

## PKP cam-type switches

PKP cam-type position switches of IEK® brand are mechanical devices without internal consumption intended for installation as switching units. PKP can be used as main or group switches for controlling drives based on the single- or three-phase motors, switching with the required control circuits commutation program, alarm, measuring circuits etc. They are applied in AC electric circuits with voltage under 400 V.



### Advantages

- Drive fixation mechanisms guarantee stable switching of moving contacts into separate fixed positions. Drive springs of the fixing mechanism differ depending on the number of commutation elements.
- Cam mechanism represents a modern solution of manual electric circuit commutation ensuring the following advantages:
  - Minimum electric voltage of closed contact;
  - Double break of electric circuit (bridge contact);
  - High speed of contacts opening and closing provides for more rapid arc extinction;
  - Ensuring different strengths and handle free travel at switching on/off;
  - Reaching wider range of commutation circuits when having the same set of details and assembly units that means better unification;
  - Longer operational life (number of commutations to the full).

## Design Features



Clamps are protected from access and mutual contact (IP20) up to 32 A



Protection degree IP54 ensured for enclosed switches.




PKP switch construction ensures fully operating circuit with ready-installed jumpers.



Control handles with an option of installing a hanging lock.

## Range

Name	Design	Rated current, A (AC-21)	Number of input lines (poles)	Positions designation	Package amount, pcs.	Product ID
 PKP10-44/0 10 A "Uc-0-Ua-Ub" 4P/400 V IEK	0	10	4P	U <sub>C</sub> -0-U <sub>A</sub> -U <sub>B</sub>	100	BCS14-010-4
PKP10-53/0 10 A "Uca-0-Uab-Ubc" 3P/400 V IEK	0	10	3P	U <sub>CA</sub> -0-U <sub>AB</sub> -U <sub>BC</sub>	100	BCS13-010-5
PKP10-63/0 10 A "Ic-0-Ia-Ib" 3P/400 V IEK	0	10	3P	I <sub>C</sub> -0-I <sub>A</sub> -I <sub>B</sub>	100	BCS13-010-6
PKP10-11/0 10 A "0-1" 1P/400 V IEK	0	10	1P	0-1	100	BCS11-010-1
PKP10-12/0 10 A "0-1" 2P/400 V IEK	0	10	2P	0-1	100	BCS12-010-1
PKP10-13/0 10 A "0-1" 3P/400 V IEK	0	10	3P	0-1	100	BCS13-010-1
PKP10-22/0 10 A "1-2" 2P/400 V IEK	0	10	2P	1-2	100	BCS12-010-3
PKP10-33/0 10 A "1-0-2" 3P/400 V IEK	0	10	3P	1-0-2	100	BCS13-010-2
PKP25-44/0 25 A "Uc-0-Ua-Ub" 4P/400 V IEK	0	25	4P	U <sub>C</sub> -0-U <sub>A</sub> -U <sub>B</sub>	100	BCS14-025-4
PKP25-53/0 25 A "Uca-0-Uab-Ubc" 3P/400 V IEK	0	25	3P	U <sub>CA</sub> -0-U <sub>AB</sub> -U <sub>BC</sub>	100	BCS13-025-5
PKP25-63/0 25 A "Ic-0-Ia-Ib" 3P/400 V IEK	0	25	3P	I <sub>C</sub> -0-I <sub>A</sub> -I <sub>B</sub>	100	BCS13-025-6
PKP25-11/0 25 A "0-1" 1P/400 V IEK	0	25	1P	0-1	100	BCS11-025-1
PKP25-12/0 25 A "0-1" 2P/400 V IEK	0	25	2P	0-1	100	BCS12-025-1
PKP25-13/0 25 A "0-1" 3P/400 V IEK	0	25	3P	0-1	100	BCS13-025-1
PKP25-22/0 25 A "1-2" 2P/400 V IEK	0	25	2P	1-2	100	BCS12-025-3
PKP25-33/0 25 A "1-0-2" 3P/400 V IEK	0	25	3P	1-0-2	100	BCS13-025-2
PKP32-44/0 32 A "Uc-0-Ua-Ub" 4P/400 V IEK	0	32	4P	U <sub>C</sub> -0-U <sub>A</sub> -U <sub>B</sub>	72	BCS14-032-4
PKP32-53/0 32 A "Uca-0-Uab-Ubc" 3P/400 V IEK	0	32	3P	U <sub>CA</sub> -0-U <sub>AB</sub> -U <sub>BC</sub>	72	BCS13-032-5
PKP32-63/0 32 A "Ic-0-Ia-Ib" 3P/400 V IEK	0	32	3P	I <sub>C</sub> -0-I <sub>A</sub> -I <sub>B</sub>	64	BCS13-032-6
PKP32-11/0 32 A "0-1" 1P/400 V IEK	0	32	1P	0-1	72	BCS11-032-1
PKP32-12/0 32 A "0-1" 2P/400 V IEK	0	32	2P	0-1	72	BCS12-032-1
PKP32-13/0 32 A "0-1" 3P/400 V IEK	0	32	3P	0-1	72	BCS13-032-1
PKP32-22/0 32 A "1-2" 2P/400 V IEK	0	32	2P	1-2	72	BCS12-032-3
PKP32-33/0 32 A "1-0-2" 3P/400 V IEK	0	32	3P	1-0-2	64	BCS13-032-2
PKP63-11/0 63 A "0-1" 1P/400 V IEK	0	63	1P	0-1	72	BCS11-063-1
PKP63-12/0 63 A "0-1" 2P/400 V IEK	0	63	2P	0-1	72	BCS12-063-1
PKP63-13/0 63 A "0-1" 3P/400 V IEK	0	63	3P	0-1	64	BCS13-063-1
PKP63-22/0 63 A "1-2" 2P/400 V IEK	0	63	2P	1-2	64	BCS12-063-3
PKP63-33/0 63 A "1-0-2" 3P/400 V IEK	0	63	3P	1-0-2	48	BCS13-063-2
PKP100-11/0 100 A "0-1" 1P/400 V IEK	0	100	1P	0-1	30	BCS11-125-1
PKP100-12/0 100 A "0-1" 2P/400 V IEK	0	100	2P	0-1	30	BCS12-125-1
PKP100-13/0 100 A "0-1" 3P/400 V IEK	0	100	3P	0-1	30	BCS13-125-1
PKP100-22/0 100 A "1-2" 2P/400 V IEK	0	100	2P	1-2	30	BCS12-125-3

## Technical Features

Type		PKP10-../O PKP10-../U	PKP32-../O PKP32-../U	PKP100-../O PKP100-../U	PKP63-../O PKP63-../U	PKP100-../O PKP100-../U					
Positions designation	"O"	1 – "0-1" 2 – "1-2" 3 – "1-0-2"	4 – "U <sub>C</sub> -0-U <sub>A</sub> -U <sub>B</sub> " 5 – "U <sub>CA</sub> -0-U <sub>AB</sub> -U <sub>BC</sub> " 6 – "I <sub>C</sub> -0-I <sub>A</sub> -I <sub>B</sub> "								
	"U"	1 – "ON-OFF" 2 – "1-2" 3 – "1-0-2"									
Rated insulation voltage U <sub>i</sub> , V		660									
Rated thermal current I <sub>th</sub> , A		10	25	32	63	100					
Rated voltage U <sub>e</sub> , V		230	400	230	400	230	400	230	400	230	400
Rated operating current I <sub>e</sub> within the application category, A	AC-21A, AC-22A	10	10	25	25	32	32	63	63	100	100
	AC-23A	7,5	7,5	22	22	30	30	57	57	90	90
	AC-2	7,5	7,5	22	22	30	30	57	57	90	90
	AC-3	5,5	5,5	15	15	22	22	36	36	75	75
	AC-4	1,75	1,75	6,5	6,5	11	11	15	15	30	30
	AC-15	2,5	1,5	8	5	14	6	–	–	–	–
Rated capacity P within the application category, kW	AC-23A	3/0,8	5/1,7	5,5/3	11/5,5	7,5/4	15/7,5	15/10	30/18,5	30/15	45/22
	AC-2	2,5	3,7	5,5	11	7,5	15	18,5	30	30	45
	AC-3	1,5	2,2	4/3	7,5/3,7	5,5/4	11/5,5	11/6	18,5/11	15/7,5	30/13
	AC-4	0,37	0,55	1,5/1,1	3/2,2	2,7/1,5	5,5/3	5,5/2,4	7,5/4	0,6/3	12/5,5
Rated conditional short-circuit current I <sub>cn</sub> , A		1000	3000							5000	
Short-current protection - fuse gG, A		12	40	50	80	125					
Max. cable size, mm <sup>2</sup>		2,5	6	10	16	35					
Wear-resistance, ths. power cycles	mechanical	100									
	electrical	30									
Protection degree	front panel	IP20									
	contacts	IP00									
Blocking option*		Mechanical with the help of a hanging lock									
Type		PKP10-../K	PKP32-../K	PKP100-../K	PKP63-../K	PKP100-../K					
Positions designation		"ON-OFF"									
Rated insulation voltage U <sub>i</sub> , V		660									
Rated thermal current I <sub>th</sub> , A		10	25	32	63	100					
Rated voltage U <sub>e</sub> , V		230	400	230	400	230	400	230	400	230	400
Rated operating current I <sub>e</sub> within the application category, A	AC-21A, AC-22A	10	10	25	25	32	32	50	50	80	80
	AC-23A	7,5	7,5	22	22	30	30	43	43	70	70
	AC-3	5,5	5,5	15	15	22	22	36	36	57	57
Rated capacity P within the application category, kW	AC-23A	1,8	3	4	7,5	7,5	11	11	22	22	37
	AC-3	1,5	2,2	3	5,5	5,5	9,0	11	18,5	18,5	30
Rated conditional short-circuit current I <sub>cn</sub> , A		1000	3000							5000	
Short-current protection - fuse gG, A		12	40	50	80	125					
Max. cable size, mm <sup>2</sup>		2,5	6	10	16	35					
Wear-resistance, ths. power cycles	mechanical	100									
	electrical	30									
Protection degree		IP54									
Lead-in hole protection		lead-in glands									

\* For U-type. Lock is not included in the delivery set.



## Commutation programs of switches and number of contact blocks

Switch type	Number of contact blocks	Commutation program																																																							
PKP10-11/0; U PKP25-11/0; U PKP32-11/0; U PKP63-11/0; U PKP100-11/0; U	1	<table border="1"> <thead> <tr> <th rowspan="2">Contact numbers</th> <th colspan="2">Contact state</th> </tr> <tr> <th>0</th> <th>1</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>×</td> </tr> </tbody> </table>	Contact numbers	Contact state		0	1			×																																															
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## Switch connection circuits

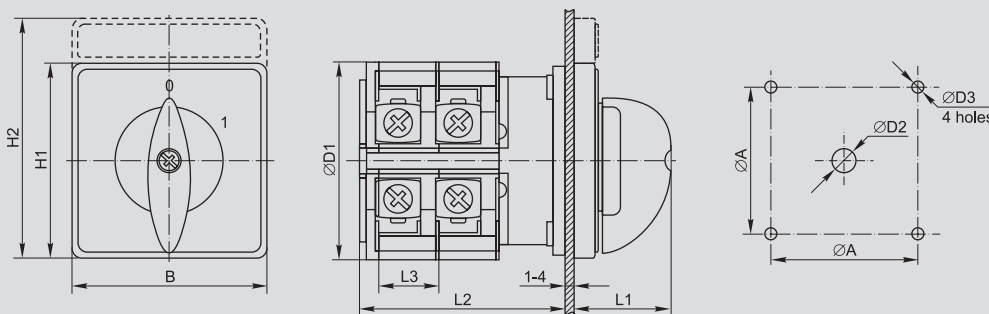
Switch type	Connection circuit
PKP10-13/0; U; K PKP25-13/0; U; K PKP32-13/0; U; K PKP63-13/0; U; K PKP100-13/0; U; K	Electric motor actuation 
PKP10-33/0; U PKP25-33/0; U PKP32-33/0; U PKP63-33/0; U PKP100-33/0; U	Reverse electric motor actuation 
PKP10-44/0 PKP25-44/0 PKP32-44/0	Turning the voltmeter on for phase voltage measuring 
PKP10-53/0 PKP25-53/0 PKP32-53/0	Turning the voltmeter on for phase voltage measuring 
PKP10-63/0 PKP25-63/0 PKP32-63/0	Turning the A-meter on for measuring currents in the three-phase network 

## Switch lever position

Design	After 60°	After 90°
"1"	0° +60°	
"2"		0° +90°
"3"	-60° 0° +60°	
"4", "5", "6"		-90° 0° +90° +180°
"ON-OFF"*		-90° 0°

## Overall dimensions

"0" design

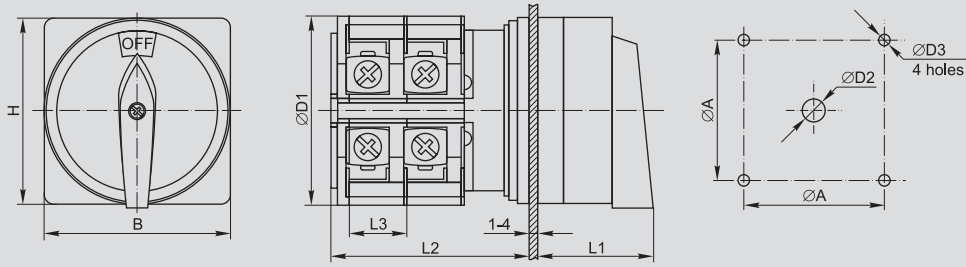


	A	B	D1	D2	D3	H1	H2	L1	L2	L3
PKP10-.../0	36±0,5	48	43	8,5	4,5	48	60	22	22+9,6n**	9,6
PKP25-.../0	36±0,5	48	45,2	8,5	4,5	48	60	25	23+12,8n	12,8
PKP32-.../0	48±0,5	64	58	10	4,5	64	80	34	29,2+12,8n	12,8
PKP63-.../0	48±0,5	64	66	10	4,5	64	80	40	29,2+21,5n	21,5
PKP100-.../0	68±0,5	88	84	13	6	88	107	37	35+26,5n	26,5

\* For PKP of "K" design only.  
 \*\* n - number of contact blocks.

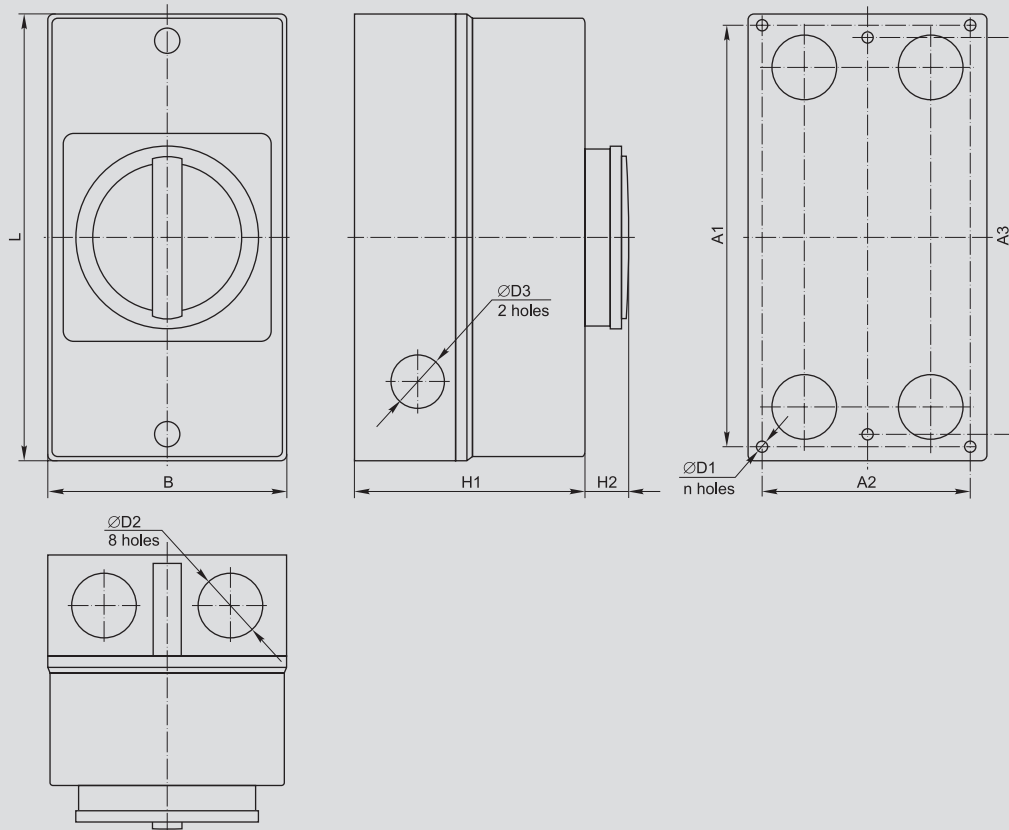


“U” design



	A	B	D1	D2	D3	H	L1	L2	L3
PKP10-.../U	36±0,5	48	43	8,5	4,5	48	37	22+9,6n**	9,6
PKP25-.../U	36±0,5	48	45,2	8,5	4,5	48	32	23+12,8n	12,8
PKP32-.../U	48±0,5	64	58	10	4,5	64	42	29,2+12,8n	12,8
PKP63-.../U	48±0,5	64	66	10	4,5	64	42	29,2+21,5n	21,5
PKP100-.../U	68±0,5	88	84	13	6	88	51	35+26,5n	26,5

“K” design



	A1	A2	A3	B	D1	D2	D3	H1	H2	L	n
PKP10-.../K	—	—	150±0,5	85	4	23	19	83	17	160	2
PKP25-.../K	—	—	150±0,5	85	4	23	19	83	17	160	2
PKP32-.../K	—	—	150±0,5	85	4	23	19	83	17	160	2
PKP63-.../K	—	—	178±0,5	100	4	29	23	95	17	190	2
PKP100-.../K	229±0,5	124±0,5	—	145	6,5	37,5	23	105	17	250	4