



EN Operating instructions.pages 1 to 6
Original

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1. About this document

1.1 Function

This operating instructions manual provides all the information required for the mounting, set-up and commissioning to ensure the safe operation and disassembly of the 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 product 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 inadequate or improper use or manipulations of the component, personal hazards or damage to machinery or plant components cannot be excluded.

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:

PS216-①-②-③

No.	Option	Description
①	T11	1 NO / 1 NC
	T20	2 NO contacts
	T02	2 NC
	T03	3 NC
	T12	1 NO / 2 NC
	T21	2 NO / 1 NC
②		cable entry M20
	ST	M12 x 1 connector
③	Q200	Traction force 45 N for lengths of wire to 50 m
	Q210	Traction force 70 N for lengths of wire to 100 m

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

Pull-wire switches are used to give signals to start machines, to open electrically-driven doors and gates or as light switches in lift shafts. If the pull-wire is pulled, the switching function of the pull-wire switch is activated.



The pull-wire switch does not meet the requirements of the standards ISO 13850 and IEC 60947-5-5.

Bi-stable operating principle (push/push function)

Upon first actuation and subsequent release, the switch insert remains actuated (= ON). Only on second actuation and subsequent release is latching of the switching elements neutralised, i.e. the switch insert is reset by the spring in the switch insert (= OFF).

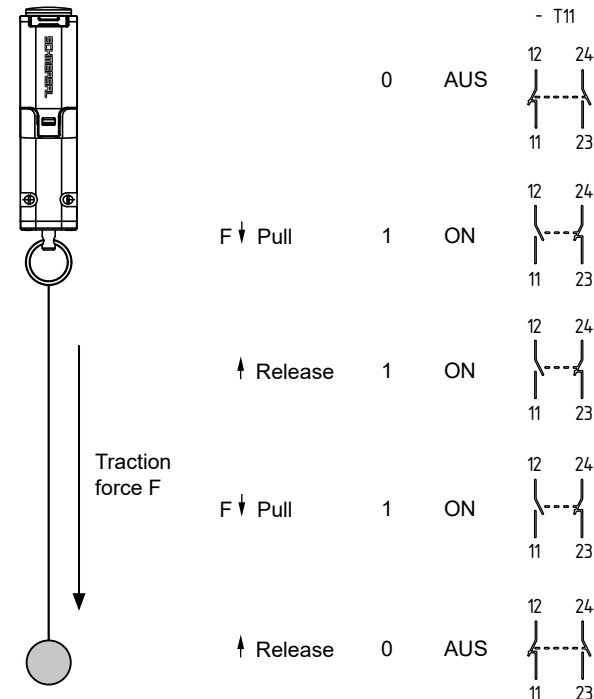


Figure 1

Technical data

Standards:	IEC 60947-5-1
Protection class:	IP66, IP67 to IEC 60529
Protection rating:	II, III
Degree of pollution:	3
Ambient temperature:	-30 °C ... +80 °C
Mechanical life:	> 100.000 operations
Tightening torque:	
- Fixing screws:	1.2 Nm
- Contact screws:	0.6 ... 0.8 Nm
Switching system:	Slow action
Contact material:	Silver
Termination:	Cable entry M20 or connector M12
Cable type:	rigid single-wire, flexible
Cable section:	0.34 ... 1.5 mm ²
Utilisation category AC-15, DC-13 I _e /U _e :	
- Screw terminals:	3 A / 240 VAC, 3 A / 24 VDC
- M12 connector, 4-pole:	3 A / 240 VAC, 3 A / 24 VDC
- M12 connector, 8-pole:	2 A / 30 VAC, 2 A / 24 VDC
Rated impulse withstand voltage U _{imp} :	4 kV
- M12 connector, 4-pole or 8-pole:	0.8 kV
Rated insulation voltage U _i :	250 V
- M12 connector, 8-pole:	50 VAC
Thermal test current I _{th} :	
- Screw connection, 2 contacts or 3 contacts:	10 A or 5 A
- M12 connector, 4-pole or 8-pole:	4 A or 2 A
Max. fuse rating:	6 A gG D-fuse
Required short-circuit current:	400 A

3. Mounting

3.1 General mounting instructions

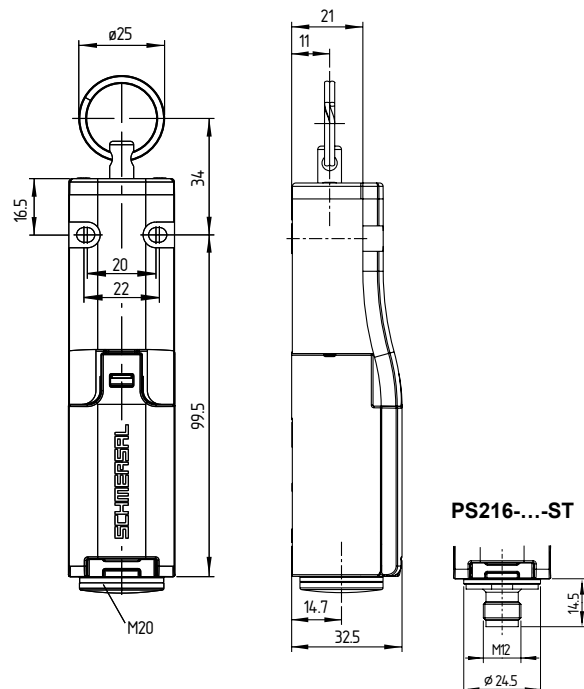


The installation may only be carried out by authorised personnel.

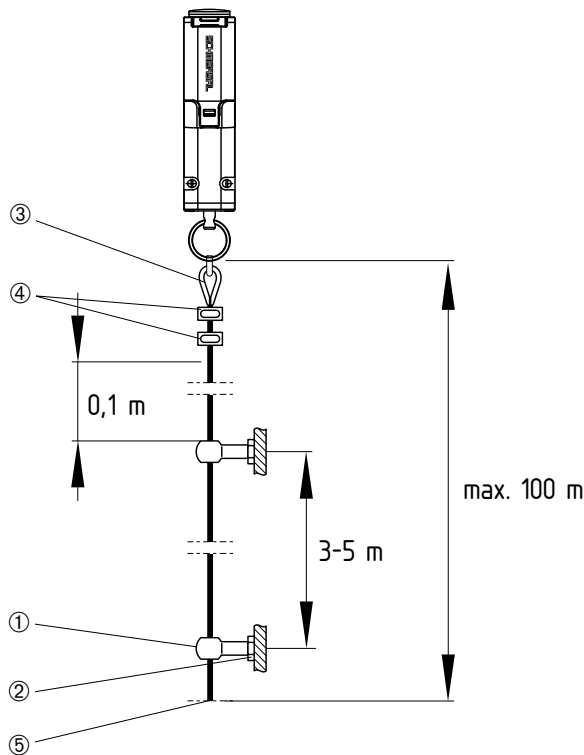
The pull-wire switch is fitted by means of two screws (tightening torque 1.2 Nm). The pull-wire switch must be fitted vertically.

3.2 Dimensions

All measurements in mm.



3.3 Assembly example – light switch in lift shaft



Key

- ① Wire rope
- ② Anchoring hook
- ③ Wire thimble
- ④ Wire clamp

3.4 Pull wire system accessories

No.	Description	Designation	Ordering code	Details
①	Wire rope xx metres	WIRE ROPE PWR-XXM	on request	Pull-wire with red PVC sheath, total diameter 5 mm, (steel core 3 mm)
②	Eyebolts each with 2 nuts and washers, to guide the wire rope	ACC-EBLT-M8-5PCS	103031495	5 eyebolts M8, length 125 mm, nickel brass plated
		ACC-EBLT-M8-RVA-5PCS	103031496	5 eyebolts M8, length 125 mm, stainless steel
		ACC-EBLT-M10-5PCS	103031498	5 eyebolts M10, length 120 mm, nickel brass plated
		ACC-EBLT-M10-RVA-5PCS	103031499	5 eyebolts M10, length 120 mm, stainless steel
③	Wire thimble, for creating rope eyes	WIRE THIMBLE 3 MM	101203472	Wire thimble 3 mm, VA2
④	Wire clamp, screw-on type clamp connection for wire ropes	WIRE CLAMP 3 MM	101203477	Wire clamp for 3 mm wire rope, VA2
		DUPLEX WIRE CLAMP 3 MM	101190917	Duplex wire clamp for 3 mm wire rope, VA2
		WIRE CLAMP 3 MM	101196043	Egg-shaped wire clamp for 3 mm wire rope, galvanised
⑤	Sphere with wire rope	PR-B-1M	101218018	Wire length 1 m
		PR-B-2M	101218019	Wire length 2 m
		PR-B-3M	101218020	Wire length 3 m
		PR-B-4M	101218021	Wire length 4 m

4. Electrical connection

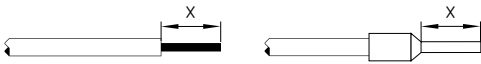
4.1 General information for electrical connection



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

1. Open the cover.
2. Remove the dust shield cap.
3. Cable glands M20 x 1.5 with an appropriate degree of protection must be used
4. When connecting, please ensure that no cables are located within the range of actuating element.
5. The inside of the switch must be imperatively cleaned (e.g. removal of cable residues), considering that foreign bodies can affect the switching behaviour
6. Clip on the cover.

Settle length x of the conductor: 5 ... 6 mm



Tightening torque: 0.6 ... 0.8 Nm.

Accessories cable gland:

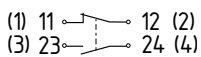
Ordering code: 103006013
Authorised cable diameter: 6 ... 12 mm
Tightening torque: 4.5 Nm

4.2 Contact variants

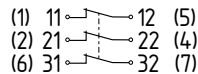
The symbols are shown for the switch in non-actuated condition.

Pin assignment of versions with M12 connector shown in brackets.

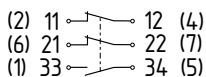
1 NO / 1 NC



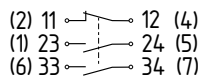
3 NC



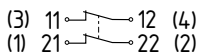
1 NO / 2 NC



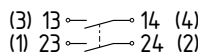
2 NO / 1 NC



2 NC



2 NO



Connector ST

4-pole



8-pole



5. Set-up and maintenance

5.1 Functional testing

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

1. Correct fixing of the pull-wire switch
2. Check the integrity of the cable entry and connections
3. Check the switch enclosure for damage
4. Check the functionality of the switch by actuating the wire

5.2 Maintenance

A regular visual inspection and functional test, including the following steps, is recommended:

1. Check the functionality of the switch by actuating the wire
2. Check the cable entries and the wire connections
3. Remove particles of dust and soiling



Do not open the device when live.

Damaged or defective components must be replaced.

6. Disassembly and disposal

6.1 Disassembly

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

6.2 Disposal

The switch 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



Original
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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: PS216-...-Q200
PS216-...-Q210

Type: See ordering code

Description of the component: Pull-wire switches

Relevant Directives: Low Voltage Directive 2014/35/EU
RoHS-Directive 2011/65/EU

Applied standards: DIN EN 60947-5-1:2018

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Place and date of issue: Wuppertal, March 9, 2020

PS216-Q2xx-A-DE

Authorised signature
Philip Schmersal
Managing Director



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



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