Position detection and monitoring with system

## POSITION SWITCH FAMILY PS





## INTRODUCTION



Schmersal position switch – the continuation of a success story!



Position switches at Schmersal have a long tradition and belong to the company's core areas of expertise. This tradition is now being continued with the new position switch family PS.

For automation, safety applications and elevator technology – the new series is suitable for a broad range of applications across all individual disciplines of machine and plant construction.

The complete portfolio of the PS-series, whose elements can be combined in numerous ways and used like a building block system, stands for secure and reliable position detection.

The modular design with consistent components enables efficient and flexible solutions.

This brochure provides an overview of the diverse areas of application of the new position switch family PS.

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## **POSITION SWITCHES** DESCRIPTION

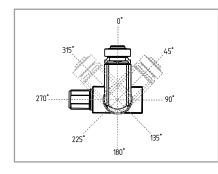
SYSTEM UNIVERSALLY	Recording and monitoring, from extraordinarily compact to very robust.
DEPLOYABLE SERIES	With these properties, the new position switches are aimed at a wide variety of applications across all disciplines of mechanical engineering and plant manufacturing as well as elevator technology.
	The advantages of the new position switch series at a glance: ■ Reliable position detection ■ Highly versatile
	<ul> <li>Robust and reliable</li> <li>Can be combined in numerous ways thanks to modular design</li> </ul>
AREA OF APPLICATION	Type 1 position switches according to EN ISO 14119 are for determining the position and monitoring of movable components on machines and for protective equipment that can be moved laterally or is rotatable. This allows them to be used in all industrial environments.
	The protection classes IP66 an IP67 form the requirements for the use of position switches in adverse ambient conditions.
DESIGN AND WAY OF FUNCTIONING	All position switches are equipped with positive break NC contacts in accordance with EN 60947-5-1 and are available with snap action and also slow action. In conjunction with an appropriate safety controller, a single position switch can be used up to PL d. Using two position switches PL e can be achieved according to EN ISO 13849-1.
FLEXIBLE SOLUTIONS	<b>Switching elements with up to three contacts</b> Switching elements with three contacts ensures a redundant switch-off with additional signalling contact. All switching elements of the diverse contact combinations are equipped with galvanically separated contacts with positive break NC contacts.
	<b>Latching function</b> To save the switching state, versions are available with snap action and an optional latching function where the mounting element must be manually reset to the starting condition.
	Modular diversity

The modular design with consistent components across all series reduces the number of different versions, lowers the effort required for storage and increases availability.

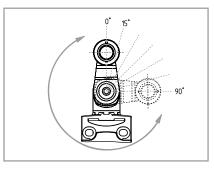




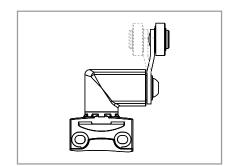
## ACTUATOR ELEMENTS AND LEVER



Adjustable actuator elements All actuating elements can be rotated in 45° increments and can be quickly replaced and implemented due to the simple mounting design.



Adjustable lever Roller lever can be set in 15° steps.



**Rotatable lever** For versions with a rotatable roller lever, the lever can be fitted so that the roller is on the inside.



## **POSITION SWITCHES** ORDER INFORMATION COMPLETE DEVICE OR MODULAR CONSTRUCTION KIT

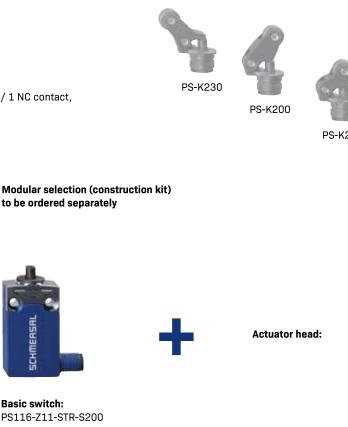
All position switches of the PS116, PS2xx and PS3xx series can be obtained either as a complete device or a modular construction kit. The complete device with actuating element S200 serves as a basic switch in the construction kit system. The following ordering example can therefore be transferred to all of the series listed.

## ORDER EXAMPLE

**Complete device** 

PS116-Z11-STR-H200

Position switch PS116, snap action 1 NO contact / 1 NC contact, roller lever, M12 connector on right



For assembly of the modular selection, the enclosure of the thrust pin included in the basic switch must be removed and replaced by the roller lever PS-H200.

**Basic switch:** 

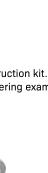
PS116-Z11-STR-S200



PS-K240







PS-K210





PS-H200



### **ORDERING CODE**

### PSXXX-Z11A2-L200-S200

Switchi	ng elements (others on request)
T02	Slow action 2 NC contacts
т02Н	Slow action 2 NC contacts
10211	with staggered contacts
тоз	Slow action 3 NC contacts
T10	Slow action 1 NO contact
T11	Slow action 1 NO contact / 1 NC contact
T11UE	Slow action 1 NO contact / 1 NC contact
TICL	with overlapping contacts
T12	Slow action 1 NO contact / 2 NC contacts
T20	Slow action 2 NO contacts
T21	Slow action 2 NO contacts / 1 NC contact
Z02	Snap action 2 NC contacts
Z11	Snap action 1 NO contact / 1 NC contact
Z11R	Snap action 1 NO contact / 1 NC contact
ZIIN	with latching (not for PS3xx)
Z12	Snap action 1 NO contact / 2 NC contacts
Contact	design
	Silver contacts (Standard)
A1	Gold-plated contacts 0.3 µm
A2	Gold-plated contacts 1.0 µm
A3	Gold-plated contacts 3.0 µm

For technical reasons, not all possible variations and/or combinations can be delivered. The existing key type is used to translate the product

type designation.

Roller/lever variants		
00 99 Material and dimension variants		
Actuat	or elements (more on request)	
PS116	and PS2xx series	
S2	Plunger	
R2	Roller plunger	
K2	Roller/angle roller lever	
H2	Roller lever	
N2	Length-adjustable roller lever	
J2	Rod lever	
F2	Spring rod	
A2	Tappet for press safety using	
PS3xx	series	
S2	Plunger, tappet width Ø 6 mm	
S3	Plunger, tappet width Ø 9 mm	
R3	Roller plunger	
K3	Angle roller lever	
H3	Roller lever	
N3	Length-adjustable roller lever	
JЗ	Rod lever	
F2	Spring rod	
Termin	ation	
	Cable entry M20, screw connection	
M16	Cable entry M16, screw connection	
ST	Connector plug M12, bottom	
STR	Connector plug M12, right	
L200	Pre-wired cable bottom, 2 m (PS116 only)	
LR200	Pre-wired cable right, 2 m (PS116 only)	

## **PS2XX / PS3XX** STANDARDISED CONSTRUCTION FORMS, EXTRAORDINARY FEATURES

## FOLDING LATCHING COVER



All plastic versions are fitted with a folding and captive latching cover. The cover can be opened with the aid of a flat-head screwdriver and needs no tools to be closed.

## REDUCED ASSEMBLY TIMES

The 45° rotated connection terminals of all switch elements reduce the assembly time considerably.



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## ACTUATING ELEMENT REPLACE AND TURN

All actuating elements can be rotated in 45° increments and can be quickly replaced and implemented due to the simple mounting design. This means that adaptation to the prescribed actuating direction is possible at any time.

#### PS116



- 1. Release locking plate (flat-head screwdriver or accessory tool ACC-PS116-1)



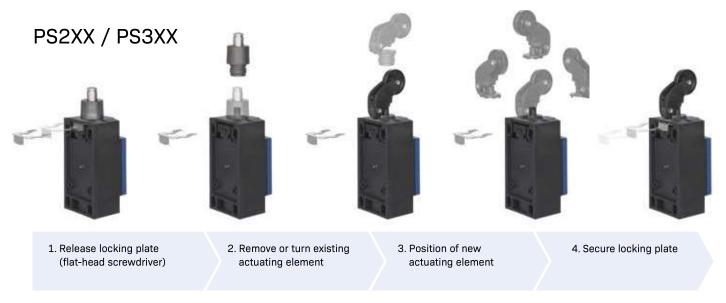
2. Remove or turn existing actuating element

- 3. Position of new actuating element



4. Secure locking plate

The symmetrical layout of the enclosure means that it can be used for left-hand and right-hand versions of the same switch. This applies to both the cable and the connector design.



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## **POSITION SWITCHES** OVERVIEW OF THE SERIES

		Torona and the second se
ey Features	■ PS116	■ PS215
	<ul> <li>Symmetrical casing</li> <li>Compact design</li> <li>Fitted <ul> <li>(cable / M12 connector)</li> </ul> </li> <li>Complete device or <ul> <li>modular construction kit</li> <li>Design to EN 50047</li> </ul> </li> </ul>	<ul> <li>Simplified connection (connection terminals rotated by 45°)</li> <li>Robust design</li> <li>Complete device or modular construction kit</li> <li>Design to EN 50047</li> </ul>
echnical features		
Electrical characteristics		
Switching system	Snap-/slow action	Snap-/slow action
Latching variant		
Max. number of contacts	3	3
Max. switching capacity U/I	240 VAC / 3 A; 24 VDC / 1.5 A	240 VAC / 3 A; 24 VDC / 3 A
Max. switching capacity U/I (M12 connector, 4-pole)	240 VAC / 1.5 A; 24 VDC / 1.5 A	50 VAC / 3 A; 24 VDC / 3 A
Max. switching capacity U/I (M12 connector, 6-pole)	1.5 A / 24 VDC	-
Max. switching capacity U/I (M12 connector, 8-pole)	-	30 VAC / 2 A; 24 VDC / 2 A
Mechanical data		
Housing material	Metal / thermoplastic enclosure	Metal enclosure, paintec
Connector	Cable 4/6 pole M12 connector 4/6 pole	1 x M20 M12 connector 5/8 pole
Cable section <sup>3)</sup>	4/6 x 0.5 mm²	max. 1.5 mm² (incl. conductor ferrules)
Dimensions (W x H x D)	31 x 52 x 16.6 mm	31 x 66 x 33 mm
Environmental conditions		
Ambient temperature	-30 °C +80 °C	−30 °C +80 °C
Degree of protection	IP66, IP67	IP66, IP67
Actuator heads	see page 12	see page 12
Standards	EN ISO 13849-1	EN ISO 13849-1
B <sub>100</sub> NC contact	20,000,000	20,000,000
Certificates	cULus, CCC, EAC	cULus, CCC, EAC



To get detailed information about the products and certificates, visit products.schmersal.com.

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CCHANNERS .			TOTICS
■ PS216	■ PS226	■ PS315	■ PS316
<ul> <li>Simplified connection (connection terminals rotated by 45°)</li> <li>Folding latching cover</li> <li>Complete device or modular construction kit</li> <li>Design to EN 50047</li> </ul>	<ul> <li>Simplified connection (connection terminals rotated by 45°)</li> <li>Folding latching cover</li> <li>Complete device or modular construction kit</li> <li>Design to EN 50047</li> </ul>	<ul> <li>Simplified connection (connection terminals rotated by 45°)</li> <li>Robust design</li> <li>Complete device or modular construction kit</li> <li>Design to EN 50041</li> </ul>	<ul> <li>Simplified connection (connection terminals rotated by 45°)</li> <li>Folding latching cover</li> <li>Complete device or modular construction kit</li> <li>Design to EN 50041</li> </ul>
Snap-/slow action	Snap-/slow action	Snap-/slow action	Snap-/slow action
3	3	3	3
240 VAC / 3 A; 24 VDC / 3 A	240 VAC / 3 A; 24 VDC / 3 A	240 VAC / 3 A; 24 VDC / 3 A	240 VAC / 3 A; 24 VDC / 3 A
240 VAC / 3 A; 24 VDC / 3 A	240 VAC / 3 A; 24 VDC / 3 A	50 VAC / 3 A; 24 VDC / 3 A	240 VAC / 3 A; 24 VDC / 3 A
-	-	-	-
30 VAC / 2 A; 24 VDC / 2 A	30 VAC / 2 A; 24 VDC / 2 A	30 VAC / 2 A; 24 VDC / 2 A	30 VAC / 2 A; 24 VDC / 2 A
Plastic housing	Plastic housing	Metal enclosure, painted	Plastic housing
1 x M20 M12 connector 4/8 pole	2 x M20 M12 connector 4/8 pole	1 x M20 M12 connector 5/8 pole	1 x M20 M12 connector 4/8 pole
max. 1.5 mm² (incl. conductor ferrules)	max. 1.5 mm <sup>2</sup> (incl. conductor ferrules)	max. 1.5 mm <sup>2</sup> (incl. conductor ferrules)	max. 1,5 mm <sup>2</sup> (incl. conductor ferrules)
31 x 66 x 33 mm	31 x 59.2 x 33 mm	40 x 77.7 x 37.2 mm	40 x 77.7 x 37.2 mm
−30 °C +80 °C	−30 °C +80 °C	−30 °C +80 °C	−30 °C +80 °C
IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67
see page 12	see page 12	see page 16	see page 16
EN ISO 13849-1 20,000,000	EN ISO 13849-1	EN ISO 13849-1	EN ISO 13849-1
cULus, CCC, EAC	20,000,000 cULus, CCC, EAC	20,000,000 cULus, CCC, EAC	20,000,000 cULus, CCC, EAC

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## **POSITION SWITCHES** PS116 / PS2XX - ACTUATOR HEADS



			1	Ļ
			Plunger S200	Roller plunger R200
ctuat	or heads			
	Actuator	description	Thermoplastic plunger Actuator type B according to EN 50047	Thermoplastic roller plunger Actuator type C according to EN 50047
	Positive	break force	> 40 N	> 40 N
	Actuating Snap a		min. 10 mm/min, max. 0.5 m/s	min. 10 mm/min, max. 0.5 m/s
	Slow a	ction	min. 60 mm/min, max. 0.5 m/s	min. 60 mm/min, max. 0.5 m/s
		ng the lever	-	-
Order	ing data m	odular construction k	it	
	Product t	type description	PS-S200	PS-R200
	Material	number	103010968	103010967
witch	n travel dia	igrams		
	Snap action	Per NO contact / per NC contact	0 25 45 60 13-14 21-22 13-14 21-22 13-14 21-22	0 25 45 60 13-14 21-22 13-14 21-22 13-14 21-22
	Slow action	Per NO contact / per NC contact	0 25 33 60 11-12 3,5 23-24	0 25 <u>33</u> 60 11-12 23-24 35
		1 NO / 1 NC with overlapping	0 <u>30 38</u> 60 11-12 20 23-24	0 <u>30 38</u> <u>60</u> 11-12 20 23-24
		2 NC with staggered contacts	0 <u>30</u> <u>38</u> <u>60</u> 11-12 10 21-22	0 30 38 60 11-12 10 21-22

Contact closed

Contact open

 $(\mathbf{P})$ Positive break travel / angle

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Offset roller lever K200	Offset roller lever K210	Angle roller lever K230
Thermoplastic offset roller lever Actuator type E according to EN 50047	Thermoplastic offset roller lever	Thermoplastic angle roller lever
> 40 N	> 40 N	> 40 N
min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s
-	-	-
PS-K200	PS-K210	PS-K230
103010961	103010962	103010963
0 35 67 93 13-14 21-22 13-14 13-14 13-14 21-22	0 24 <u>6</u> 63 13-14 21-22 13-14 0,9 21-22	0 28 52 70 13-14 21-22 13-14 21-22 13-14 21-22
0 <u>354,7</u> <u>9</u> ,3 11-12 23-24 5,1	0 24 <u>3</u> 3 6.3 11-12 23-24 35	0 2837 70 11-12 23-24 4,0
0 4355 93 11-12 28 23-24	0 <u>30 38</u> 63 11-12 19 23-24	0 34 4 3 70 11-12 23-24
0 4.3 55 9.3 11-12 1.3 12-22	0 30 38 63 11-12 0,9 21-22	0 34 4 3 70 11-12 11 11 21-22

## **POSITION SWITCHES** PS116 / PS2XX - ACTUATOR HEADS



tor heads	Angle roller lever K240	Angle roller lever K250
Actuator description	Thermoplastic angle roller lever	Thermoplastic angle roller lever
Positive break force	> 40 N	> 40 N
Actuating speed Snap action	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
Slow action	min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s
Positioning the lever	-	-
ing data modular construction	n kit	
ring data modular constructior	ı kit	

#### Ordering

Product type description	PS-K240	PS-K250
Material number	103010964	103010965

#### Switch travel diagrams

Snap action	Per NO contact / per NC contact	0 4,9 9,3 130 13-14 21-22 13-14 13-14 21-22	0 50 90 12.2 13-14 21-22 13-14 21-22
Slow action	Per NO contact / per NC contact	0 4.966 B0 11.12 7,1 23-24	0 50 66 122 11-12 7,0 23-24
	1 NO / 1 NC with overlapping	0 60 77 130 11-12 3,9 23-24	0 60 76 122 11-12 4,0 23-24
	2 NC with staggered contacts	0 60 77 130 11-12 19 21-22	0 60 76 122 11-12 20 21-22

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PS-H200	PS-N200	PS-J200
103010948	103010966	103010951

80 <sup>°</sup> 57 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 57 <sup>°</sup> 80 <sup>°</sup> 13-14 13-14 13-14 13-14 13-14 13-14 21-22 13-14 21-22	80 <sup>°</sup> 57 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 37 <sup>°</sup> 57 <sup>°</sup> 80 <sup>°</sup> 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14	80° 32° 0° 32° 80° 13-14 21-22 13-14 13-14 21-22 13-14 21-22
80° 42° 32° 0° 32° 42° 80° 11-12 44° 44° 23-24	80 <sup>°</sup> 42 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 42 <sup>°</sup> 80 <sup>°</sup> 11-12 44 <sup>°</sup> 44 <sup>°</sup>	80 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 80 <sup>°</sup> 11-12 44 <sup>°</sup> 44 <sup>°</sup> 23-24
80° <sup>(P)</sup> / <sub>42</sub> °38° 0° 38° 42° 80° 11.12 26° 26° 25°	80 <sup>°</sup> 42 <sup>°</sup> 38 <sup>°</sup> 42 <sup>°</sup> 80 <sup>°</sup> 26 <sup>°</sup> 26 <sup>°</sup> 26 <sup>°</sup> 26 <sup>°</sup>	80 <sup>°</sup> 38 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 80 <sup>°</sup> 11-12 26 <sup>°</sup> 26 <sup>°</sup>
80° <sup>(B)</sup> 38° 0° 38° <sup>(B)</sup> 80° 11.12 14° 14° 14°	80 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup>	80° 38° 0° 38° 80° 11-12 14° 14° 21-22

## **POSITION SWITCHES** PS3XX – ACTUATOR HEADS



		Ļ	Ļ	
ter beede		Plunger S300	Roller plunger R300	
uator heads Actuator description		Thermoplastic plunger Actuator type B according to EN 50041	Thermoplastic roller plunger Actuator type C according to EN 50041	
Positive	break force	> 50 N	> 50 N	
Actuatin Snap a	ig speed action	min. 10 mm/min, max. 0.5 m/s	min. 10 mm/min, max. 0.5 m/s	
Slow action		min. 60 mm/min,	min. 60 mm/min, max. 0.5 m/s	
		max 0.5 m/s	max (15 m/s	
Position	ing the lever	max. 0.5 m/s –	max. U.5 m/s –	
	ing the lever nodular construction k	-	max. U.5 m/s –	
ring data n	-	-	max. U.5 m/s - PS-R300	
ring data n Product	nodular construction k	it	-	
ring data n Product	nodular construction k type description number	- it PS-S300	- PS-R300	
ring data n Product Material	nodular construction k type description number	- it PS-S300	- PS-R300	
ring data n Product Material ch travel dia Snap	nodular construction k type description number agrams Per NO contact /	- it PS-S300 103015397	PS-R300 103015398	
ring data n Product Material ch travel dia Snap action Slow	nodular construction k type description number agrams Per NO contact / per NC contact / Per NO contact /	it PS-S300 103015397 103015397	PS-R300 103015398	

Contact open



Angle roller lever K360	Offset roller lever K370	Roller lever H300
Thermoplastic angle roller lever	Thermoplastic offset roller lever	Metal lever with plastic roller Actuator type A according to EN 50041
> 50 N	> 50 N	> 50 N
min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s
-	-	adjustable in 15° steps
PS-K360	PS-K370	PS-H300
103015399	103015400	103015401
0 45 80 105 13-14 21-22 13-14 16 21-22	0 26 4,6 6,3 13-14 13-14 13-14 21-22 13-14 21-22	80 <sup>°</sup> 57 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 57 <sup>°</sup> 80 <sup>°</sup> 13.14 12.22 13.14 21.22 13.14 21.22
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 24 33 63 11-12 35 23-24	80 <sup>°</sup> 42 <sup>°</sup> 22 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 42 <sup>°</sup> 80 <sup>°</sup> 11-12 44 <sup>°</sup> 44 <sup>°</sup> 44 <sup>°</sup>
0 51 65 105 11-12 34 23-24	0 <u>30</u> <u>63</u> 11-12 19 23-24	80° 48° 30° 0° 38° 48° 80° 11-12 26° 26° 26°
0 <u>51 65</u> 105 11-12 17 21-22	0 30 33 63 11-12 10 21-22	80° 48′38° 0° 38° 48′80° 11-12 14* 14* 14*

## **POSITION SWITCHES** PS3XX – ACTUATOR HEADS



hundhar barada	Roller lever N300	Roller lever J300		
tuator heads				
Actuator description	Length adjustable metal lever with plastic roller adjustable in 2 mm increments	Plastic rod, 200 mm Can only be used for positioning tasks Actuator type A according to EN 50041		
Positive break force	> 50 N	-		
Actuating speed Snap action	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s		
Slow action	min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s		
Positioning the lever	adjustable in 15° steps	adjustable in 15° steps		

#### Ordering data modular construction kit

Product type description	PS-N300	PS-J300
Material number	103015402	103015403

#### Switch travel diagrams

Snap action	Per NO contact / per NC contact	80 <sup>°</sup> 57 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 5 <sup>°</sup> 80 <sup>°</sup> 13-14 12-22 13-14 13-14 21-22 13-14 21-22	80° 32° 0° 32° 80° ↓ 13-14 ↓ 13-14 ↓ 13-14 ↓ 13-14 ↓ 13-14 ↓ 13-14 ↓ 13-14
Slow action	Per NO contact / per NC contact	80 <sup>°</sup> 42 <sup>°</sup> 32 <sup>°</sup> 0 <sup>°</sup> 32 <sup>°</sup> 4 <sup>°</sup> 80 <sup>°</sup> 11-12 44 <sup>°</sup> 44 <sup>°</sup>	80° <u>32° 0° 32° 80</u> ° 11-12 44° 44° 23-24
	1 NO / 1 NC with overlapping	80 <sup>°</sup> 48 <sup>°</sup> 88 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 11-12 26 <sup>°</sup> 26 <sup>°</sup> 26 <sup>°</sup>	80° 38° 0° 38° 80° 11-12 26° 26°
	2 NC with staggered contacts	80 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 48 <sup>°</sup> 48 <sup>°</sup> 38 <sup>°</sup> 0 <sup>°</sup> 38 <sup>°</sup> 48 <sup>°</sup> 80 <sup>°</sup> 11-12 11-12 11-22 14 <sup>°</sup> 14 <sup>°</sup>	80° 38° 0° 38° 80° 11-12 14° 14° 21-22

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## **POSITION SWITCHES** PS116 – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element	Termination	Switching system	NO contacts	NC contacts	Туре	Material number
		Cron action	1	1	PS116-Z11-ST-S200	103006651
	Connector plug	Snap action	1	2	PS116-Z12-ST-S200	103006662
		Slow action	1	1	PS116-T11-ST-S200	103006652
S200		Onen estim	1	1	PS116-Z11-L200-S200	103006633
Basic switch		Snap action	1	2	PS116-Z12-L200-S200	103006647
	Pre-wired Cable	Snap action	1	1	PS116-Z11R-L200-S200	103009907
		with latch	0	2	PS116-Z02R-L200-S200	103012043
		Slow action	1	1	PS116-T11-L200-S200	103006634
			1	1	PS116-Z11-ST-R200	103006653
		Snap action	0	2	PS116-Z02-ST-R200	103008391
			1	2	PS116-Z12-ST-R200	103006663
	Connector plug	Snap action with latch	1	2	PS116-Z12R-ST-R200	103009897
R200		Clow action	1	1	PS116-T11-ST-R200	103006654
		Slow action	2	1	PS116-T21-ST-R200	103009215
		Snap action	1	1	PS116-Z11-L200-R200	103006635
	Pre-wired Cable	Class action	1	1	PS116-T11-L200-R200	103006636
		Slow action	1	2	PS116-T12-L200-R200	103006648
		Snap action	1	1	PS116-Z11-ST-K200	103006655
K200	Connector plug		1	2	PS116-Z12-ST-K200	103006664
	Pre-wired Cable		1	1	PS116-Z11-L200-K200	103006637
			1	1	PS116-Z11-ST-K210	103006656
		Snap action	1	2	PS116-Z12-ST-K210	103009491
	Connector plug		1	1	PS116-T11-ST-K210	103006657
K210		Slow action	2	1	PS116-T21-ST-K210	103013834
K21U		Snap action	1	1	PS116-Z11-L200-K210	103006638
	Pre-wired Cable	Snap action with latch	1	2	PS116-Z12R-L200-K210	103009906
		Slow action	1	1	PS116-T11-L200-K210	103006639
	Connector plus	Snap action	1	1	PS116-Z11-ST-K230	103006658
Kaaa	Connector plug	Slow action	0	2	PS116-T02-ST-K230	103014690
K230	Dro wined Oakle	Cross satism	1	1	PS116-Z11-L200-K230	103006640
	Pre-wired Cable	Snap action	0	2	PS116-Z02-L200-K230	103011608
K040	Connector plug	Choraction	1	2	PS116-Z12-ST-K240	103006665
K240	Pre-wired Cable	Snap action	1	1	PS116-Z11-L200-K240	103006641
	Opening to the	Snap action	1	2	PS116-Z12-ST-K250	103006666
	Connector plug	Slow action	1	2	PS116-T12-ST-K250	103006667
K250		Snap action	1	1	PS116-Z11-L200-K250	103006642
	Pre-wired Cable		1	1	PS116-T11-L200-K250	103006643
		Slow action	1	2	PS116-T12-L200-K250	103015281

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## **POSITION SWITCHES** PS116 – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element	Termination	Switching system	NO contacts	NC contacts	Туре	Material number
		Crear action	1	1	PS116-Z11-ST-H200	103006659
		Snap action	1	2	PS116-Z12-ST-H200	103009490
	Connector plug		1	1	PS116-T11-ST-H200	103006660
H200		Slow action	1	2	PS116-T12-ST-H200	103006668
H200			0	3	PS116-T03-ST-H200	103012315
		Snap action	1	1	PS116-Z11-L200-H200	103006644
	Pre-wired Cable	Classican	1	1	PS116-T11-L200-H200	103006645
		Slow action	1	2	PS116-T12-L200-H200	103006649
	Connector plug	Snap action	1	1	PS116-Z11-ST-N200	103006661
			1	2	PS116-Z12-ST-N200	103010921
			1	1	PS116-T11-ST-N200	103011367
			2	0	PS116-T20-ST-N200	103010065
N200		Slow action	1	2	PS116-T12-ST-N200	103011553
			2	1	PS116-T21-ST-N200	103010067
		Coop action	1	1	PS116-Z11-L200-N200	103006646
	Pre-wired Cable	Snap action	1	2	PS116-Z12-L200-N200	103008748
		Slow action	1	2	PS116-T12-L200-N200	103006650
J200	Connector plug	Slow action with staggered contacts	0	2	PS116-T02H-ST-J200	103014413

## **POSITION SWITCHES** PS2XX – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element		Switching system	NO contacts	NC contacts	Туре	Material number
			1	1	PS215-Z11-S200	103014952
		Snap action	0	2	PS215-Z02-S200	103014953
	PS215		1	2	PS215-Z12-S200	103014954
	Metal		1	1	PS215-T11-S200	103014977
		Slow action	0	2	PS215-T02-S200	103014978
			1	2	PS215-T12-S200	103014979
			1	1	PS216-Z11-S200	103013713
		Snap action	0	2	PS216-Z02-S200	103015001
S200	PS216		1	2	PS216-Z12-S200	103015002
Basic switch	Thermoplastic		1	1	PS216-T11-S200	103015022
		Slow action	0	2	PS216-T02-S200	103015023
			1	2	PS216-T12-S200	103015024
	PS226 Thermoplastic	Snap action	1	1	PS226-Z11-S200	103015048
			0	2	PS226-Z02-S200	103015049
			1	2	PS226-Z12-S200	103015050
		Slow action	1	1	PS226-T11-S200	103015073
			0	2	PS226-T02-S200	103015074
			1	2	PS226-T12-S200	103015075
	PS215	Snap action	1	1	PS215-Z11-R200	103014955
	Metal	Slow action	1	1	PS215-T11-R200	103014981
			1	1	PS216-Z11-R200	103015003
		Snap action	0	2	PS216-Z02-R200	103015004
R200	PS216		1	2	PS216-Z12-R200	103015005
RZUU	Plastic		1	1	PS216-T11-R200	103015028
		Slow action	0	2	PS216-T02-R200	103015029
			1	2	PS216-T12-R200	103015030
	PS226	Snap action	1	1	PS226-Z11-R200	103015051
	Thermoplastic	Slow action	1	1	PS226-T11-R200	103015076

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## **POSITION SWITCHES** PS2XX – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element		Switching system	NO contacts	NC contacts	Туре	Material number
KOOO	PS216	Snap action	1	1	PS216-Z11-K200	103015006
K200	Plastic	Slow action	1	1	PS216-T11-K200	103015031
	PS215 Metal	Snap action	1	1	PS215-Z11-K210	103014960
K210	PS216	Snap action	1	1	PS216-Z11-K210	103015008
	Thermoplastic	Slow action	1	1	PS216-T11-K210	103015033
	PS215	Snap action	1	1	PS215-Z11-K230	103014963
1/000	Metal	Slow action	1	1	PS215-T11-K230	103014988
K230	PS216	Snap action	1	1	PS216-Z11-K230	103015010
	Thermoplastic	Slow action	1	1	PS216-T11-K230	103015035
	PS215 Metal	Slow action	1	1	PS215-T11-K240	103014991
K040	PS216	Snap action	1	1	PS216-Z11-K240	103015013
K240	Thermoplastic	Slow action	1	1	PS216-T11-K240	103015038
	PS226 Thermoplastic	Snap action	1	1	PS226-Z11-K240	103015061
K250	PS216	Snap action	1	1	PS216-Z11-K250	103015015
K25U	Thermoplastic	Slow action	1	1	PS216-T11-K250	103015040
	PS215 Metal	Slow action	1	1	PS215-T11-H200	103014995
		Onen estien	1	1	PS216-Z11-H200	103013857
H200	PS216	Snap action	1	2	PS216-Z12-H200	103015017
	Thermoplastic	Claw action	1	1	PS216-T11-H200	103015042
		Slow action	1	2	PS216-T12-H200	103015043
	PS215	Snap action	1	1	PS215-Z11-N200	103014972
	Metal	Slow action	1	1	PS215-T11-N200	103014997
N200		Spon action	1	1	PS216-Z11-N200	103015018
NZUU	PS216	Snap action	1	2	PS216-Z12-N200	103015019
	Thermoplastic	Slow action	1	1	PS216-T11-N200	103015044
		Slow action	1	2	PS216-T12-N200	103015045
J200	PS215 Metal	Snap action	1	1	PS215-Z11-J200	103014974
JZUU	PS216 Thermoplastic	Snap action	1	1	PS216-Z11-J200	103015020

## **POSITION SWITCHES** PS3XX – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element		Switching system	NO contacts	NC contacts	Туре	Material number
			1	1	PS315-Z11-S200	103015406
		Snap action	0	2	PS315-Z02-S200	103015407
	PS315		1	2	PS315-Z12-S200	103015408
	Metal		1	1	PS315-T11-S200	103015412
		Slow action	0	2	PS315-T02-S200	103015414
S200			1	2	PS315-T12-S200	103015415
Basic switch			1	1	PS316-Z11-S200	103015409
		Snap action	0	2	PS316-Z02-S200	103015410
	PS316		1	2	PS316-Z12-S200	103015411
	Thermoplastic		1	1	PS316-T11-S200	103015417
		Slow action	0	2	PS316-T02-S200	103015418
			1	2	PS316-T12-S200	103015419
	PS315 Metal	Snap action	1	1	PS315-Z11-S300	103015096
			0	2	PS315-Z02-S300	103015097
			1	2	PS315-Z12-S300	103015098
		Slow action	1	1	PS315-T11-S300	103015112
			0	2	PS315-T02-S300	103015113
0000			1	2	PS315-T12-S300	103015114
S300		Snap action	1	1	PS316-Z11-S300	103015129
			0	2	PS316-Z02-S300	103015130
	PS316		1	2	PS316-Z12-S300	103015131
	Thermoplastic		1	1	PS316-T11-S300	103015146
		Slow action	0	2	PS316-T02-S300	103015147
			1	2	PS316-T12-S300	103015148
			1	1	PS315-Z11-R300	103015099
	PS315	Snap action	0	2	PS315-Z02-R300	103015100
	Metal	Olavu a ati'a	1	1	PS315-T11-R300	103015116
Baaa		Slow action	0	2	PS315-T02-R300	103015117
R300		Que en estis	1	1	PS316-Z11-R300	103015132
	PS316	Snap action	0	2	PS316-Z02-R300	103015133
	Thermoplastic		1	1	PS316-T11-R300	103015152
		Slow action	0	2	PS316-T02-R300	103015153

## **POSITION SWITCHES** PS3XX – PREFERRED TYPES AND ORDERING DETAILS



Position switch with actuating element		Switching system	NO contacts	NC contacts	Туре	Material number
	PS315	Snap action	1	1	PS315-Z11-K360	103015102
K360	Metal	Slow action	1	1	PS315-T11-K360	103015119
K360	PS316	Snap action	1	1	PS316-Z11-K360	103015135
	Thermoplastic	Slow action	1	1	PS316-T11-K360	103015155
	PS315	Snap action	1	1	PS315-Z11-K370	103015104
K370	Metal	Slow action	1	1	PS315-T11-K370	103015121
K370	PS316	Snap action	1	1	PS316-Z11-K370	103015137
	Thermoplastic	Slow action	1	1	PS316-T11-K370	103015157
	PS315 Metal	Snap action	1	1	PS315-Z11-H300	103015106
		Slow action	1	1	PS315-T11-H300	103015123
H300	PS316 Thermoplastic	Snap action	1	1	PS316-Z11-H300	103015139
		Slow action	1	1	PS316-T11-H300	103015159
		Slow action	1	2	PS316-T12-H300	103015160
	PS315	Snap action	1	1	PS315-Z11-N300	103015108
	Metal	Slow action	1	1	PS315-T11-N300	103015125
N300		Snap action	1	1	PS316-Z11-N300	103015141
	PS316 Thermoplastic	Olevu e etiere	1	1	PS316-T11-N300	103015161
	mermoplastic	Slow action	1	2	PS316-T12-N300	103015162
	PS315	Snap action	1	1	PS315-Z11-J300	103015110
1200	Metal	Slow action	1	1	PS315-T11-J300	103015127
J300	PS316	Snap action	1	1	PS316-Z11-J300	103015143
	Thermoplastic	Slow action	1	1	PS316-T11-J300	103015163

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## THE SCHMERSAL GROUP PROTECTION FOR MAN AND MACHINE

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Customers of the Schmersal Group include global players from the area of mechanical engineering and plant manufacturing as well as operators of machinery. They profit from the company's extensive expertise as a provider of systems and solutions for machine safety. Furthermore, Schmersal specialises in various areas including food & beverage, packaging, machine tools, lift switchgear, heavy industry and automotive.

A major contribution to the systems and solutions offered by the Schmersal Group is made by tec.nicum with its comprehensive range of services: certified Functional Safety Engineers advise machinery manufacturers and machinery operators in all aspects relating to machinery and occupational safety – and do so with product and manufacturer neutrality. Furthermore, they design and realise complex solutions for safety around the world in close collaboration with the clients.



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- Safety switches and sensors, solenoid interlocks
- Safety controllers and safety relay modules, safety bus systems
- Optoelectronic and tactile safety devices
- Automation technology: position switches, proximity switches

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- Complete solutions for safeguarding hazard areas
- Individual parametrisation and programming of safety controllers
- Tailor-made safety technology be it for individual machines or a complex production line
- Industry-specific safety solutions

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- tec.nicum consulting Consultancy services
- tec.nicum engineering –
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- tec.nicum integration –
   Execution and installation



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The details and data referred to have been carefully checked. Subject to technical amendments and errors.

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