

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 position switch family PS.

For automation, safety applications and elevator technology – the 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 position switch family PS.

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products.schmersal.com

POSITION SWITCH DESCRIPTION

SYSTEM UNIVERSALLY DEPLOYABLE SERIES

Recording and monitoring, from extraordinarily compact to very robust.

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
- Robust and reliable
- Can be combined in numerous ways thanks to modular design

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

Switching elements with up to three contacts

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.

Latching function

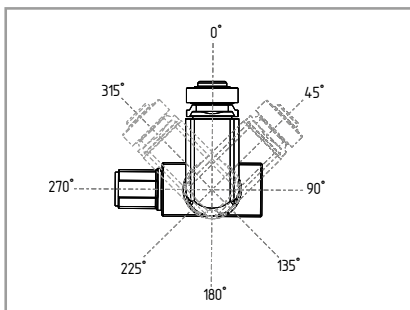
To save the switching state, versions are available with snap action and an optional latching function where the mounting element must be manually reset to the starting condition.

Modular diversity

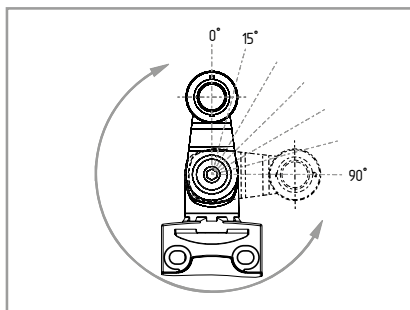
The modular design with consistent components across all series reduces the number of different versions, lowers the effort required for storage and increases availability.



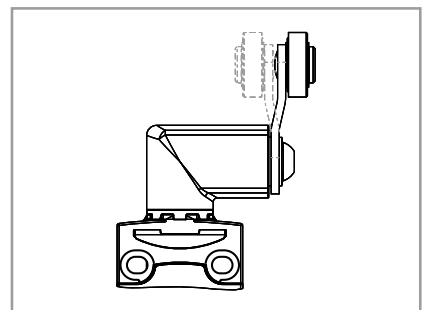
ACTUATOR ELEMENTS AND LEVER



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
Offset roller lever can be set in 15° steps.



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

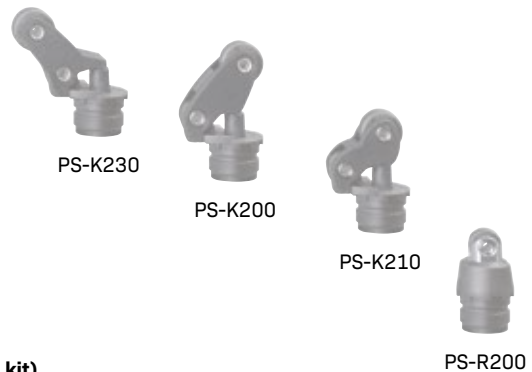
POSITION SWITCH

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

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



Complete device



PS116-Z11-STR-H200

Modular selection (construction kit) to be ordered separately



Basic switch:
PS116-Z11-STR-S200



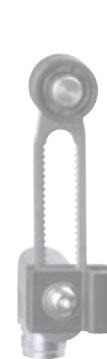
Actuator head:



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



PS-J200



PS-N200



PS-K250

ORDERING CODE PS116

PS116-Z11-STR-S200-U1

Switching elements (others on request)

T02	Slow action 2 NC contacts
T02H	Slow action 2 NC contacts with staggered contacts
T03	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 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 with latching
Z12	Snap action 1 NO contact / 2 NC contacts
Z12R	Snap action 1 NO contact / 2 NC contacts with latching

Termination

ST	Connector plug M12, bottom
STR	Connector plug M12, right
L200	Connecting cable bottom, 2 m
LR200	Right connection cable, 2 m
L300	Connecting cable bottom, 3 m
LR300	Right connection cable, 3 m
L500	Connecting cable bottom, 5 m
LR500	Right connection cable, 5 m

Head rotation

	Included in standard version
U1	45°
U2	90°
U3	135°
U4	180°
U5	225°
U6	270°
U7	315°

Actuator elements (more on request)

S200	Plunger, tappet width Ø 6 mm
R200	Roller plunger, plastic roller Ø 9.5 mm
R201	Roller plunger, stainless steel roller Ø 9.5 mm
R202	Roller plunger, brass roller Ø 9.5 mm
K200	Roller lever, plastic roller Ø 12 mm
K210	Roller lever, plastic roller Ø 14 mm
K230	Angle roller lever, plastic roller Ø 14 mm
K240	Angle roller lever, plastic roller Ø 22 mm, right
K250	Angle roller lever, plastic roller Ø 22 mm, left
K280	Angle roller lever, plastic roller Ø 14 mm, left
H200	Offset roller lever, plastic roller Ø 16 mm
H201	Offset roller lever, stainless steel roller Ø 16 mm
H202	Offset roller lever, brass roller Ø 16 mm
N200	Offset roller lever, length-adjustable, plastic roller Ø 20 mm
N201	Offset roller lever, length-adjustable, stainless steel roller Ø 20 mm
N202	Offset roller lever, length-adjustable, brass roller Ø 20 mm
N206	Offset roller lever, length-adjustable, rubber roller Ø 50 mm
J200	Rod lever, plastic
J203	Rod lever, aluminium

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.

POSITION SWITCH

ORDER INFORMATION COMPLETE DEVICE OR MODULAR CONSTRUCTION KIT

ORDERING CODE PS215/216/226

PS215L-Z11A1-G-M16-S200-U1-X10I-T

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Body type

215	Metal enclosure
216	Plastic housing
226	Thermoplastic body with 2 cable entries

② Mounting hole

	Longitudinal hole (standard)
L	Transverse slotted hole

③ Switching elements (others on request)

Z11	Snap action, 1 NO contact / 1 NC contact
Z02	Snap action, 2 NC contacts
Z12	Snap action, 1 NO contact / 2 NC contacts
Z11R	Snap action, 1 NO contact / 1 NC contact, with latching
Z01R	Snap action, 1 NC contact, with latching
Z02R	Snap action, 2 NC contacts, with latching
T11	Slow action, 1 NO contact / 1 NC contacts
T02	Slow action, 2 NC contacts
T20	Slow action, 2 NO contacts
T12	Slow action, 1 NO contact / 2 NC contacts
T21	Slow action, 2 NO contacts / 1 NC contact
T03	Slow action, 3 NC contacts
T11UE	Slow action with overlapping contacts, 1 NO contact / 1 NC contact
T02H	Slow action with staggered contacts, 2 NC contacts
T11K	Slow action, 1 NO contact / 1 NC contact, short stroke
T10	Slow action, 1 NO contact
T02K	Slow action, 2 NO contacts, short stroke
T20H	Slow action, 2 NO contacts, staggered contacts

④ Contact design

	Silver-plated contacts (standard)
A1	Gold-plated contacts 0.3 µm
A2	Gold-plated contacts 1.0 µm
A3	Gold-plated contacts 1.0 µm

⑤ Status display

	No status display (standard)
G	Integrated status display

⑥ Termination

	Cable entry M20
M16	cable entry M16
ST	Connector plug M12, plastic, bottom
STR	Connector plug M12, right
STL	Connector plug M 12, left
STM	Connector plug M12, metal

⑦ Actuator elements (more on request)

S200	Plunger, plastic, tappet width Ø 6 mm
S210	Plunger, plastic, tappet width Ø 8.6 mm
S211	Plunger, stainless steel, tappet width Ø 10.3 mm
S221	Plunger, stainless steel, tappet width Ø 9.8 mm
R200	Roller plunger, plastic roller Ø 9.5 mm
R201	Roller plunger, stainless steel roller Ø 9.5 mm
R210	Roller plunger, plastic roller Ø 12 mm
R211	Roller plunger, stainless steel roller Ø 12 mm
R220	Roller plunger, plastic roller Ø 9.5 mm, long
R221	Roller plunger, stainless steel roller Ø 9.5 mm, long
K200	Roller lever, plastic roller Ø 12 mm
K201	Roller lever, stainless steel roller Ø 12 mm
K210	Roller lever, plastic roller Ø 14 mm
K211	Roller lever, stainless steel roller Ø 14 mm
K220	Roller lever, plastic roller Ø 14 mm, wide
K230	Angle roller lever, plastic roller Ø 14 mm
K231	Angle roller lever, stainless steel roller Ø 14 mm
K240	Angle roller lever, plastic roller Ø 22 mm, right
K250	Angle roller lever, plastic roller Ø 22 mm, left
H200	Offset roller lever, plastic roller Ø 16 mm

H201	Offset roller lever, stainless steel roller Ø 16 mm
H202	Offset roller lever, brass roller Ø 16 mm
H230	Offset roller lever, plastic roller Ø 16 mm, long
H232	Offset roller lever, brass roller Ø 16 mm, long
H236	Offset roller lever, rubber roller Ø 16 mm, long
N200	Offset roller lever, length-adjustable, plastic roller Ø 20 mm
N201	Offset roller lever, length-adjustable, stainless steel roller Ø 20 mm
N202	Offset roller lever, length-adjustable, brass roller Ø 20 mm
N206	Offset roller lever, length-adjustable, rubber roller Ø 50 mm
N210	Offset roller lever, length-adjustable, plastic roller Ø 20 mm, long, angled
N280	Offset roller lever, length-adjustable, plastic roller Ø 20 mm, long, lock washer
J200	Rod lever, plastic
J201	Rod lever, stainless steel
J203	Rod lever, aluminium
F230	Spring rod lever, stainless steel, 150.4 mm
F231	Spring rod lever, stainless steel, 70.2 mm
A200	Special actuator, plunger, valve monitoring
Q200	Pull-wire switch, traction force 45 N, wire length up to 50 m
Q210	Pull-wire switch, traction force 70 N, wire length up to 100 m

Ⓢ Head rotation (in 45° steps)

	Included in standard version
U1	45°
U2	90°
...	...
U7	315°

Ⓢ Lever rotation (in 15° steps)

	No lever rotation (standard)
X1	Lever rotation 15°
X2	Lever rotation 30°
...	...
X23	Lever rotation 345°

Ⓢ Roller position

	Roller outside (standard)
I	Castor inside

Ⓢ Ambient temperature

	-30 ... +80 °C (standard)
T	-40 ... +80 °C

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.

POSITION SWITCH

ORDER INFORMATION COMPLETE DEVICE OR MODULAR CONSTRUCTION KIT

ORDERING CODE PS315/316

PS316-Z11A1-G-ST-S300-U1-X1I-T

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Body type

315	Metal enclosure
316	Plastic housing

④ Status display

	No status display (standard)
G	Integrated status display

③ Switching elements (others on request)

Z11	Snap action, 1 NO contact / 1 NC contact
Z02	Snap action, 2 NC contacts
Z12	Snap action, 1 NO contact / 2 NC contacts
Z11R	Snap action, 1 NO contact / 1 NC contact, with latching
Z01R	Snap action, 1 NC contact, with latching
Z02R	Snap action, 2 NC contacts, with latching
T11	Slow action, 1 NO contact / 1 NC contact
T02	Slow action, 2 NC contacts
T20	Slow action, 2 NO contacts
T12	Slow action, 1 NO contact / 2 NC contacts
T21	Slow action, 2 NO contacts / 1 NC contact
T03	Slow action, 3 NC contacts
T11UE	Slow action with overlapping contacts, 1 NO contact / 1 NC contact
T02H	Slow action with staggered contacts, 2 NC contacts
T11K	Slow action, 1 NO contact / 1 NC contact, short stroke
T10	Slow action, 1 NO contact
T02K	Slow action, 2 NO contacts, short stroke
T20H	Slow action, 2 NO contacts, staggered contacts

⑤ Contact design

	Silver-plated contacts (standard)
A1	Gold-plated contacts 0.3 µm
A2	Gold-plated contacts 1.0 µm
A3	Gold-plated contacts 1.0 µm

⑥ Termination

	Cable entry M20
ST	Connector plug M12, plastic, bottom
STM	Connector plug M12, metal

⑦ Actuator elements (more on request)

S200	Plunger, plastic, tappet width Ø 6 mm
S300	Plunger, plastic, tappet width Ø 9 mm
S310	Plunger, plastic, tappet width Ø 9 mm, with bellows
R300	Roller plunger, plastic roller Ø 17.2 mm
R301	Roller plunger, stainless steel roller Ø 17.2 mm
R302	Roller plunger, brass roller Ø 17.2 mm
R310	Roller plunger, plastic roller Ø 17.2 mm, with bellows
K360	Angle roller lever, plastic roller Ø 20 mm, left
K370	Angle roller lever, plastic roller Ø 20 mm, right
H300	Offset roller lever, plastic roller Ø 25 mm
H301	Offset roller lever, stainless steel roller Ø 25 mm
H302	Offset roller lever, brass roller Ø 25 mm
H311	Offset roller lever, stainless steel roller Ø 20 mm
H312	Offset roller lever, brass roller Ø 20 mm
H326	Offset roller lever, rubber roller Ø 20 mm
N300	Offset roller lever, plastic roller Ø 20 mm
N301	Offset roller lever, stainless steel roller Ø 20 mm
N302	Offset roller lever, brass roller Ø 20 mm
N306	Offset roller lever, rubber roller Ø 50 mm

N308	Offset roller lever, stainless steel Ø 20 mm, ball-bearing mounted
N360	Offset roller lever, plastic roller Ø 20 mm, long
N370	Offset roller lever, plastic roller Ø 20 mm, very long
J300	Rod lever, plastic, 200mm, Ø 6 mm
J301	Rod lever, plastic, 200mm, Ø 6 mm, stainless steel shaft
F230	Spring rod lever, stainless steel, 150.4 mm
F231	Spring rod lever, stainless steel, 70.2 mm
A200	Special actuator, plunger, valve monitoring

⑦ Head rotation (in 45° steps)

	Included in standard version
U1	45°
U2	90°
...	...
U7	315°

⑧ Lever rotation (in 15° steps)

	No lever rotation (standard)
X1	Lever rotation 15°
X2	Lever rotation 30°
...	...
X23	Lever rotation 345°

⑨ Roller position

	Roller outside (standard)
I	Castor inside

⑩ Ambient temperature

	-30 ... +80 °C (standard)
T	-40 ... +80 °C

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.

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.



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.

PS2XX / PS3XX



1. Release locking plate
(flat-head screwdriver)

2. Remove or turn existing
actuating element

3. Position of new
actuating element

4. Secure locking
plate

POSITION SWITCH

OVERVIEW OF THE SERIES



■ PS116



■ PS215

Key Features

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Symmetrical casing ▪ Compact design ▪ Fitted (cable / M12 connector) ▪ Complete device or modular construction kit ▪ Design to EN 50047 | <ul style="list-style-type: none"> ▪ Simplified connection (connection terminals rotated by 45°) ▪ Robust design ▪ Complete device or modular construction kit ▪ Design to EN 50047 |
|---|---|

Technical 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, painted
Connector	Cable 4/6 pole M12 connector 4/6 pole	1 × M20 M12 connector 5/8 pole
Cable section ³⁾	4/6 × 0.5 mm ²	max. 1.5 mm ² (incl. conductor ferrules)
Dimensions (W × H × D)	31 × 52 × 16.6 mm	31 × 66 × 33 mm
Ambient conditions		
Ambient temperature	-30 °C ... +80 °C	-30 °C ... +80 °C
Degree of protection	IP66, IP67	IP66, IP67
Actuator heads	see page <?>	see page <?>

Safety classification

Standards	EN ISO 13849-1	EN ISO 13849-1
B₁₀₀ NC contact	20,000,000	20,000,000
Certificates	cULus, CCC	cULus, CCC



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



■ PS216



■ PS226



■ PS315



■ PS316

- Simplified connection (connection terminals rotated by 45°)
- Folding latching cover
- Complete device or modular construction kit
- Design to EN 50047

- Simplified connection (connection terminals rotated by 45°)
- Folding latching cover
- Complete device or modular construction kit
- Design to EN 50047

- Simplified connection (connection terminals rotated by 45°)
- Robust design
- Complete device or modular construction kit
- Design to EN 50041

- Simplified connection (connection terminals rotated by 45°)
- Folding latching cover
- Complete device or modular construction kit
- Design to EN 50041

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 × M20 M12 connector 4/8 pole max. 1.5 mm ² (incl. conductor ferrules)	2 × M20 M12 connector 4/8-pole max. 1.5 mm ² (incl. conductor ferrules)	1 × M20 M12 connector 5/8-pole max. 1.5 mm ² (incl. conductor ferrules)	1 × M20 M12 connector 4/8 pole max. 1.5 mm ² (incl. conductor ferrules)
31 × 66 × 33 mm	59 × 56 × 33 mm	40 × 77.7 × 37.2 mm	40 × 77.7 × 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 <?>	see page <?>	see page <?>	see page <?>

EN ISO 13849-1	EN ISO 13849-1	EN ISO 13849-1	EN ISO 13849-1
20,000,000	20,000,000	20,000,000	20,000,000
cULus, CCC	cULus, CCC	cULus, CCC	cULus, CCC

POSITION SWITCH

PS116 / PS2XX – ACTUATOR HEADS



Plunger S200 | **Roller plunger R200**

Actuator heads

Actuator description	<ul style="list-style-type: none"> Thermoplastic plunger Actuator type B according to EN 50047 	<ul style="list-style-type: none"> Thermoplastic roller plunger Actuator type C according to EN 50047
Positive break force	> 40 N	> 40 N
Actuating speed	min. 10 mm/min, max. 0.5 m/s	min. 10 mm/min, max. 0.5 m/s
Snap action		
Slow action	min. 60 mm/min, max. 0.5 m/s	min. 60 mm/min, max. 0.5 m/s
Positioning the lever	-	-

Ordering data modular construction kit

Product type description	PS-S200	PS-R200
Material number	103010968	103010967

Switch travel diagrams

Snap action	Per NO contact / per NC contact		
Slow action	Per NO contact / per NC contact		
	1 NO / 1 NC with overlapping		
	2 NC with staggered contacts		

■ Contact closed

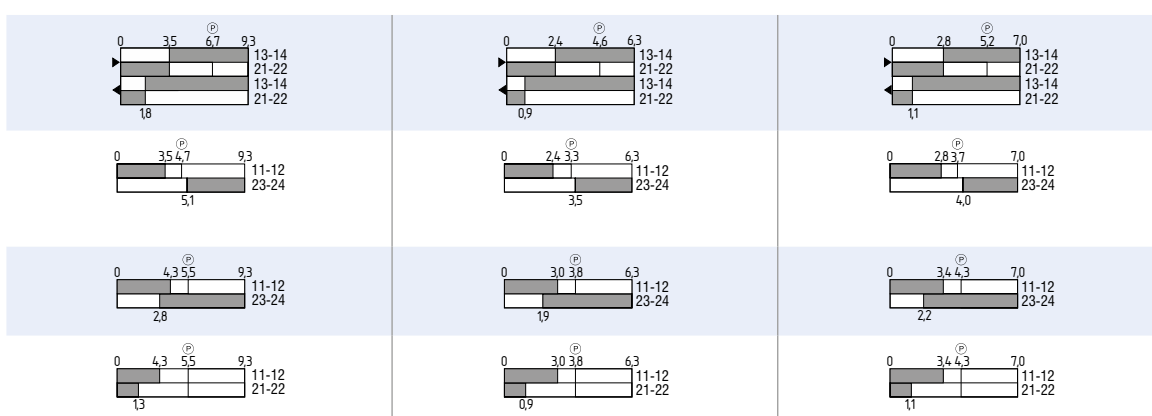
□ Contact open

Ⓟ Positive break travel / angle



Roller lever K200	Roller lever K210	Angle roller lever K230
<ul style="list-style-type: none"> Thermoplastic roller lever Actuator type E according to EN 50047 	<ul style="list-style-type: none"> Thermoplastic roller lever 	<ul style="list-style-type: none"> 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



Most rollers are also available in stainless steel or brass.
Please contact our technical sales department or visit products.schmersal.com.

POSITION SWITCH

PS116 / PS2XX – ACTUATOR HEADS



Angle roller lever K240

Angle roller lever K250

Actuator heads

Actuator description	▪ Thermoplastic angle roller lever	▪ Thermoplastic angle roller lever
Positive break force	> 40 N	> 40 N
Actuating speed	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
Snap action		
Slow action	min. 60 mm/min, max. 1 m/s	min. 60 mm/min, max. 1 m/s
Positioning the lever	-	-

Ordering data modular construction kit

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

Switch travel diagrams

Snap action	Per NO contact / per NC contact		
Slow action	Per NO contact / per NC contact		
	1 NO / 1 NC with overlapping		
	2 NC with staggered contacts		

■ Contact closed

□ Contact open

Ⓟ Positive break travel / angle



Offset roller lever H200

Offset roller lever N200

Offset roller lever N206

- Metal lever with plastic roller
- Actuator type A according to EN 50047

- Length adjustable metal lever with plastic roller
- Adjustable in 2 mm steps

- Length adjustable metal lever with rubber roller
- Adjustable in 2 mm steps

> 40 N

min. 10 mm/min,
max. 1 m/s

min 60 mm/min,
max. 1 m/s

adjustable in 15° steps

> 40 N

min. 10 mm/min,
max. 1 m/s

min. 60 mm/min,
max. 1 m/s

adjustable in 15° steps

> 40 N

min. 10 mm/min,
max. 1 m/s

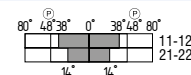
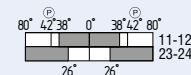
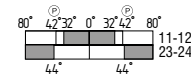
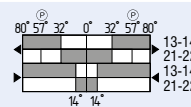
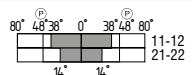
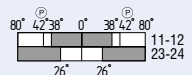
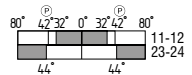
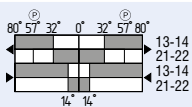
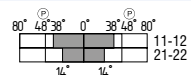
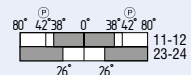
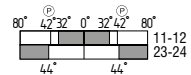
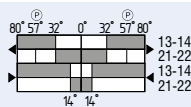
min. 60 mm/min,
max. 1 m/s

adjustable in 15° steps

PS-H200
103010948

PS-N200
103010966

PS-N206
On request



Most rollers are also available in stainless steel or brass.
Please contact our technical sales department or visit products.schmersal.com.

POSITION SWITCH

PS116 / PS2XX – ACTUATOR HEADS



Rod lever J200



Rod lever J203

Actuator heads

Actuator description	<ul style="list-style-type: none"> Plastic rod, 200 mm Only suitable for positioning tasks 	<ul style="list-style-type: none"> Aluminium rod, 200 mm Only suitable for positioning tasks
Positive break force	–	–
Actuating speed	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
Snap action		
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-J200	PS-J203
Material number	103010951	103031875

Switch travel diagrams

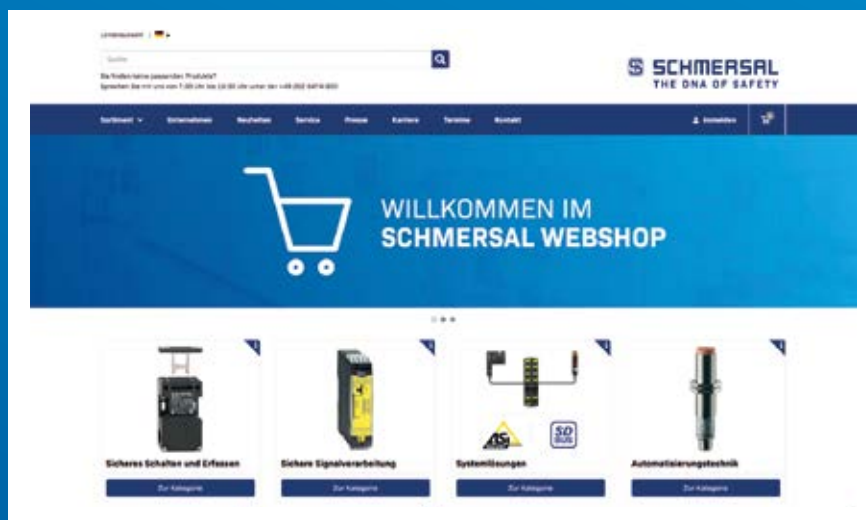
Snap action	Per NO contact / per NC contact		
Slow action	Per NO contact / per NC contact		
	1 NO / 1 NC with overlapping		
	2 NC with staggered contacts		

■ Contact closed

□ Contact open

Ⓟ Positive break travel / angle

UP-TO-DATE WITHOUT FAIL THE SCHMERSAL WEBSHOP



FOR DETAILED INFORMATION, CHECK OUT
[PRODUCTS.SCHMERSAL.COM](https://products.schmersal.com)

POSITION SWITCH

PS3XX – ACTUATOR HEADS



Plunger S300



Roller plunger R300

Actuator heads

Actuator description	Plunger S300	Roller plunger R300
Actuator description	<ul style="list-style-type: none"> Thermoplastic plunger Actuator type B according to EN 50041 	<ul style="list-style-type: none"> Thermoplastic roller plunger Actuator type C according to EN 50041
Positive break force	> 50 N	> 50 N
Actuating speed	min. 10 mm/min,	min. 10 mm/min,
Snap action	max. 0.5 m/s	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
Positioning the lever	-	-

Ordering data modular construction kit

Product type description	PS-S300	PS-R300
Material number	103015397	103015398

Switch travel diagrams

Snap action	Per NO contact / per NC contact	Plunger S300	Roller plunger R300
Snap action	Per NO contact / per NC contact		
Slow action	Per NO contact / per NC contact		
1 NO / 1 NC with overlapping	1 NO / 1 NC with overlapping		
	2 NC with staggered contacts		

■ Contact closed

□ Contact open

Ⓟ Positive break travel / angle



Angle roller lever K360



Roller lever K370



Offset roller lever H300

▪ Thermoplastic angle roller lever

▪ Thermoplastic roller lever

▪ Metal lever with plastic roller
▪ Actuator type A according to EN 50041

> 50 N

min. 10 mm/min,
max. 1 m/s

min. 60 mm/min,
max. 1 m/s

-

> 50 N

min. 10 mm/min,
max. 1 m/s

min. 60 mm/min,
max. 1 m/s

-

> 50 N

min. 10 mm/min,
max. 1 m/s

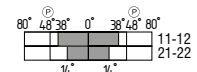
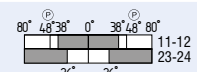
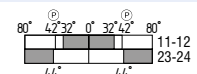
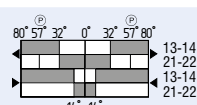
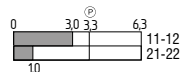
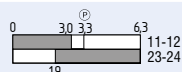
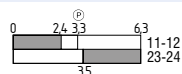
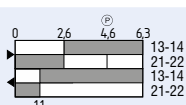
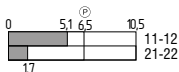
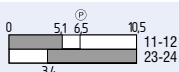
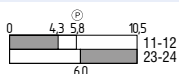
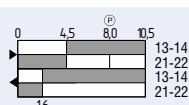
min. 60 mm/min,
max. 1 m/s

adjustable in 15° steps

PS-K360
103015399

PS-K370
103015400

PS-H300
103015401



Most rollers are also available in stainless steel or brass.
Please contact our technical sales department or visit products.schmersal.com.

POSITION SWITCH

PS3XX – ACTUATOR HEADS



Offset roller lever N300 **Offset roller lever N306**

Actuator heads

Actuator description	<ul style="list-style-type: none"> Length adjustable metal lever with plastic roller Adjustable in 2 mm steps 	<ul style="list-style-type: none"> Length adjustable metal lever with rubber roller Adjustable in 2 mm steps
Positive break force	> 50 N	> 50 N
Actuating speed	min. 10 mm/min, max. 1 m/s	min. 10 mm/min, max. 1 m/s
Snap action		
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-N306
Material number	103015402	On request

Switch travel diagrams

Snap action	Per NO contact / per NC contact		
Slow action	Per NO contact / per NC contact		
	1 NO / 1 NC with overlapping		
	2 NC with staggered contacts		

■ Contact closed

□ Contact open

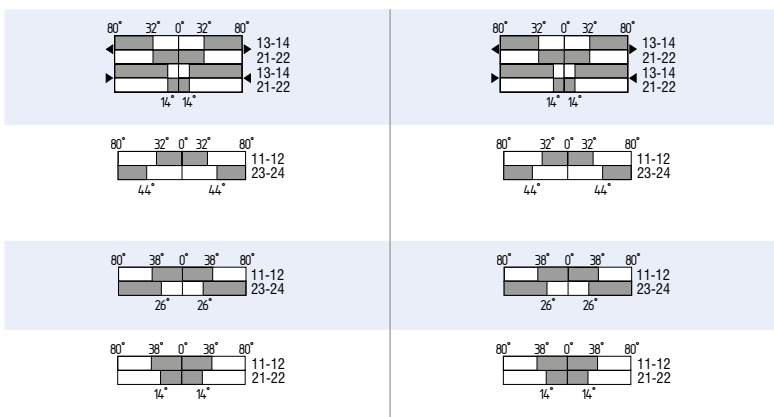
Ⓟ Positive break travel / angle



Rod lever J300	Rod lever J303
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<ul style="list-style-type: none"> ▪ Plastic rod, 200 mm ▪ Only suitable for positioning tasks ▪ Actuator type A according to EN 50041 	<ul style="list-style-type: none"> ▪ Aluminium rod, 200 mm ▪ Only suitable for positioning tasks ▪ Actuator type A according to EN 50041
-	-
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
adjustable in 15° steps	adjustable in 15° steps

PS-J300	PS-J303
103015403	103031877



Most rollers are also available in stainless steel or brass.
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excellence in safety

tec.nicum is the Schmersal Group's business unit for solutions and services related to machine, plant and occupational safety.

Schmersal restructured its service business in 2024. The range of safety services offered by tec.nicum has been significantly expanded – particularly with regard to digitalisation and complete solutions for machine safety – and the global activities and expertise have been more closely integrated.

In April 2024, Schmersal founded tec.nicum – Solutions & Services GmbH as a new subsidiary, which also incorporated omnicon engineering GmbH, which Schmersal had already acquired in 2019. The headquarters of the new subsidiary is located in Kirkel-Limbach, Germany.

The four pillars on which tec.nicum's offering has been built to date – academy, consulting, engineering and integration – have been supplemented by two more: digitalisation and outsourcing.

digitalisation: tec.nicum is increasingly offering newly developed software solutions, such as a new tool for carrying out risk assessments, as well as new digital technologies such as cloud solutions, IIoT applications, digitalised lockout-tagout procedures and energy management tools.

outsourcing: tec.nicum offers companies the opportunity to completely outsource all tasks related to machine safety, from the planning and installation of control cabinets to the design of holistic safety solutions. tec.nicum provides the user with ready-to-connect plug & play solutions.

Thanks to its worldwide consultancy network, tec.nicum services are available around the globe. tec.nicum provides customers with competent, product- and manufacturer-neutral advice and supports them in the safety-related design of their machines and production lines.

tec.nicum
Schmersal Group

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academy



Education center

- Training courses
- Customer-specific trainings
- In-house seminars
- Certified courses (mce.expert and FSE)

consulting



Analysis and documentation

- Technical support
- Risk assessment
- CE conformity assessment
- Evaluation of machines and production lines
- Reports

engineering



Planning and design

- Technical project planning
- Conceptual project development
- Electrical and mechanical design
- Executive project management

integration



Practical application

- Turnkey approach
- Installation
- Retrofit

digitalisation



Software integration

- tec.**ps** (Product Service System)
- tec.**ssm** (Schmersal Smart Machine)
- tec.**cvs** (AI and Computational Vision Solutions)
- tec.**dloto** (Digital Lockout Tagout)
- tec.**ems** (Energy Monitoring System)

outsourcing



Serial solutions

- Plug & Play products
- Engineer to Order projects
- Systems and cabinets

tec.nicum

The range of services offered by tec.nicum comprises six segments: academy (knowledge transfer), consulting (advisory services), engineering (technical planning), integration (execution and implementation), digitalisation (software solutions and new digital technologies) as well as outsourcing (complete solutions).

THE SCHMERSAL GROUP

PROTECTION FOR MAN AND MACHINE

In the demanding field of machine safety, the owner-managed Schmersal Group is one of the international market leaders. The company, which was founded in 1945, has a workforce of about 2,000 people and seven manufacturing sites on three continents along with its own companies and sales partners in more than 60 nations.

Customers of the Schmersal Group include “Global Players” in mechanical engineering and plant manufacturing and operators of machinery. They benefit from the company’s extensive expertise as a provider of systems and solutions for machine safety. In addition, Schmersal specialises in various areas including intralogistics, foodstuff production, the packaging industry, machine tool industry, lift switchgear, heavy industry and the automotive industry.

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.



SAFETY PRODUCTS

- 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

SAFETY SYSTEMS

- 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

SAFETY SERVICES

- tec.nicum academy – Seminars and training
- tec.nicum consulting – Consultancy services
- tec.nicum engineering – Design and technical planning
- tec.nicum integration – Execution and installation
- tec.nicum digitalisation – Software solutions and new digital technologies
- tec.nicum outsourcing – Complete solutions



x.000 / L+W / 11.2024 / Teile-Nr. 103015869 / EN / Ausgabe 02



SCHMERSAL
THE DNA OF SAFETY

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

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