standards:	IEC 60947-5-1:2016 + Cor1:2016, ISO 14119:2014, ISO 13849-1:2015, ISO 13849-2:2012	
Notified body for the prototype test:	TÜV Rheinland Industrie Service GmbH Am Grauen Stein, 51105 Köln ID n°: 0035	
EC-prototype test certificate:	01/205/5754.00/20	
Person authorised for the compilation of the technical documentation:	Oliver Wacker Möddinghofe 30 42279 Wuppertal	
Place and date of issue:	Wuppertal, March 23, 2020	
SHGV_SVE_SVM-E-EN		
	Authorised signature Philip Schmersal Managing Director	



The currently valid declaration of conformity can be downloaded from the internet at products.schmersal.com.

