

## Protective covers



Protective cover with signal lamp



Protective cover with block lock



Protective cover with socket



Protective cover with fuse disconnector



Protective cover K1C  
95 x 95 mm (depth 102 mm)



Protective cover K2C  
120 x 120 mm (depth 101, 134, 168 mm)



Protective cover K1D  
95 x 145 mm (depth 90, 127 mm)



Protective cover K2D  
152 x 190 mm (depth 101, 168 mm)

## Cam Switches - VSN

VSN 10 - 16 - 20

VSR 10 - 16 - 20

VSN 25 - 32

VSN 40 - 63 - 75

VSN 80 - 100 - 125 - 150

The new production series VSN with slanted clamps has been designed based on the reliable technical design, tried and true over the decades, of the previous series VS (or BACO). For today's more demanding needs, VSN switches already come in standard design with an IP 20 body cover, with sealing shaft in IP 65 and with modern design of control elements and front plates.

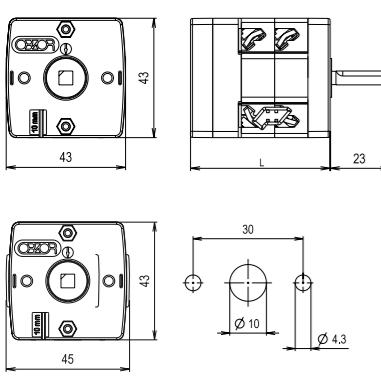
All extensions and accessories remain so that all customers could enjoy creation of an individual solution based on their requirements

As of 2010, we're also offering cam switches with straight clamps – VSR series with amperages of 10 A, 16 A, 20 A.



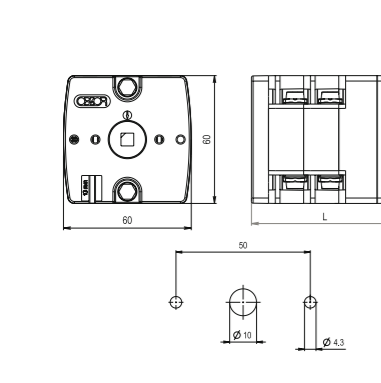
# Cam switches by amperage

## VSN 10 - 16 - 20, VSR 10 - 16 - 20



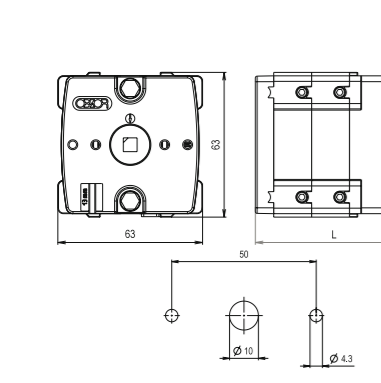
Number of levels	Number of switching systems	Length L VSN (mm)	Length L VSR (mm)
1	1-2	38,3	34,5
2	3-4	50,3	46,5
3	5-6	62,3	58,5
4	7-8	74,3	70,5
5	9-10	86,3	82,5
6	11-12	98,3	94,5
7	13-14	110,3	106,5
8	15-16	122,3	118,5
9	17-18	134,3	130,5
10	19-20	146,3	142,5
11	21-22	158,3	154,5
12	23-24	170,3	166,5

## VSN 25 - 32



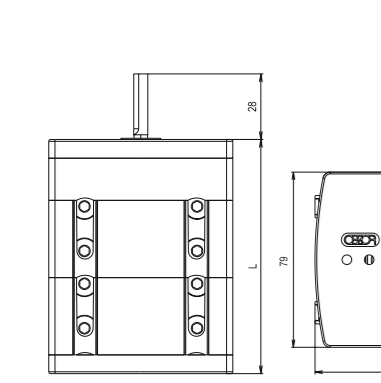
Number of levels	Number of switching systems	Length L (mm)
1	1-2	50,5
2	3-4	67
3	5-6	83,5
4	7-8	100
5	9-10	116,5
6	11-12	133
7	13-14	149,5
8	15-16	166
9	17-18	182,5
10	19-20	199
11	21-22	215,5
12	23-24	232

## VSN 40 - 63 - 75



Number of levels	Number of switching systems	Length L (mm)
1	1-2	50,5
2	3-4	67
3	5-6	83,5
4	7-8	100
5	9-10	116,5
6	11-12	133
7	13-14	149,5
8	15-16	166
9	17-18	182,5
10	19-20	199
11	21-22	215,5
12	23-24	232

## VSN 80 - 100 - 125 - 150



Number of levels	Number of switching systems	Length L (mm)
1	1-2	67
2	3-4	100
3	5-6	133
4	7-8	166
5	9-10	199
6	11-12	232

The cam switches are produced incorporated (front mounting), with rear bolt-on fixing or on DIN trunking and with central fixing.

# Control elements and front plates

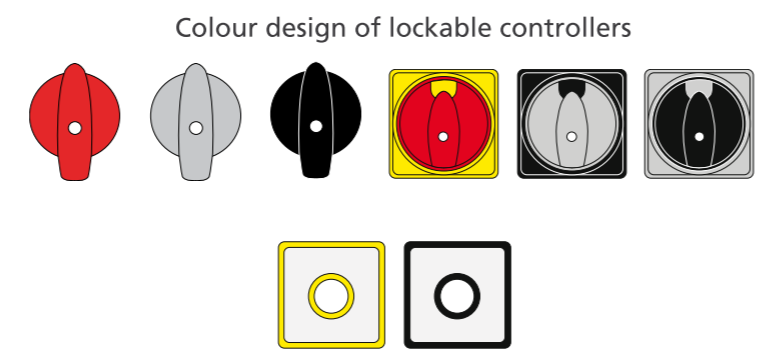
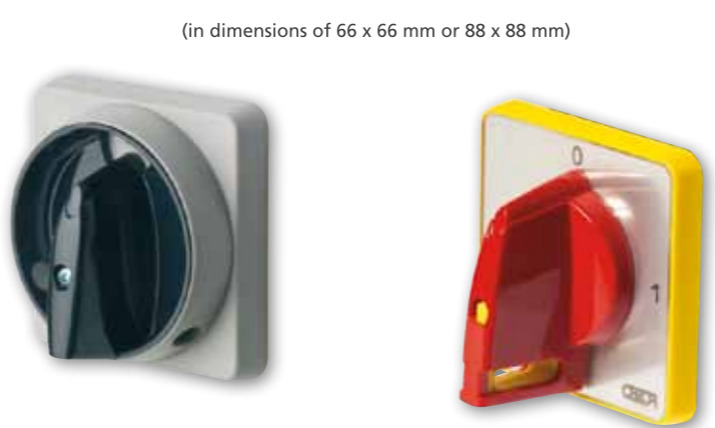
Controller and small front plate (screw spacing 35 x 35 mm), Controller and large front plate (88 x 88 mm, screw spacing 60 x 60 mm)



Controller and medium front plate (66 x 66 mm, screw spacing 50 x 50 mm) Colour design of control elements (arrows)



## Lockable control elements



# Technical data on cam switches (pursuant to ČSN EN 60947 -3)

Type series	VSN 10	VSN 16	VSN 20	VSN 25	VSN 32	VSN 40	VSN 63	VSN 75	VSN 80	VSN 100	VSN 125	VSN 150		
	VSR 10	VSR 16	VSR 20											
impulse withstand voltage (Uimp)	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV		
isolation voltage (Ui)	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V		
thermal current without cover (Ith)	15 A	20 A	25 A	30 A	40 A	50 A	70 A	90 A	100 A	125 A	150 A	175 A		
thermal current in cover (Ith)	10 A	16 A	20 A	25 A	32 A	40 A	63 A	75 A	80 A	100 A	125 A	150 A		
nominal operating current (Ie)	400/500 V AC			400/500 V AC			400/500 V AC			400/500 V AC				
operating current (Ie)	AC21	10 A	16 A	20 A	25 A	32 A	40 A	63 A	75 A	80 A	100 A	125 A	150 A	
	AC 23	10 A	16 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	55 A	60 A	65 A	
	AC 3	8 A	12 A	14 A	18 A	22 A	25 A	30 A	33 A	35 A	40 A	45 A	50 A	
short switch capability (Icm)	200 A	230 A	280 A	300 A	450 A	500 A	750 A	1000 A	1000 A	1500 A	2000 A	2500 A		
short-term withstand current (Icw/1s)	300 A	400 A	500 A	600 A	750 A	900 A	1200 A	1500 A	1500 A	200 A	2500 A	3000 A		
operating frequency	50 Hz			50 Hz			50 Hz			50 Hz				
connecting conductor diameter under screw (mm)	1 - 4 mm <sup>2</sup>			4 - 10 mm <sup>2</sup>			10 - 25 mm <sup>2</sup>			25 - 70 mm <sup>2</sup>				
max. number of switching positions	12			12			12			8				
max. number of levels	12			12			12			6				
max. number of contacts	24			24			24			12				
control shaft dimensions (mm)	5 x 5 mm			6 x 6 mm			6 x 6 mm			6 x 6 mm				
electric life span in category AC3 and AC23 pursuant to ČSN EN 60947-3 table A.4	150 000 for AC23	100 000 for AC23	80 000 for AC23	70 000 for AC23	60 000 for AC23	40 000 for AC23	30 000 for AC23	10 000 for AC23	15 000 for AC23	12 000 for AC23	6 000 for AC23	5 000 for AC23		
	100 000 for AC3	70 000 for AC3	50 000 for AC3	50 000 for AC3	40 000 for AC3	30 000 for AC3	20 000 for AC3	6 000 for AC3						
mechanical life span (number of cycles)	250 000	250 000	200 000	150 000	100 000	100 000	75 000	50 000	100 000	100 000	100 000	100 000		
Cam switch	cover IP 20	IP 20			IP 20			IP 20			IP 20	IP 20	IP 20	IP 20
	cover from front	IP 65			IP 65			IP 65			IP 65	IP 65	IP 65	IP 65
max. frequency of closures / hr.	900			800			300			250				
climatic resistance (°C)	- 40 / +55 °C			- 40 / +55 °C			- 40 / +55 °C			- 40 / +55 °C				
variable mounting	positions			positions			positions			positions				
connector screw	torx no.15			torx no.25			imbus no.3			imbus no.4				
maximum tightening torque	1 Nm			3 Nm			3 Nm			3 Nm				
dimensions VSN (mm)	43 x 43 mm			60 x 60 mm			60 x 60 mm			79 x 79 mm				
front clamping spacing (mm)	30 mm			30 mm / 50 mm			30 mm / 50 mm			50 mm				
max. length of stripped lead (mm)	10 mm			13 mm			13 mm			20 mm				

## Accessories and special designs

### Cam switch block locks



BZ- type switches with block locks may be supplied either with plugs for various key numbers (BZX), or with plugs for the same key number (BZY). It is not possible to supply BZ block locks for switches with central anchoring.

### Segmented cam switch control



This switch enables mounting the control element onto a removable or rotating panel, where the switch is firmly mounted in the cabinet or switch board.

### Cam switches mechanically connected one behind another or side by side



For combined operation of two switches of varying amperage or size.



For switching over 24 contacts or upon limited built-in depth for long switches.