

## Instructions Manual for Cam Switches VSN25, VSN32, VSN40, VSN63 and VSN75

The VSN25–75 series cam switches are tested as isolating switches suitable for safe isolating of electrical equipment; they are maintenance-free.

The cam switches must not be overloaded and the passing current must not exceed the specified thermal current without the cover (I<sub>th</sub>). The VSN25–75 series switches are capable to switch on, switch off, and isolate safely the power circuits in machines and other devices.

In basic design, the switch body meets the IP 20 protection. In order to meet the IP 20 protection for the VSN40–75 series switches, it is necessary to slide the packing provided as standard (item key 109650) onto the terminals, to which the wires are not connected. The VSN switches provided with a coupler between the levels have blinded connecting terminals that are interconnected by the coupler. To remove the terminal caps, insert a screwdriver into the cut-out area and pull the cap to remove it. In the case the switch is provided with two jumpers on a single terminal, the wire cannot be connected to this terminal!!!

The IP 65 protection from the front will be met under the following conditions:

- The cam switch must be fitted with a seal on its shaft;
- The switch must be secured through the front mounting holes;
- Opening for the shaft and bolts will be drilled according to the drawing, which is included in the installation plan.

The cam switches of up to six levels can be secured from front through the front mounting holes or from behind through the rear mounting holes. The switches higher than 6 levels must be secured through the front as well as rear mounting holes. The switch is possible to be mounted on the DIN rail only if it has maximum of 6 levels.

The warranty period for the cam switch is limited by the number of switching cycles of electrical and mechanical durability, but not more than 60 months from the date of delivery. The cam switches meet the requirements of the CSN EN 60 947-1 and CSN EN 60 947-3 standards.

When selecting the cam switches for given external influences, we recommend to consult the designer.

### Assembly procedure:

1. Secure the cam switches to the device through the front or rear sliding plate according to the switch type.
2. Connect the wires to the switch (maximum wire stripping length is 13 mm). If the maximum wire stripping length is exceeded or if unconnected terminals are not blinded, **the switch does not meet the IP 20 protection in these cases**. The connected wires must be lightened to avoid mechanical strain on the switch by the weight of the wires.
3. Check all the screws are tightened. The connecting terminal screws must be tightened to a specified tightening torque of 3 Nm. Failure to follow the specified torque can damage the switch!
4. Install a control and test the functions without load.

Installation must be carried out by a qualified electrician and the connection must comply with the relevant electrotechnical and safety regulations.

This product does not contain any hazardous substances. At the end of its life, it must be handled in terms of the applicable Waste Act, as amended.

Caution: Do not use the malfunctioning or damaged cam switch and secure it against use. The disassembly needs to be carried out by a qualified electrician. If the cam switch is not fitted with the control and the front plate, it must not be operated!



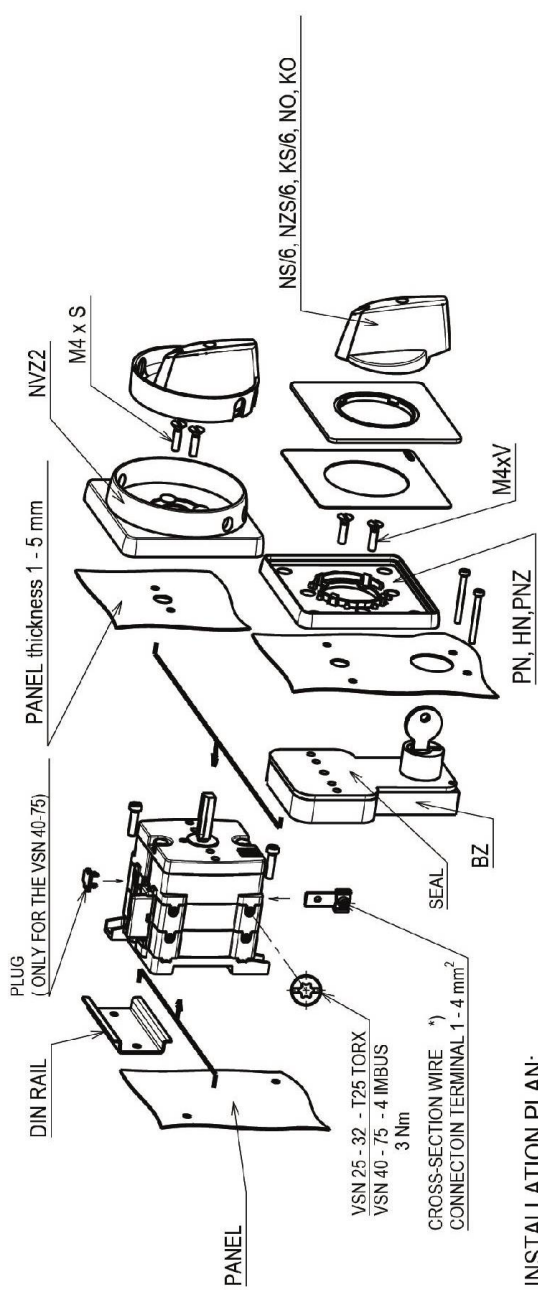
For further information on range of the cam switches, see the catalogue that can be found at [www.obzor.cz](http://www.obzor.cz). The printed catalogue can be requested by phone +420 577 195 151 or by email [marketing@obzor.cz](mailto:marketing@obzor.cz).

## Cam switches technical data

Type range	VSN25	VSN32	VSN40	VSN63	VSN75	
Suitable for safe disconnection:	ANO					
Impuls withstand voltage (U <sub>imp</sub> )	4 kV	4 kV	4 kV	4 kV	4 kV	
Isolation voltage (U <sub>i</sub> )	690 V	690 V	690 V	690 V	690 V	
Thermal current without cover (I <sub>th</sub> )	25 A	32 A	40 A	63 A	75 A	
Thermal current with cover UKM 175 x 137 x 97 (I <sub>the</sub> )	25 A	32 A	40 A	63 A		
Thermal current with cover UKV 175 x 137 x 152,5 (I <sub>the</sub> )					75 A	
Nominal on-load voltage (U <sub>e</sub> ) / Working frequency	400 V / 500 V / 50 Hz					
Working current (I <sub>e</sub> )	AC 21	25 A	32 A	40 A	63 A	75 A
	AC 23	25 A	30 A	35 A	40 A	45 A
	AC 3	18 A	22 A	25 A	30 A	35 A
Short-term withstand current (I <sub>cv</sub> )	600 A/1 s	750 A/1 s	900 A/1 s	1200/1 s	1500A/1 s	
Short-circuit switching capacity (I <sub>cm</sub> )	300 A	400 A	500 A	750 A	1000 A	
Conductor diameter (mm <sup>2</sup> )	4 - 10	4 - 10	10 - 25	10 - 25	10 - 25	
Maximum number of switching positions	12	12	12	12	12	
Maximum number of levels	12	12	12	12	12	
Maximum number of contacts	24	24	24	24	24	
Control shaft size (mm)	6 x 6	6 x 6	6 x 6	6 x 6	6 x 6	
Electrical endurance in AC3 classes acc. ČSN EN 60947-3 chart A4	50 000	40 000	30 000	20 000	6 000	
Mechanical endurance (number of cycles)	150 000	100 000	100 000	100 000	100 000	
Maximum switching frequency / h	800	800	300	300	250	
Connection screw	torx no. 25	torx no. 25	imbus no. 3	imbus no. 3	imbus no. 3	
Power dissipation (during max loading) per contact	2,3 W	2,9 W	3,6 W	5,7 W	6,8 W	
Weather resistance (°C)	- 40°C to + 50°C					
Mounting position	any					
Maximum tightening torque	3 Nm					
Front and backside mounting within hole spacing	50 mm or 30 mm					
Max. length of conductor stripping	13 mm					

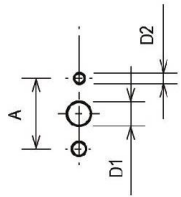
We offer technical assistance free of charge when selecting and ordering the cam switches – just call +420 577 195 153, +420 577 195 175.

# INSTALLATION PLAN VSN 25 - 75

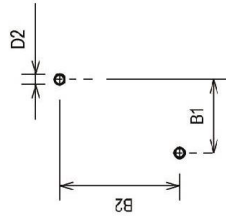


## INSTALLATION PLAN:

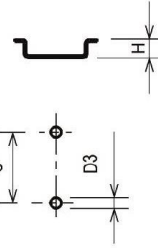
FRONT MOUNTED - V



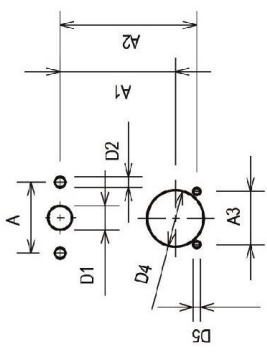
BACK MOUNTED - Z



DIN RAIL - Z



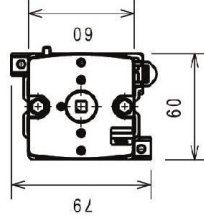
BLOCK LOCK - BZ



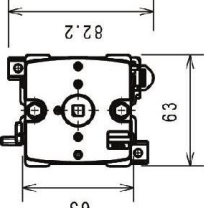
	SCREW M4		BACK MOUNTED + DIN RAIL				BLOCK LOCK					SCREW M4		
	s	PANEL	B1	B2	H	C	D3	A1	A2	A3	D4	D5	V	PANEL
FRONT PANEL PN HN	50							57,5	72	28	24	3	30	1-5
LOCKABLE EXTENSION NVZ2	10	4,3	14	1-5	48	68	7,5	50	8					
LOCKABLE EXTENSION NVZ3	30													

## DIMENSIONAL PLAN:

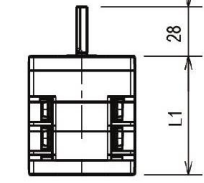
VSN 25 - 32



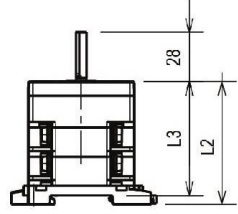
VSN 40 - 75



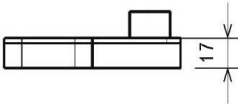
FRONT MOUNTED - V



BACK MOUNTED - Z



BLOCK LOCK - BZ



NUMBER OF LEVELS	L1	L2	L3
1	50,5	53	48
2	67	69,5	64,5
3	83,5	86	81
4	100	102,5	97,5
5	116,5	119	114
6	133	135,5	130,5
7	149,5	152	147
8	166	168,5	163,5
9	182,5	185	180
10	199	201,5	196,5
11	215,5	218	213
12	232	234,5	229,5

## ALLOCATION OF CONTROLLERS TO FRONT PANELS

FRONT PANEL	DOWN-ROLLER				
	NS/6	NZS/6	KS/6	NO	KO
PN	✓	✓	✓	✓	✓
1) PN/Z	✓	✓	✓	✓	✓
HN	✓	✓	✓	✓	✓

1) AS A SPARE PART ONLY

## RECOMMENDED SWITCHING LEVERS

NUMBER OF LEVELS	CONTROLLER	
	NS/6	NZS/6
1 - 6	✓	✓
7 - 12	✓	✓
	KS/6	NO
	✓	✓
	KO	✓
	✓	✓
	NVZ2	✓
	✓	✓
	NVZ3	✓
	✓	✓

NOTE: dimension in mm

\*) - only available as spare part, not included with the switch