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 DEPLOYABLE SERIES

## AREA OF APPLICATION

## DESIGN AND WAY OF FUNCTIONING

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

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.

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.

## 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.

## 9-



## ACTUATOR ELEMENTS AND LEVER



Adjustable actuator elements
All actuating elements can be rotated in $45^{\circ}$ increments and can be quickly replaced and implemented due to the simple mounting design.


## Adjustable lever

Roller lever can be set in $15^{\circ}$ 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 <br> 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, 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

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.


PS-K210


PS-H2OO


PS-K240


PS-K250

## Actuator head:

PS-N200

ORDERING CODE

| PSXXX-Z11A2-L200-S200 |  |  |  |
| :---: | :---: | :---: | :---: |
| Switching elements (others on request) |  | Roller/lever variants |  |
| T02 | Slow action 2 NC contacts | $00 . . .99$ | 9 Material and dimension variants |
| T02H | Slow action 2 NC contacts with staggered contacts | Actuator elements (more on request) |  |
| T03 | Slow action 3 NC contacts | PS116 and PS2xx series |  |
| T10 | Slow action 1 NO contact | S2 | Plunger |
| T11 | Slow action 1 NO contact / 1 NC contact | R2 | Roller plunger |
| T11UE | Slow action 1 NO contact / 1 NC contact with overlapping contacts | K2 | Roller/angle roller lever |
|  |  | H2 | Roller lever |
| T12 | Slow action 1 NO contact / 2 NC contacts | N2 | Length-adjustable roller lever |
| T20 | Slow action 2 NO contacts | J2 | Rod lever |
| T21 | Slow action 2 NO contacts / 1 NC contact | F2 | Spring rod |
| Z02 | Snap action 2 NC contacts | A2 | Tappet for press safety using |
| Z11 | Snap action 1 NO contact / 1 NC contact | PS3xx series |  |
| Z11R | Snap action 1 NO contact / 1 NC contact with latching (not for PS3xx) | S2S3 | Plunger, tappet width Ø 6 mm |
|  |  |  | Plunger, tappet width $\emptyset 9 \mathrm{~mm}$ |
| Z12 | Snap action 1 NO contact / 2 NC contacts | R3 | Roller plunger |
| Contact design |  | K3H3 | Angle roller lever |
|  |  | Roller lever |
|  | Silver contacts (Standard) |  | N3 | Length-adjustable roller lever |
| A1 | Gold-plated contacts $0.3 \mu \mathrm{~m}$ | J3 | Rod lever |
| A2 | Gold-plated contacts $1.0 \mu \mathrm{~m}$ | F2 | Spring rod |
| A3 | Gold-plated contacts $3.0 \mu \mathrm{~m}$ |  |  |
|  |  | Termination |  |
| For technical reasons, not all possible variations and/or combinations can be delivered. <br> The existing key type is used to translate the product type designation. |  |  | 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) |

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.

The $45^{\circ}$ rotated connection terminals of all switch elements reduce the assembly time considerably.


## ACTUATING ELEMENT REPLACE AND TURN

All actuating elements can be rotated in $45^{\circ}$ 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.


## POSITION SWITCHES <br> OVERVIEW OF THE SERIES

|  |  |  |
| :---: | :---: | :---: |
|  | - PS116 | - PS215 |
| Key Features |  |  |
|  | - Symmetrical casing <br> - Compact design <br> - Fitted (cable / M12 connector) <br> - Complete device or modular construction kit <br> - Design to EN 50047 | - Simplified connection (connection terminals rotated by $45^{\circ}$ ) <br> - Robust design <br> - Complete device or modular construction kit <br> - 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; <br> 24 VDC / 1.5 A | $\begin{gathered} 240 \text { VAC / } 3 \text { A; } \\ 24 \text { VDC / } 3 \text { A } \end{gathered}$ |
| Max. switching capacity U/I (M12 connector, 4-pole) | 240 VAC / 1.5 A; 24 VDC / 1.5 A | $\begin{aligned} & 50 \text { VAC / } 3 \text { A; } \\ & 24 \text { VDC / } 3 \text { A } \end{aligned}$ |
| 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; <br> 24 VDC / 2 A |
| Mechanical data |  |  |
| Housing material | Metal / thermoplastic enclosure | Metal enclosure, painted |
| Connector | Cable 4/6 pole M12 connector 4/6 pole | $1 \text { x M20 }$ <br> M12 connector $5 / 8$ pole |
| Cable section ${ }^{3)}$ | $4 / 6 \times 0.5 \mathrm{~mm}^{2}$ | $\begin{aligned} & \text { max. } 1.5 \mathrm{~mm}^{2} \\ & \text { (incl. conductor ferrules) } \end{aligned}$ |
| Dimensions (W x H $\times$ D) | $31 \times 52 \times 16.6 \mathrm{~mm}$ | $31 \times 66 \times 33 \mathrm{~mm}$ |
| Environmental conditions |  |  |
| Ambient temperature | $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ |
| Degree of protection | IP66, IP67 | IP66, IP67 |
| Actuator heads | see page 12 | see page 12 |
| Safety classification |  |  |
|  |  |  |
| Standards | EN ISO 13849-1 | EN ISO 13849-1 |
| $\mathrm{B}_{100}$ 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.

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| - PS216 | - PS226 | - PS315 | - PS316 |
| - Simplified connection (connection terminals rotated by $45^{\circ}$ ) <br> - Folding latching cover <br> - Complete device or modular construction kit <br> - Design to EN 50047 | - Simplified connection (connection terminals rotated by $45^{\circ}$ ) <br> - Folding latching cover <br> - Complete device or modular construction kit <br> - Design to EN 50047 | - Simplified connection (connection terminals rotated by $45^{\circ}$ ) <br> - Robust design <br> - Complete device or modular construction kit <br> - Design to EN 50041 | - Simplified connection (connection terminals rotated by $45^{\circ}$ ) <br> - Folding latching cover <br> - Complete device or modular construction kit <br> - Design to EN 50041 |


| Snap-/slow action | Snap-/slow action | Snap-/slow action | Snap-/slow action |
| :---: | :---: | :---: | :---: |
| - | - | - | - |
| 3 | 3 | 3 | 3 |
| $\begin{gathered} 240 \mathrm{VAC} / 3 \mathrm{~A} ; \\ 24 \mathrm{VDC} / 3 \mathrm{~A} \end{gathered}$ | $240 \mathrm{VAC} / 3 \mathrm{~A}$; <br> 24 VDC / 3 A | $\begin{gathered} 240 \mathrm{VAC} / 3 \mathrm{~A} ; \\ 24 \mathrm{VDC} / 3 \mathrm{~A} \end{gathered}$ | $\begin{gathered} 240 \mathrm{VAC} / 3 \mathrm{~A} ; \\ 24 \mathrm{VDC} / 3 \mathrm{~A} \end{gathered}$ |
| $240 \mathrm{VAC} / 3 \mathrm{~A}$; <br> $24 \mathrm{VDC} / 3 \mathrm{~A}$ | $240 \mathrm{VAC} / 3 \mathrm{~A}$; <br> 24 VDC / 3 A | $50 \mathrm{VAC} / 3 \mathrm{~A}$; <br> $24 \mathrm{VDC} / 3 \mathrm{~A}$ | $\begin{gathered} 240 \mathrm{VAC} / 3 \mathrm{~A} ; \\ 24 \mathrm{VDC} / 3 \mathrm{~A} \end{gathered}$ |
| - | - | - | - |
| $\begin{aligned} & 30 \mathrm{VAC} / 2 \mathrm{~A} ; \\ & 24 \mathrm{VDC} / 2 \mathrm{~A} \end{aligned}$ | 30 VAC / 2 A; <br> 24 VDC / 2 A | 30 VAC / 2 A; <br> 24 VDC / 2 A | 30 VAC / 2 A; <br> 24 VDC / 2 A |
| Plastic housing | Plastic housing | Metal enclosure, painted | Plastic housing |
| $1 \times \mathrm{M} 20$ <br> M12 connector 4/8 pole | $2 \times \mathrm{M} 20$ <br> M12 connector $4 / 8$ pole | $1 \times \mathrm{M} 20$ <br> M12 connector 5/8 pole | $1 \times \mathrm{M} 20$ <br> M12 connector 4/8 pole |
| $\begin{gathered} \max .1 .5 \mathrm{~mm}^{2} \\ \text { (incl. conductor ferrules) } \end{gathered}$ | $\begin{gathered} \text { max. } 1.5 \mathrm{~mm}^{2} \\ \text { (incl. conductor ferrules) } \end{gathered}$ | $\begin{gathered} \text { max. } 1.5 \mathrm{~mm}^{2} \\ \text { (incl. conductor ferrules) } \end{gathered}$ | $\begin{gathered} \text { max. } 1,5 \mathrm{~mm}^{2} \\ \text { (incl. conductor ferrules) } \end{gathered}$ |
| $31 \times 66 \times 33 \mathrm{~mm}$ | $31 \times 59.2 \times 33 \mathrm{~mm}$ | $40 \times 77.7 \times 37.2 \mathrm{~mm}$ | $40 \times 77.7 \times 37.2 \mathrm{~mm}$ |
| $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$ |
| IP66, IP67 | IP66, IP67 | IP66, IP67 | IP66, IP67 |
| see page 12 | see page 12 | see page 16 | see page 16 |
|  |  |  |  |
| EN ISO 13849-1 | 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, EAC | cULus, CCC, EAC | cULus, CCC, EAC | cULus, CCC, EAC |



Plunger $\$ 200$
Roller plunger R200
Actuator heads

| Actuator description | Thermoplastic plunger | Thermoplastic roller plunger <br> Actuator type B according to EN 50047 |
| :--- | :---: | :---: |
| Actuator type C according to EN 50047 |  |  |

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 <br> with staggered contacts |  |  |



Angle roller lever K230

Thermoplastic angle roller lever

$$
>40 \mathrm{~N}
$$

$\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$
$\min .60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$

| PS-K200 | PS-K210 | PS-K230 |
| :---: | :---: | :---: |
| 103010961 | 103010962 | 103010963 |


Contact open

|  |  |  |
| :---: | :---: | :---: |
| Roller lever H200 | Roller lever N200 | Roller lever J200 |
| Metal lever with plastic roller Actuator type A according to EN 50047 | Length adjustable metal lever with plastic roller adjustable in 2 mm increments | Plastic rod, 200 mm Can only be used for positioning tasks |
| $>40 \mathrm{~N}$ | $>40 \mathrm{~N}$ | - |
| $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ |
| $\min 60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\min .60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\min 60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ |
| adjustable in $15^{\circ}$ steps | adjustable in $15^{\circ}$ steps | adjustable in $15^{\circ}$ steps |
| PS-H200 | PS-N200 | PS-J200 |
| 103010948 | 103010966 | 103010951 |


|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |


|  |  |  |
| :---: | :---: | :---: |
|  | Plunger S300 | Roller plunger R300 |
| Actuator heads |  |  |
| Actuator description | Thermoplastic plunger <br> Actuator type B according to EN 50041 | Thermoplastic roller plunger Actuator type C according to EN 50041 |
| Positive break force | $>50 \mathrm{~N}$ | $>50 \mathrm{~N}$ |
| Actuating speed Snap action | $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $0.5 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $0.5 \mathrm{~m} / \mathrm{s}$ |
| Slow action | $\mathrm{min} .60 \mathrm{~mm} / \mathrm{min}$, max. $0.5 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .60 \mathrm{~mm} / \mathrm{min}$, max. $0.5 \mathrm{~m} / \mathrm{s}$ |
| 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 |  |  |
| :---: | :---: | :---: | :---: |
| Slow action | Per NO contact / per NC contact |  |  |
|  | 1 NO / 1 NC with overlapping |  |  |
|  | 2 NC with staggered contacts |  |  |


Angle roller lever K360

| Thermoplastic angle roller lever | Thermoplastic offset roller lever | Metal lever with plastic roller Actuator type A according to EN 50041 |
| :---: | :---: | :---: |
| $>50 \mathrm{~N}$ | $>50 \mathrm{~N}$ | $>50 \mathrm{~N}$ |
| $\mathrm{min} .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\min .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\min .10 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ |
| $\mathrm{min} .60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ | $\mathrm{min} .60 \mathrm{~mm} / \mathrm{min}$, max. $1 \mathrm{~m} / \mathrm{s}$ |
| - | - | adjustable in $15^{\circ}$ steps |


| PS-K360 | PS-K370 | PS-H300 |
| :---: | :---: | :---: |
| 103015399 | 103015400 | 103015401 |


|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  | $80^{\circ} 48^{\circledR} 30^{\circ} \quad 0^{\circ} \quad 38^{\circ} 48^{\circ} 80^{\circ}$ <br>  |



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## POSITION SWITCHES

PS116 - PREFERRED TYPES AND ORDERING DETAILS

| Position switch with actuating element | Termination | Switching system | NO contacts | NC contacts | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S200 <br> Basic switch | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-S200 | 103006651 |
|  |  |  | 1 | 2 | PS116-Z12-ST-S200 | 103006662 |
|  |  | Slow action | 1 | 1 | PS116-T11-ST-S200 | 103006652 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-S200 | 103006633 |
|  |  |  | 1 | 2 | PS116-Z12-L200-S200 | 103006647 |
|  |  | Snap action with latch | 1 | 1 | PS116-Z11R-L200-S200 | 103009907 |
|  |  |  | 0 | 2 | PS116-Z02R-L200-S200 | 103012043 |
|  |  | Slow action | 1 | 1 | PS116-T11-L200-S200 | 103006634 |
| R200 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-R200 | 103006653 |
|  |  |  | 0 | 2 | PS116-Z02-ST-R200 | 103008391 |
|  |  |  | 1 | 2 | PS116-Z12-ST-R200 | 103006663 |
|  |  | Snap action with latch | 1 | 2 | PS116-Z12R-ST-R200 | 103009897 |
|  |  | Slow action | 1 | 1 | PS116-T11-ST-R200 | 103006654 |
|  |  |  | 2 | 1 | PS116-T21-ST-R200 | 103009215 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-R200 | 103006635 |
|  |  | Slow action | 1 | 1 | PS116-T11-L200-R200 | 103006636 |
|  |  |  | 1 | 2 | PS116-T12-L200-R200 | 103006648 |
| K200 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-K200 | 103006655 |
|  |  |  | 1 | 2 | PS116-Z12-ST-K200 | 103006664 |
|  | Pre-wired Cable |  | 1 | 1 | PS116-Z11-L200-K200 | 103006637 |
| K210 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-K210 | 103006656 |
|  |  |  | 1 | 2 | PS116-Z12-ST-K210 | 103009491 |
|  |  | Slow action | 1 | 1 | PS116-T11-ST-K210 | 103006657 |
|  |  |  | 2 | 1 | PS116-T21-ST-K210 | 103013834 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-K210 | 103006638 |
|  |  | Snap action with latch | 1 | 2 | PS116-Z12R-L200-K210 | 103009906 |
|  |  | Slow action | 1 | 1 | PS116-T11-L200-K210 | 103006639 |
| K230 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-K230 | 103006658 |
|  |  | Slow action | 0 | 2 | PS116-T02-ST-K230 | 103014690 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-K230 | 103006640 |
|  |  |  | 0 | 2 | PS116-Z02-L200-K230 | 103011608 |
| K240 | Connector plug | Snap action | 1 | 2 | PS116-Z12-ST-K240 | 103006665 |
|  | Pre-wired Cable |  | 1 | 1 | PS116-Z11-L200-K240 | 103006641 |
| K250 | Connector plug | Snap action | 1 | 2 | PS116-Z12-ST-K250 | 103006666 |
|  |  | Slow action | 1 | 2 | PS116-T12-ST-K250 | 103006667 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-K250 | 103006642 |
|  |  | Slow action | 1 | 1 | PS116-T11-L200-K250 | 103006643 |
|  |  |  | 1 | 2 | PS116-T12-L200-K250 | 103015281 |

To see a wide range of other types, visit products.schmersal.com.

## POSITION SWITCHES

PS116 - PREFERRED TYPES AND ORDERING DETAILS

| Position switch with actuating element | Termination | Switching system | NO contacts | NC contacts | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H200 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-H200 | 103006659 |
|  |  |  | 1 | 2 | PS116-Z12-ST-H200 | 103009490 |
|  |  | Slow action | 1 | 1 | PS116-T11-ST-H200 | 103006660 |
|  |  |  | 1 | 2 | PS116-T12-ST-H200 | 103006668 |
|  |  |  | 0 | 3 | PS116-T03-ST-H200 | 103012315 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-H200 | 103006644 |
|  |  | Slow action | 1 | 1 | PS116-T11-L200-H200 | 103006645 |
|  |  |  | 1 | 2 | PS116-T12-L200-H200 | 103006649 |
| N200 | Connector plug | Snap action | 1 | 1 | PS116-Z11-ST-N200 | 103006661 |
|  |  |  | 1 | 2 | PS116-Z12-ST-N200 | 103010921 |
|  |  | Slow action | 1 | 1 | PS116-T11-ST-N200 | 103011367 |
|  |  |  | 2 | 0 | PS116-T20-ST-N200 | 103010065 |
|  |  |  | 1 | 2 | PS116-T12-ST-N200 | 103011553 |
|  |  |  | 2 | 1 | PS116-T21-ST-N200 | 103010067 |
|  | Pre-wired Cable | Snap action | 1 | 1 | PS116-Z11-L200-N200 | 103006646 |
|  |  |  | 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 <br> contacts | NC contacts | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S200 <br> Basic switch | $\begin{aligned} & \text { PS215 } \\ & \text { Metal } \end{aligned}$ | Snap action | 1 | 1 | PS215-Z11-S200 | 103014952 |
|  |  |  | 0 | 2 | PS215-Z02-S200 | 103014953 |
|  |  |  | 1 | 2 | PS215-Z12-S200 | 103014954 |
|  |  | Slow action | 1 | 1 | PS215-T11-S200 | 103014977 |
|  |  |  | 0 | 2 | PS215-T02-S200 | 103014978 |
|  |  |  | 1 | 2 | PS215-T12-S200 | 103014979 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-S200 | 103013713 |
|  |  |  | 0 | 2 | PS216-Z02-S200 | 103015001 |
|  |  |  | 1 | 2 | PS216-Z12-S200 | 103015002 |
|  |  | Slow action | 1 | 1 | PS216-T11-S200 | 103015022 |
|  |  |  | 0 | 2 | PS216-T02-S200 | 103015023 |
|  |  |  | 1 | 2 | PS216-T12-S200 | 103015024 |
|  | PS226 <br> 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 |
| R200 | PS215 <br> Metal | Snap action | 1 | 1 | PS215-Z11-R200 | 103014955 |
|  |  | Slow action | 1 | 1 | PS215-T11-R200 | 103014981 |
|  | PS216 <br> Plastic | Snap action | 1 | 1 | PS216-Z11-R200 | 103015003 |
|  |  |  | 0 | 2 | PS216-Z02-R200 | 103015004 |
|  |  |  | 1 | 2 | PS216-Z12-R200 | 103015005 |
|  |  | Slow action | 1 | 1 | PS216-T11-R200 | 103015028 |
|  |  |  | 0 | 2 | PS216-T02-R200 | 103015029 |
|  |  |  | 1 | 2 | PS216-T12-R200 | 103015030 |
|  | PS226 <br> Thermoplastic | Snap action | 1 | 1 | PS226-Z11-R200 | 103015051 |
|  |  | Slow action | 1 | 1 | PS226-T11-R200 | 103015076 |


| Position switch with actuating element |  | Switching system | NO <br> contacts | NC contacts | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| K200 | PS216 <br> Plastic | Snap action | 1 | 1 | PS216-Z11-K200 | 103015006 |
|  |  | Slow action | 1 | 1 | PS216-T11-K200 | 103015031 |
| K210 | PS215 <br> Metal | Snap action | 1 | 1 | PS215-Z11-K210 | 103014960 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-K210 | 103015008 |
|  |  | Slow action | 1 | 1 | PS216-T11-K210 | 103015033 |
| K230 | PS215 <br> Metal | Snap action | 1 | 1 | PS215-Z11-K230 | 103014963 |
|  |  | Slow action | 1 | 1 | PS215-T11-K230 | 103014988 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-K230 | 103015010 |
|  |  | Slow action | 1 | 1 | PS216-T11-K230 | 103015035 |
| K240 | PS215 <br> Metal | Slow action | 1 | 1 | PS215-T11-K240 | 103014991 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-K240 | 103015013 |
|  |  | Slow action | 1 | 1 | PS216-T11-K240 | 103015038 |
|  | PS226 <br> Thermoplastic | Snap action | 1 | 1 | PS226-Z11-K240 | 103015061 |
| K250 | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-K250 | 103015015 |
|  |  | Slow action | 1 | 1 | PS216-T11-K250 | 103015040 |
| H200 | PS215 <br> Metal | Slow action | 1 | 1 | PS215-T11-H200 | 103014995 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-H200 | 103013857 |
|  |  |  | 1 | 2 | PS216-Z12-H200 | 103015017 |
|  |  | Slow action | 1 | 1 | PS216-T11-H200 | 103015042 |
|  |  |  | 1 | 2 | PS216-T12-H200 | 103015043 |
| N200 | PS215 <br> Metal | Snap action | 1 | 1 | PS215-Z11-N200 | 103014972 |
|  |  | Slow action | 1 | 1 | PS215-T11-N200 | 103014997 |
|  | PS216 <br> Thermoplastic | Snap action | 1 | 1 | PS216-Z11-N200 | 103015018 |
|  |  |  | 1 | 2 | PS216-Z12-N200 | 103015019 |
|  |  | Slow action | 1 | 1 | PS216-T11-N200 | 103015044 |
|  |  |  | 1 | 2 | PS216-T12-N200 | 103015045 |
| J200 | PS215 <br> Metal | Snap action | 1 | 1 | PS215-Z11-J200 | 103014974 |
|  | PS216 <br> 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 | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S200 Basic switch | PS315 Metal | Snap action | 1 | 1 | PS315-Z11-S200 | 103015406 |
|  |  |  | 0 | 2 | PS315-z02-S200 | 103015407 |
|  |  |  | 1 | 2 | PS315-Z12-S200 | 103015408 |
|  |  | Slow action | 1 | 1 | PS315-T11-S200 | 103015412 |
|  |  |  | 0 | 2 | PS315-T02-S200 | 103015414 |
|  |  |  | 1 | 2 | PS315-T12-S200 | 103015415 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-S200 | 103015409 |
|  |  |  | 0 | 2 | PS316-Z02-S200 | 103015410 |
|  |  |  | 1 | 2 | PS316-Z12-S200 | 103015411 |
|  |  | Slow action | 1 | 1 | PS316-T11-S200 | 103015417 |
|  |  |  | 0 | 2 | PS316-T02-S200 | 103015418 |
|  |  |  | 1 | 2 | PS316-T12-S200 | 103015419 |
| S300 | PS315 <br> 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 |
|  |  |  | 1 | 2 | PS315-T12-S300 | 103015114 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-S300 | 103015129 |
|  |  |  | 0 | 2 | PS316-Z02-S300 | 103015130 |
|  |  |  | 1 | 2 | PS316-Z12-S300 | 103015131 |
|  |  | Slow action | 1 | 1 | PS316-T11-S300 | 103015146 |
|  |  |  | 0 | 2 | PS316-T02-S300 | 103015147 |
|  |  |  | 1 | 2 | PS316-T12-S300 | 103015148 |
| R300 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-R300 | 103015099 |
|  |  |  | 0 | 2 | PS315-Z02-R300 | 103015100 |
|  |  | Slow action | 1 | 1 | PS315-T11-R300 | 103015116 |
|  |  |  | 0 | 2 | PS315-T02-R300 | 103015117 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-R300 | 103015132 |
|  |  |  | 0 | 2 | PS316-Z02-R300 | 103015133 |
|  |  | Slow action | 1 | 1 | PS316-T11-R300 | 103015152 |
|  |  |  | 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 | Type | Material number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| K360 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-K360 | 103015102 |
|  |  | Slow action | 1 | 1 | PS315-T11-K360 | 103015119 |
|  | $\begin{gathered} \text { PS316 } \\ \text { Thermoplastic } \end{gathered}$ | Snap action | 1 | 1 | PS316-Z11-K360 | 103015135 |
|  |  | Slow action | 1 | 1 | PS316-T11-K360 | 103015155 |
| K370 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-K370 | 103015104 |
|  |  | Slow action | 1 | 1 | PS315-T11-K370 | 103015121 |
|  | $\begin{gathered} \text { PS316 } \\ \text { Thermoplastic } \end{gathered}$ | Snap action | 1 | 1 | PS316-Z11-K370 | 103015137 |
|  |  | Slow action | 1 | 1 | PS316-T11-K370 | 103015157 |
| H300 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-H300 | 103015106 |
|  |  | Slow action | 1 | 1 | PS315-T11-H300 | 103015123 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-H300 | 103015139 |
|  |  | Slow action | 1 | 1 | PS316-T11-H300 | 103015159 |
|  |  |  | 1 | 2 | PS316-T12-H300 | 103015160 |
| N300 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-N300 | 103015108 |
|  |  | Slow action | 1 | 1 | PS315-T11-N300 | 103015125 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-N300 | 103015141 |
|  |  | Slow action | 1 | 1 | PS316-T11-N300 | 103015161 |
|  |  |  | 1 | 2 | PS316-T12-N300 | 103015162 |
| J300 | PS315 <br> Metal | Snap action | 1 | 1 | PS315-Z11-J300 | 103015110 |
|  |  | Slow action | 1 | 1 | PS315-T11-J300 | 103015127 |
|  | PS316 <br> Thermoplastic | Snap action | 1 | 1 | PS316-Z11-J300 | 103015143 |
|  |  | Slow action | 1 | 1 | PS316-T11-J300 | 103015163 |

- Hauptsitz - Headquarters
K.A. Schmersal GmbH \& Co. KG

Postfach 2402 63,
42232 Wuppertal
Möddinghofe 30
42279 Wuppertal
Phone: +49 202 6474-0
Fax: +49 202 6474-100
info@schmersal.com
www.schmersal.com

## GERMANY

- Berlin

KSA Komponenten der Steuerungsund Automatisierungstechnik GmbH Pankstraße 8-10 / Aufg. L
13127 Berlin
Phone: +49 30 474824-00
Fax: +49 30 474824-05
info@ksa-gmbh.de
www.ksa-gmbh.de

- Hannover

ELTOP GmbH
Robert-Bosch-Straße 8
30989 Gehrden
Phone: +49 51 089273-20
Fax: $\quad+4951$ 089273-21
eltop@eltop.de
www.eltop.de

- Köln

Stollenwerk
Technisches Büro GmbH
Scheuermühlenstraße 40 51147 Köln
Phone: +49 2203 96620-0
Fax: +49 2203 96620-30
info@stollenwerk.de
www.stollenwerk.de

- Siegen

Siegfried Klein
Elektro-Industrie-Vertretungen
In der Steinwiese 46
57074 Siegen
Phone: +49 2716778
Fax: +492716770
info@sk-elektrotechnik.de
www.sk-elektrotechnik.de

- Saarland

Herbert Neundörfer Werks-
vertretungen GmbH \& Co. KG
Am Campus 5
66287 Göttelborn
Phone: +496825 9545-0
Fax: $\quad+496825$ 9545-99
info@herbert-neundoerfer.de
www.herbert-neundoerfer.de

- Bayern Süd

INGAM Ing. Adolf Müller GmbH
Industrievertretungen
Elly-Staegmeyr-Straße 15
80999 München
Phone: +49 898126044
Fax: $\quad+49898126925$
info@ingam.de
www.ingam.de

## EUROPE

- Austria - Österreich AVS-Schmersal Vertriebs Ges.m.b.H. Biróstraße 17
1232 Wien
Phone: +43 161028
Fax: +43161028-130
info@avs-schmersal.at
www.avs-schmersal.at
- Belgium - Belgien

Schmersal Belgium NV/SA
Nieuwlandlaan 73
Industriezone B413
3200 Aarschot
Phone: +32 16 5716-18
Fax: +32 16 5716-20
info@schmersal.be
www.schmersal.be

- Bosnia and Herzegovina Tipteh d.o.o. Sarajevo Ulica Ramiza Salčina 246
71000 Sarajevo
Phone: +38761923623 nadir.durmic@tipteh.ba www.tipteh.ba

Bulgaria - Bulgarien STRATONS
Han Omurtag 33 str. Office 2
7002 Ruse
Phone: +359 879060788
Phone: +359 883474148
office@stratons.bg
www.stratons.bg

- Croatia - Kroatien

Tipteh Zagreb d.o.o.
Ratarska 35
10000 Zagreb
Phone: +385 1 38165-74
Fax: +3851 38165-77
tipteh@tipteh.hr
www.tipteh.hr

- Czech Republic - Tschech. Republik MERCOM COMPONENTA s.r.o. Bechyňská 640
19900 Praha 9 - Letňany
Phone: +420 267314640
mercom@mercom.cz
www.mercom.cz
www.schmersal.cz
- Denmark - Dänemark

Schmersal Danmark A/S
Arnold Nielsens Boulevard 72
2650 Hvidovre
Phone: +45 702090-27
Fax: +45 702090-37
info@schmersal.dk
www.schmersal.dk

- Estonia - Estland

Advancetec Oy
Äyritie 12 B
01510 Vantaa
Phone: +3 58207199430
Fax: +358935052660
advancetec@advancetec. www.schmersal.fi

- Finland - Finnland

Advancetec Oy
Äyritie 12 B
01510 Vantaa
Phone: +3 58207199430
Fax: $\quad+358935052660$ advancetec@advancetec.fi www.schmersal.fi

- France - Frankreich

Schmersal France
BP 18-38181 Seyssins Cedex
8, rue Raoul Follereau
38180 Seyssins
Phone: +33 476842320
technique@schmersal.com
info-fr@schmersal.com
www.schmersal.fr

- Greece - Griechenland

Kalamarakis Sapounas S.A.
Ionias \& Neromilou
PO Box 46566 Athens
13671 Chamomilos Acharnes
Athens
Phone: +30 210 2406000-6
Fax: +302102406007
ksa@ksa.gr
www.ksa.gr

Hungary - Ungarn
NTK Ipari-Elektronikai és
Kereskedelmi Kft
Gesztenyefa u. 4.
9027 Győr
Phone: +36 96523268
Fax: +3696430011
info@ntk-kft.hu
www.ntk-kft.hu

- Iceland - Island Reykjafell Ltd.
Skipholti 35
125 Reykjavik
Phone: +354 5 8860-10
Fax: +3545 8860-88 reykjafell@reykjafell.is
- Italy - Italien

Schmersal Italia s.r.I.
Via Molino Vecchio, 206 25010 Borgosatollo, Brescia
Phone: +39 030 25074-11
Fax: +39 030 25074-31
info@schmersal.it
www.schmersal.it

- Latvia - Lettland BOPLALIT
Mus galite rasti:
Baltụ pr. 145, LT-47125, Kaunas
Phone: +370 37298989
Phone: +370 37406718
info@boplalit.lt
www.boplalit.lt
- Lithuania - Litauen BOPLALIT
Mus galite rasti:
Baltų pr. 145, LT-47125, Kaunas
Phone: +370 37298989
Phone: +370 37406718
info@boplalit.lt
www.boplalit.lt
- Macedonia - Mazedonien

Tipteh d.o.o. Skopje
Bul Partizanski odredi br:80, Lok:5
1000 Skopje
Phone: +389 23174197
info@tipteh.mk
www.tipteh.mk

- Netherlands - Niederlande Schmersal Nederland B.V. Lorentzstraat 31 3846 AV Harderwijk Phone: +31 341432525 Fax: +31341425257 info-nl@schmersal.com www.schmersal.nl
- Norway - Norwegen

Schmersal Norge
Hoffsveien 92
0377 Oslo
Phone: +47 220600-70
Fax: $\quad+47$ 220600-80 info-no@schmersal.com www.schmersal.no

- Poland - Polen

Schmersal - Polska Sp.j
ul. Baletowa 29
02-867 Warszawa Phone: +48 222508800
Fax: +48 228168580
info@schmersal.pl
www.schmersal.pl

- Portugal - Portugal

Schmersal Ibérica, S.L.
Apartado 30
2626-909 Póvoa de Sta. Iria Phone: +351 219593835
info-pt@schmersal.com www.schmersal.pt

- Romania - Rumänien SC SENSODATA SRL Str. Autogarii, no. 16 550135 Sibiu
Phone: +4 0770796640
office@sensodata.ro
www.sensodata.ro
- Serbia - Serbien Tipteh d.o.o. Serbia Toplice Milana 14A 11050 Belgrade Phone: +3 112892250 Fax: +3113018326 office@tipteh.rs www.tipteh.rs
- Slovakia - Slowakei MERCOM COMPONENTA s.r.o. Bechyňská 640
19900 Praha 9 - Letňany
Phone: +420 267314640 mercom@mercom.cz
www.mercom.cz
www.schmersal.cz
- Slovenia - Slowenien

Tipteh d.o.o.
Ulica Ivana Roba 21
1000 Ljubljana
Phone: +386 1 20051-50
Fax: +386 1 20051-51
info@tipteh.si
www.tipteh.si

- Spain - Spanien

Schmersal Ibérica, S.L.
Rambla P. Catalanes, № 12
08800 Vilanova i la Geltrú
Phone: +34 902566457
info-es@schmersal.com
www.schmersal.es

- Sweden - Schweden Schmersal Nordiska AB
F 0 Petersons gata 28
42131 Västra Frölunda
Phone: +46 31 33835-00
Fax: $\quad+463133835-39$
info-se@schmersal.com www.schmersal.se
- Switzerland - Schweiz Schmersal Schweiz AG Moosmattstraße 3
8905 Arni
Phone: +41 43 31122-33
Fax: $\quad+4143$ 31122-44 info-ch@schmersal.com www.schmersal.ch
- Turkey - Türkei

Schmersal Turkey Otomasyon
Ürünleri ve Hizmetleri Ltd. Şti.
Ataturk Mah. Atasehir Bulvarı No. 5
Gardenya Plaza 5 Kat: 2 Daire: 2
Atasehir / Istanbul
Phone: +90 5340333396
info-tr@schmersal.com
www.schmersal.com.tr

- Ukraine - Ukraine

VBR Ltd.
41, Demiyivska Str.
03040 Kyiv Ukraine
Phone: +38 0442590955
Fax: +38 0442590955
office@vbr.com.ua
www.vbr-electric.com.ua/schmersal

- United Kingdom - Großbritannien Schmersal Ltd.
Sparrowhawk Close
Enigma Business Park
Malvern Worcestershire WR14 1GL
Phone: +44 1684571980
Fax: +441684560273 uksupport@schmersal.com www.schmersal.co.uk


## WORLDWIDE

- Argentina - Argentinien Condelectric S.A info@condelectric.com.ar www.condelectric.com.ar Electro Dos Materiales Electricos S.A ventas@electro-dos.com.ar www.electro-dos.com.ar
- Australia - Australien Control Logic Pty. Ltd. 25 Lavarack Avenue, PO Box 1456 Eagle Farm, Queensland Phone: +61 1800557705 Fax: $\quad+611800237743$
sales@control-logic.com.au www.control-logic.com.au
- Belarus - Weißrussland ZAO Eximelektro
Ribalko Str. 26-110
BY-220033 Minsk, Belarus
Phone: +375 17 37344-11
Fax: +3751737344-22
info@exim.by
www.exim.by
- Bolivia - Bolivien International Fil-Parts 3er. Anillo, 1040, Frente al Zoo Santa Cruz de la Sierra Phone: +591 3 342-9900 Fax: +591 3 342-3637 presidente@filparts.com.bo www.filparts.com.bo
- Brazil - Brasilien

ACE Schmersal
Eletroeletrônica Industrial Ltda. Av. Brasil, no 815 Jardim Esplanada - CEP: 18557-646, Boituva - SP
Phone: +55 15 3263-9800
Fax: +55 15 3263-9899
export@schmersal.com.br www.schmersal.com.br

- Canada - Kanada

Schmersal Canada, LTD
29 Centennial Road, Unit 1
Orangeville ON L9W 1R1
Phone: +1519 307-7540
Fax: $\quad+1519$ 307-7543
Toll Free: $\quad+1877$ 889-8816
Info-ca@schmersal.com
www.schmersal.ca

- Chile - Chile

Vitel S.A.
francisco@vitel.cl
www.vitel.cl
Electric Parts
asepulveda@eparts.cl
www.eparts.cl
Instrutec Ltda.
gcaceres@instrutec.cl
www.instrutec.cl
SOLTEX CHILE S.A.
central@soltex.cl
www.soltex.com.cl

- PR China - VR China

Schmersal Industrial
Switchgear (Shanghai) Co. Ltd.
Cao Ying Road 3336
201712 Shanghai / Qingpu
Phone: +86 21 637582-87
Fax: +86 21 637582-97
sales@schmersal.com.cn
www.schmersal.com.cn

Colombia - Kolumbien Cimpex Ltda.
jjaramillo@cimpex.co
www.cimpex.co
Dempro S.A.S.
info@dempro.co
www.dempro.co
SAMCO Ingeniería S.A.S.
jkemmerer@samcoingenieria.com www.samcoingenieria.com Potencia y Tecnología ventas@potenciaytecnologia.com www.potenciaytecnologia.com

- Costa Rica - Costa Rica

Euro-Automation - Tec, S.A.
eurotec.jhtg@yahoo.com

- Ecuador - Ecuador

SENSORTEC S.A
Bonifaz Cumba N-60 y Pasaje Nagola Quito
Phone: +593 02 604-3230
ventas@sensortecsa.com
www.sensortecsa.com

- El Salvador - El Salvador

PRESTELECTRO
Anabella.Barrios@prestelectro.com
www.prestelectro.com

- Guatemala - Guatemala

ACE Schmersal
Eletroeletrônica Industrial Ltda.
Av. Brasil, no 815
Jardim Esplanada - CEP: 18557-646,
Boituva - SP
Phone: +55 15 3263-9800
Fax: +55 15 3263-9899
export@schmersal.com.br
www.schmersal.com.br

- India - Indien

Schmersal India Private Limited
Plot No G 7/1,
Ranjangaon MIDC,
Taluka Shirur,
District Pune 412220, India
Phone: +91 2138614700
Fax: $\quad+912066861114$
info-in@schmersal.com
www.schmersal.in

- Indonesia - Indonesien PT Wiguna Sarana Sejahtera
email@ptwiguna.com
www.ptwiguna.com
PT Helix Electrindo
sales@helixelektrindo.com
www.helixelektrindo.com
- Israel - Israel
A.U. Shay Ltd.

23 Imber St. Kiriat. Arieh.
P.O. Box 10049

Petach Tikva 49222 Israel
Phone: +9 72 3923-3601
Fax: +972 3923-4601
shay@uriel-shay.com
www.uriel-shay.com

- Japan - Japan

Schmersal Japan KK
Shin-yokohama Dai 3 Tosho Bldg.
3-9-5 Shin-yokohama, Kohoku-ku,
Yokohama 222-0033 Japan
Phone: +81 45 476-5777
Fax: $\quad+8145476-5778$
info@schmersal.co.jp
www.schmersal.co.jp

- Korea - Korea

Mahani Electric Co. Ltd.
20, Gungmal-ro, Gwacheon-si,
Gyeonggi-do 427-060, Korea
Phone: +82 2 2194-3300
Fax: +82 2194-3397
yskim@mec.co.kr
www.mec.co.kr

- Malaysia - Malaysien Schmersal (Thailand) Co. Ltd.
71, Sukhumvit 52,
Bang Chak Sub District,
Phra Khanong District,
Bangkok - 10260
Phone: +66 21171723
info@schmersal.co.th www.schmersal.co.th
- Mexico - Mexiko

ISEL
ventas@isel.com.mx
www.isel.com.mx
INNOVATIVE AUTOMOTION SOLUTIONS
schmersal@iasmx.com
www.iasautomation.com.mx
SACCSA, S.A. de C.V ventas.tecnicas@saccsa.mx
www.saccsa.mx
EACSA, S.A de C.V
ruben_angeles@eacsamexico.mx
www.eacsamexico.mx
SEPIA, S.A de C.V
alazcano@sepia.mx
www.sepia.mx
JADE, S.A. de C.V
daniel.navarro@jadesoluciones.com REINSEL
Reinsel-ventas@hotmail.com
Electroconstructora del Golfo S.A.
ventas.di@electro.mx
www.electro.mx
Controles Industriales Mecatronica ventasyservicio@mecathronica.com.mx www.mecathronica.com.mx SEA INDUSTRIAL
operaciones@sea-industrial.com www.sea-industrial.com VGR TECHNOLOGIES alfredo@vgr.com.mx www.vgr.com.mx

- New Zealand - Neuseeland Hamer Automation 85A Falsgrave Street Philipstown
Christchurch, New Zealand
Phone: +64 33662483
Fax: +6433791379
sales@hamer.co.nz
www.hamer.co.nz
- Pakistan - Pakistan Schmersal Middle East-FZE Post Box No. 341365,
FG-07-1, F-Wing, DSOA HQ Building,
Dubai Silicon Oasis, Dubai
Phone: +971 4 3712-814
+97143712-815
Email: SSambandan@schmersal.com www.schmersal.com
- Paraguay - Paraguay

Brasguay S.R.L.
brasguay@brasguay.com.py
www.brasguay.com.py

- Peru - Peru

ACE Schmersal
Eletroeletrônica Industrial Ltda.
Av. Brasil, no 815
Jardim Esplanada - CEP: 18557-646,
Boituva - SP
Phone: +55 15 3263-9800
Fax: +55 15 3263-9899
export@schmersal.com.br
www.schmersal.com.br

- Singapore - Singapur AZAREL International Pte Ltd. Empire Techno Centre 30 Kaki Bukit Road 3 \#01-10
Singapore 417819
Phone: +65 67422988
Fax: +6567422628
sales@azarel.com.sg
www.azarel.com.sg
- South Africa - Südafrika A+A Dynamic Distributors (Pty) Ltd. 20-24 Augusta Road
Regents Park
2197 Booysens
Phone: +27 116815900
Fax: $\quad+27114351318$
awkayser@iafrica.com
- Taiwan - Taiwan

Golden Leader Camel Ent. Co., Ltd.
No. 453-7, Pei Tun Rd.
Taichung City 40648, Taiwan
Phone: +886-4-22 412989
Fax: +886-4-22412923
camel88@ms46.hinet.net
www.leadercamel.com.tw

- Thailand - Thailand

Schmersal (Thailand) Co. Ltd.
71, Sukhumvit 52,
Bang Chak Sub District,
Phra Khanong District,
Bangkok - 10260
Phone: +66 21171723
info@schmersal.co.th
www.schmersal.co.th

- United Arab Emirates -

Vereinigte Arabische Emirate
Schmersal Middle East-FZE
Post Box No. 341365,
FG-07-1, F-Wing, DSOA HQ Building,
Dubai Silicon Oasis, Dubai
Phone: +971 4 3712-814
+97143712-815
Email: SSambandan@schmersal.com www.schmersal.com

- Uruguay - Uruguay

Eneka S.A.
info@eneka.com.uy
www.eneka.com.uy
Gliston S.A.
colmedo@gliston.com.uy
www.gliston.com.uy

- USA - USA

Schmersal Inc.
15 Skyline Drive
Hawthorne, NY 10532
Phone: +1 8 88496-5143
Fax: $\quad+19$ 14347-1567
infousa@schmersal.com
www.schmersalusa.com

- Venezuela - Venezuela

EMI Equipos y Sistemas C.A.
ventas@emi-ve.com
www.emi-ve.com

- Vietnam - Vietnam

Automation Systems And
Equipments Co. Ltd.
info@asae.vn
www.asae.vn
New Ocean Automation System Ltd.
customercare@new-ocean.com.vn
www.new-ocean.com.vn

## 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 2000 people and seven manufacturing sites on three continents along with its own companies and sales partners in more than 60 countries.

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.

## 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


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