OptiSwitch 4G Cam - type switches

The OptiSwitch 4G cam - type switches are compact in size, which allows them to be mounted both abaft the panel as well as on a DIN - rail. High-quality insulating and conductor materials are used in production, silver-bearing solders are applied to contacts providing high electrical conductivity.

Designation

OptiSwitch 4G 25 - 10 M - U - S5- 2 - R114

1 2 3 4 5 6 7 8 9

1	**Product range**	OptiSwitch					
2	**Configuration**	4G					
3	**Designation of the rated operating current**	10-10 A, 16-16 A, 25-25 A, 40-40 A, 63-63 A, 80-80 A, 63/100-100 A					
4	**Commutation program layout number**	For a list of standard layouts, see pages 410-433					
5	**Availability of changes in the design of a standard layout**	M					
6	**Configuration**	U - open	OU - open with rear panel mounting	PK - closed			
7	**Special configuration, the symbol of which is added to the designation type (see page 396)**	S1, S5, S6, S7, S8, S18, S24, S25					
8	**Lock position for configuration S5 ***	from 0 to 12					
9	**Handle type (color and modification) ****	R012 (red)	R014 (black)	R112 (red)	R114 (black)	R212 (red)	R214 (black)

* The lock in the position "0" is applied by default and is not indicated in the title of the switch.
** For the versions S5, S6, S24 and S25, the handle type is not indicated.

ATTENTION! This catalog has been developed to make the selection of a switch more comprehensible. It contains the most high-demand schemes and is being constantly updated. In the event that you have failed to find the necessary commutation scheme, be free to submit a request, so that we will be able to select the switch you have been searching for.

The references listed in the tables of the unit are subject to change. If the references you need are not found on the site, contact the technical support service of KEAZ.

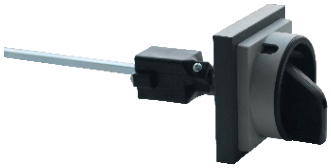
Selection guide

The classification of cam - type switches in compliance with external dimensions falls into three groups, depending on the size. The uniform handles, front panels, and the location and dimensions of the mounting holes correspond to the switches of each group.

Group	A0	A1		A2			
Type of the switch	4G10	4G16	4G25	4G40	4G63	4G80	4G63/100
Rated operating current Ie, A	10	16	25	40	63	80	100

Characteristics			
Configuration	U	OU	PK
Product specification	Open configuration	Open configuration with rear panel mounting	Closed configuration (enclosed)
Rated operating current Ie, A	10, 16, 25, 40, 63, 80, 100		
Rated operating voltage Ue, V	up to 690AC/440DC		
Group of dimensions	A0, A1, A2		
Maximum number of packs	12 for A0, A1; 10 for A2		4
Number of switching positions	up to 12		
Step of switching angles, °C	30, 45, 60, 90 for A0, A1; 06, 90 for A2		
Degree of protection from the front panel	IP44, IP65		IP65
Degree of protection from the connecting terminals	IP 20 (except 100A - IP00)		IP65
Mounting mode	behind the front flange, instal-lation abaft the panel up to 6 mm thick	fixing the base with screws, mounting on the panel inside the cabinet	mounting behind the casing
Handle color	R012 (red)	R112 (red)	R212 (red)
	R014 (black)	R114 (black)	R214 (black)

Special configurations

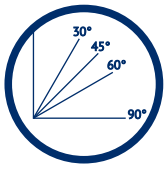
Special configurations	Appearance	Title of the special configuration, characteristics	Notes
S1		Sealed coupling Degree of protection from the front panel: IP65 Group: A0, A1, A2 Configuration: U, OU	The difference between the standard and the special configurations is that the special configuration S1 provides a sealing ring on the drive rod and the front panel seal, which ensures the degree of protection IP65.
S5		Cylinder lock Group: A0, A1 Configuration: U, OU, PK	The key executes the function of the handle. Lock positions are customized.
S6		Lock (locking with a padlock). The diameter of the hole for the lock is 8 mm. Group: A0, A1, A2 Configuration: U, OU, PK	Lock installation allows to disable the switch in a certain position. Padlock is not included in the set.
S7		Door connection. The length of the shaft is 360 mm. Group: A2 Configuration: OU	The switch is mounted on the rear panel of the case. The handle with the front panel is located on the body or the door. The drive rod can be extended, with a seal.
S8		Door connection with a lock. Shaft length is 360 mm. The diameter of the lock hole is 8 mm. Group: A2 Configuration: OU	It combines the characteristics of the S7 version with the additional possibility of locking the switch in a certain position, which prevents the door from opening.
S18		Switch for busbar mounting (DIN - rail) Group: A0, A1 Configuration: OU, U	Allows you to mount the switch on a DIN-rail (according to the requirements of DIN En 50022)
S24		Emergency switch Group: A0, A1, A2 Configuration: U, OU	Version with a yellow index plate and a red handle
S25		Main emergency switch. The diameter of the hole for the lock is 8 mm. Group: A0, A1, A2 Configuration: U, OU, PK	Version with a yellow front panel, a red handle and the possibility to lock with a padlock.

Batch effectiveness

Silver-bearing solders provide for high conductivity and wear resistance of the contacts.

The design of the switch allows to implement up to 24 switching circuits.

IP65 protection type allows the application of OptiSwitch 4G switches in outdoor conditions.

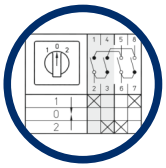


The rotation angle of the switch handle is 30º, 45º, 60º, 90º.

The application of a key or a padlock prevents unauthorized switching on/off.

The metal shaft guarantees the reliability of switching.

The possibility of manufacturing switches with non-standard layouts on request.



The convenient location of the clamps (at an angle of 45 °C) and the captive terminal screws enable the ease of the switch installation.

References (series)

Rated current of the switch, A	Title	Reference
10	OptiSwitch 4G10-107-U-R014	138261
	OptiSwitch 4G10-10-PK-R014	138262
	OptiSwitch 4G10-10-U-R014	138249
	OptiSwitch 4G10-11-PK-R014	138263
	OptiSwitch 4G10-11-U-R014	138250
	OptiSwitch 4G10-51-U-R014	138252
	OptiSwitch 4G10-52-U-R014	138251
	OptiSwitch 4G10-53-PK-R014	138264
	OptiSwitch 4G10-53-U-R014	138253
	OptiSwitch 4G10-54-U-R014	138254
	OptiSwitch 4G10-56-U-R014	138255
	OptiSwitch 4G10-66-U-R014	138256
	OptiSwitch 4G10-69-U-R014	138257
	OptiSwitch 4G10-75-U-R014	138258
	OptiSwitch 4G10-91-PK-R014	138265
	OptiSwitch 4G10-91-U-R014	138259
	OptiSwitch 4G10-92-U-R014	138260
16	OptiSwitch 4G16-108-U-R114	138269
	OptiSwitch 4G16-10-PK-R114	138274
	OptiSwitch 4G16-10-U-R114	138266
	OptiSwitch 4G16-11-PK-R114	138275
	OptiSwitch 4G16-53-PK-R114	138276
	OptiSwitch 4G16-53-U-R114	138267
	OptiSwitch 4G16-83-U-R114	138268
	OptiSwitch 4G16-91-PK-R114	138277
25	OptiSwitch 4G25-108-U-R114	138273
	OptiSwitch 4G25-10-PK-R114	138278
	OptiSwitch 4G25-10-U-R114	138270
	OptiSwitch 4G25-11-PK-R114	138279
	OptiSwitch 4G25-53-PK-R114	138280

Rated current of the switch, A	Title	Reference
25	OptiSwitch 4G25-53-U-R114	138271
	OptiSwitch 4G25-83-U-R114	138272
	OptiSwitch 4G25-91-PK-R114	138281
40	OptiSwitch 4G40-10-PK-R214	138286
	OptiSwitch 4G40-10-U-R214	138282
	OptiSwitch 4G40-12-PK-R214	138287
	OptiSwitch 4G40-51-PK-R214	138288
	OptiSwitch 4G40-51-U-R214	138283
	OptiSwitch 4G40-53-PK-R214	138289
	OptiSwitch 4G40-53-U-R214	138284
	OptiSwitch 4G40-91-U-R214	138285
63	OptiSwitch 4G63-10-PK-R214	138294
	OptiSwitch 4G63-10-U-R214	138290
	OptiSwitch 4G63-12-PK-R214	138295
	OptiSwitch 4G63-51-PK-R214	138296
	OptiSwitch 4G63-51-U-R214	138291
	OptiSwitch 4G63-53-PK-R214	138297
	OptiSwitch 4G63-53-U-R214	138292
	OptiSwitch 4G63-91-U-R214	138293
80	OptiSwitch 4G80-10-PK-R214	138302
	OptiSwitch 4G80-10-U-R214	138298
	OptiSwitch 4G80-12-PK-R214	138303
	OptiSwitch 4G80-51-PK-R214	138304
	OptiSwitch 4G80-51-U-R214	138299
	OptiSwitch 4G80-53-PK-R214	138305
	OptiSwitch 4G80-53-U-R214	138300
	OptiSwitch 4G80-91-U-R214	138301
100	OptiSwitch 4G63/100-10-U-R214	138306
	OptiSwitch 4G63/100-53-U-R214	138307

Technical specifications

Parameters		Type of the switch						
		4G10	4G16	4G25	4G40	4G63	4G80	4G63/100
Rated insulation voltage Ui, V		690	690	690	690	690	690	690
Rated operating current Ie, A		10	16	25	40	63	80	100
Conventional thermal current in open air conditions Ith, A		16	20	25	50	63	80	125
Rated conventional short-circuit current at the rated current of the applied fuse, A	6 kA rms current	25	35	35	-	-	-	-
	15 kA rms current	-	-	-	63	63	80	125
Mechanical life (number of commutations)		$3x10^6$	$3x10^6$	$3x10^6$	$3x10^6$	$3x10^6$	$3x10^6$	$3x10^6$
Terminal bolts		M4	M4	M4	M5	M5	M5	M6
Max. cross-section of connecting wires, mm^2		2x1,5	2x4	2x4	2x10	2x10	2x10	35
Rated short-time withstand (within 1 sec.) current, A		350	500	500	800	800	800	1300
Peak value of short-time withstand current, A		700	1100	1100	1600	1600	1600	2600
Rated short-circuit making capacity, A		250*	300	300	500	500	500	800
Switching capacity three-phase 400 ... 690 V, kW	AC-23A	7,5	12	15	22	30	30	45
	AC-3	5,5	8	13	22	30	30	37
	AC-3 switch Y/Δ	7,5	12	15	22	30	30	-

*cosφ = 0,65

Application of DC current switches

Switchable DC currents are highly dependent on the switching speed. With the increasing voltage, it is necessary to increase the number of series-connected (SC) contacts.

				4G10	4G16	4G25	4G40	4G63	4G80	4G63/100
Rated operating current Ie, A	DC-21 t=1 ms	24-48 DC	2 SC	10	16	25	40	63	63	-
		110 DC	3 SC	6	10	15,5	25	35	35	-
		220 DC	6 SC	5	8	12,5	20	32	32	-
	DC-23 t=1 ms	24-48 DC	2 SC	6	10	15,5	25	35	35	-
		110 DC	3 SC	5	8	12,5	20	25	25	-
		220 DC	6 SC	4	6	9,3	16	22	22	-
	DC-13 t=1 ms	24-48 DC	2 SC	5	8	12,5	-	-	-	-
		110 DC	3 SC	2,5	4	6,25	-	-	-	-
		220 DC	6 SC	1,2	2	3,1	-	-	-	-

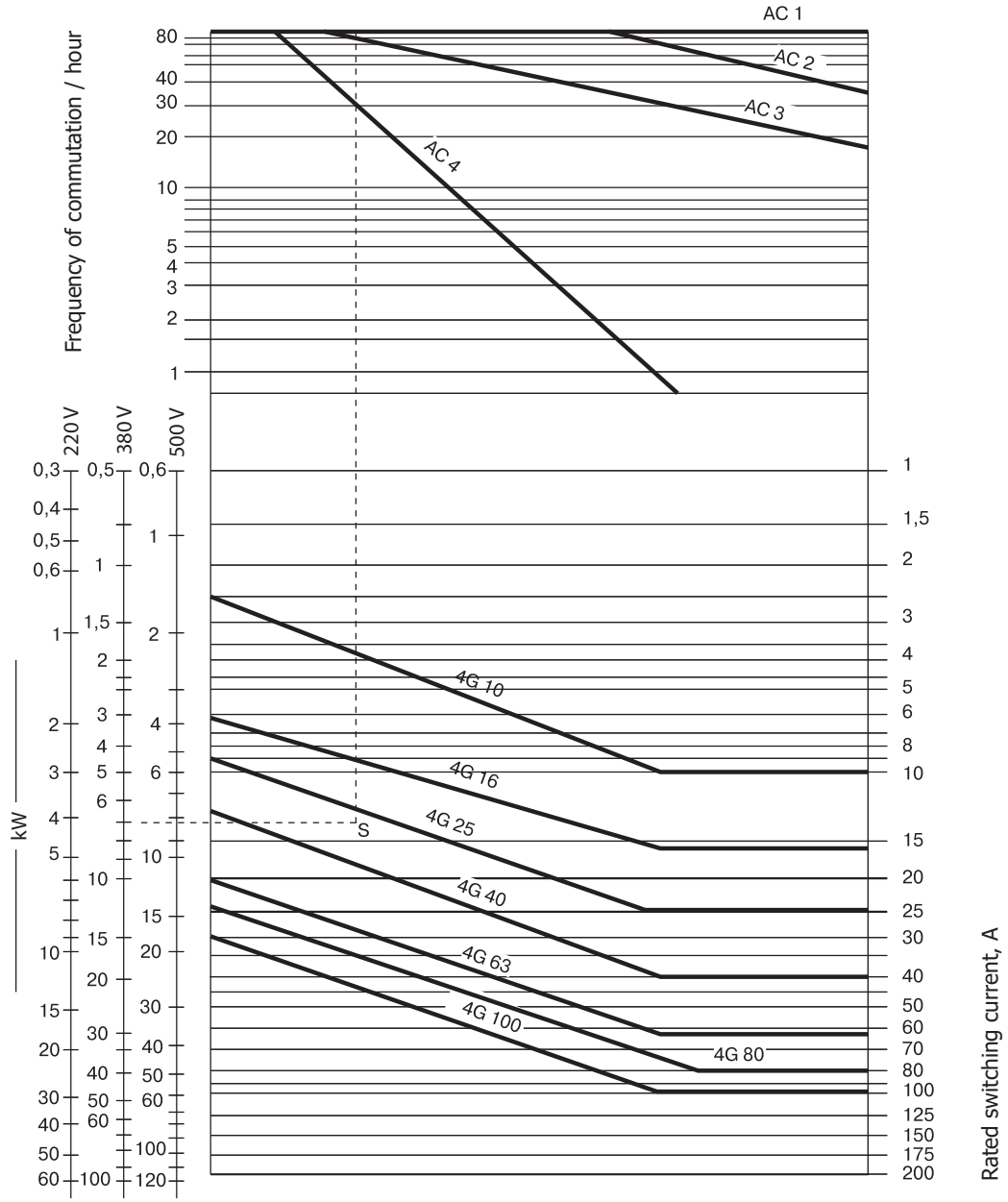
Weight (kg)

Configuration		U, OU			PK		
Rated current		10 A	16-25 A	40-80 A	10 A	16-25 A	40-80 A
Number of packs	1	0,10	0,18	0,36	0,27	0,32	0,94
	2	0,13	0,21	0,44	0,29	0,34	1,02
	3	0,15	0,25	0,52	0,32	0,39	1,10
	4	0,18	0,28	0,60	0,33	0,41	1,18
	5	0,20	0,32	0,68	-	-	-
	6	0,22	0,36	0,76	-	-	-
	7	0,25	0,39	0,84	-	-	-
	8	0,28	0,42	0,92	-	-	-
	9	0,30	0,46	1,00	-	-	-
	10	0,33	0,50	1,08	-	-	-
	11	0,35	0,54	-	-	-	-
	12	0,38	0,58	-	-	-	-

Selection of switches for motors

The switching capacity of the contacts depends on the load conditions, AC1 operation category, in which the making and breaking currents are the same and equal to the rated current value. The commutation life of the switches up to 4G 63 is equivalent to 1 million commutations.

In more severe operating conditions, the switching capacity will decrease. The diagram below is intended for an approximate choice of switches for motors depending on the voltage, motor power, the number of commutations per hour (comm./h) and operating conditions.

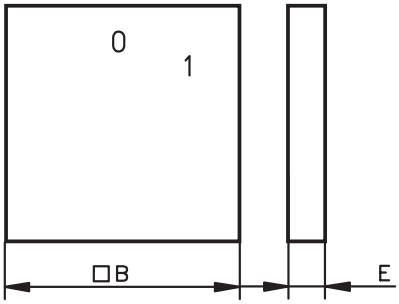


Example. It is necessary to select a cam type switch for direct starting and braking by the reverse current of a motor with a "squirrel cage" with a power of 7 kW, 380 V at 30 commutations per hour:

1. Operation category AC 4;
2. The value of the number of commutations should be found on the diagram: 30 comm./hour (at the top of the diagram);
3. From the point found, draw a horizontal line until it intersects with the line of the corresponding category of operation (AC 4);
4. At the bottom of the diagram, on the scale of the corresponding voltage, you should find the value of the motor power (7 kW, 380 V) and draw a horizontal line;
5. From the intersection of the upper horizontal line with the line corresponding to the category of operation, a vertical line (down) should be drawn;
6. The point of intersection of the lower horizontal and vertical lines will be in the range of the required switch (4G40)

Overall dimensions (mm)

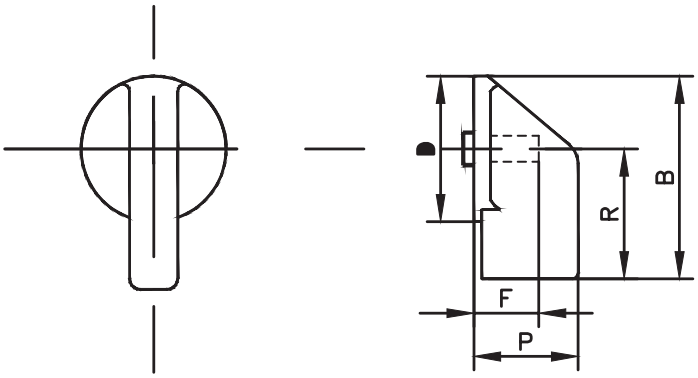
Front panel in the standard design



Group	B	E	Front panel		
			A0	A1	A2
A0	48	7,5	+	+	+
A1	64	8,5	+	+	+
A2	88	9,5	-	-	+

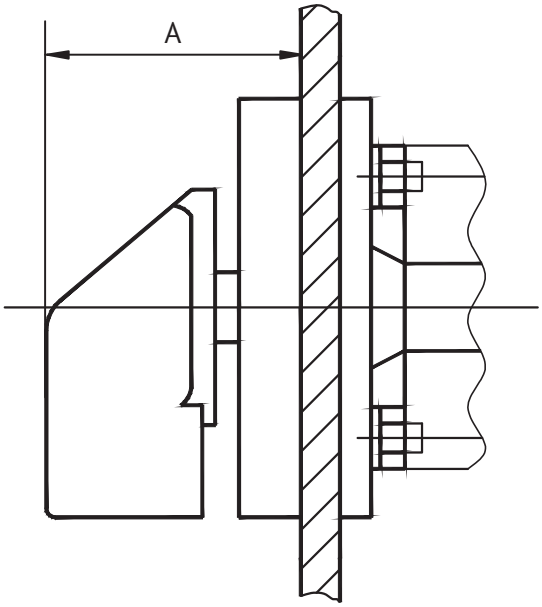
Group	A0	A1		A2			
Type of the switch	4G 10	4G 16	4G 25	4G 40	4G 63	4G 80	4G 63/100
Rated operating current Ie, A	10	16	25	40	63	80	100

Handle



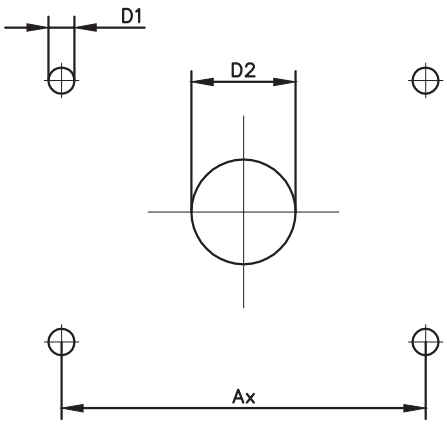
Group	D	P	R	B	F	Handle		
	Ø					A0	A1	A2
A0	25	20	16,5	36	17	+	+	+
A1	30	24	24,5	46,5	21	+	+	+
A2	35	29	28,5	53	25	-	-	+

Switches mounted under the panel



Group	A
A0	30
A1	34
A2	39

Mounting point

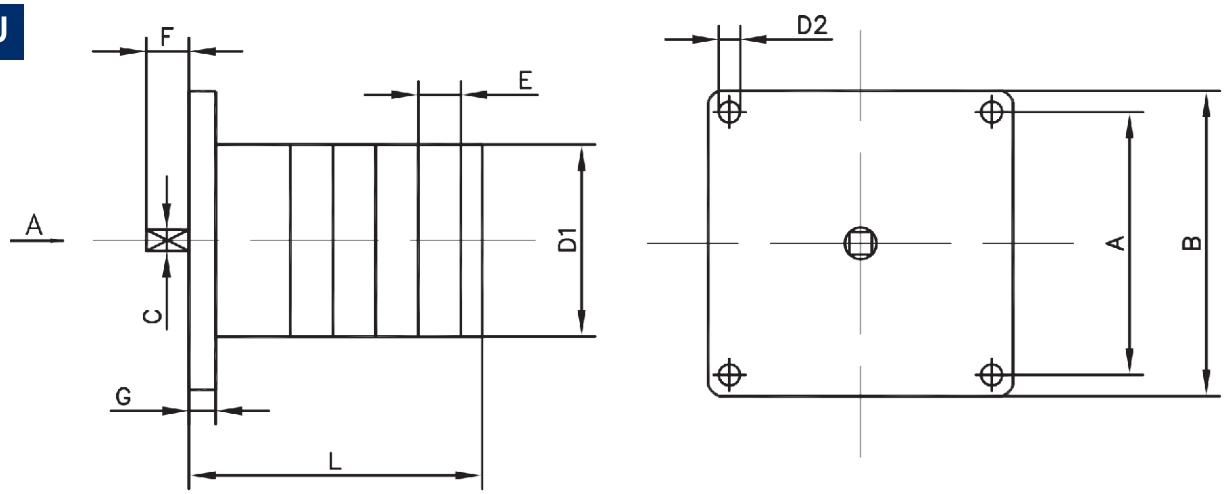


Group	D1	D2	Front panel		
			Ax		
	Ø	Ø	A0	A1	A2
A0	4	8	36	36	36
A1	5	8	36	44-48	44-48
A2	5	10	-	-	72

Standard configurations

Switch for a built-in mounting type

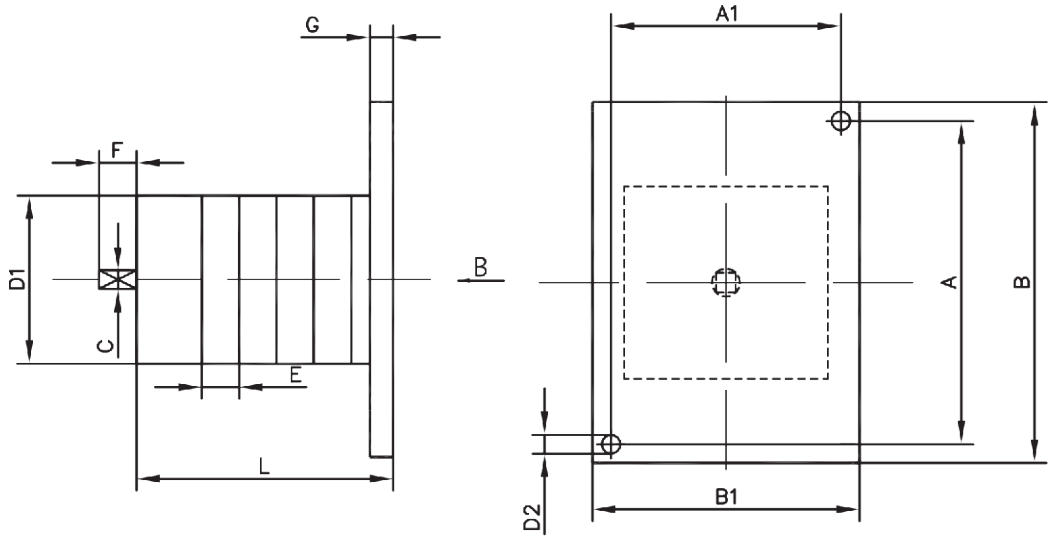
U



Group	Type of the switch	D1	D2	A	B	C	E	F	G	L (depending on the amount of connecting elements)											
			Ø							1	2	3	4	5	6	7	8	9	10	11	12
A0	4G10	44	3,5	36	48	5	13,5	23	4	42	55,6	69	82,6	96	109	123	136	150	163	177	190
A1	4G16	48	4,5	48	64	5	16	26	4	48	64	80	96	112	128	144	160	176	192	208	224
	4G25	48	4,5	48	64	5	16	26	4	48	64	80	96	112	128	144	160	176	192	208	224
A2	4G40	68	4,5	60	76	6	17	37,5	5	53	70	87	104	121	138	155	172	189	206	-	-
	4G63 4G80	68	4,5	60	76	6	17	37,5	5	53	70	87	104	121	138	155	172	189	206	-	-
	4G63/100	6	4,5	60	76x112	6	17	37,5	5	70	104	138	172	206	-	-	-	-	-	-	-

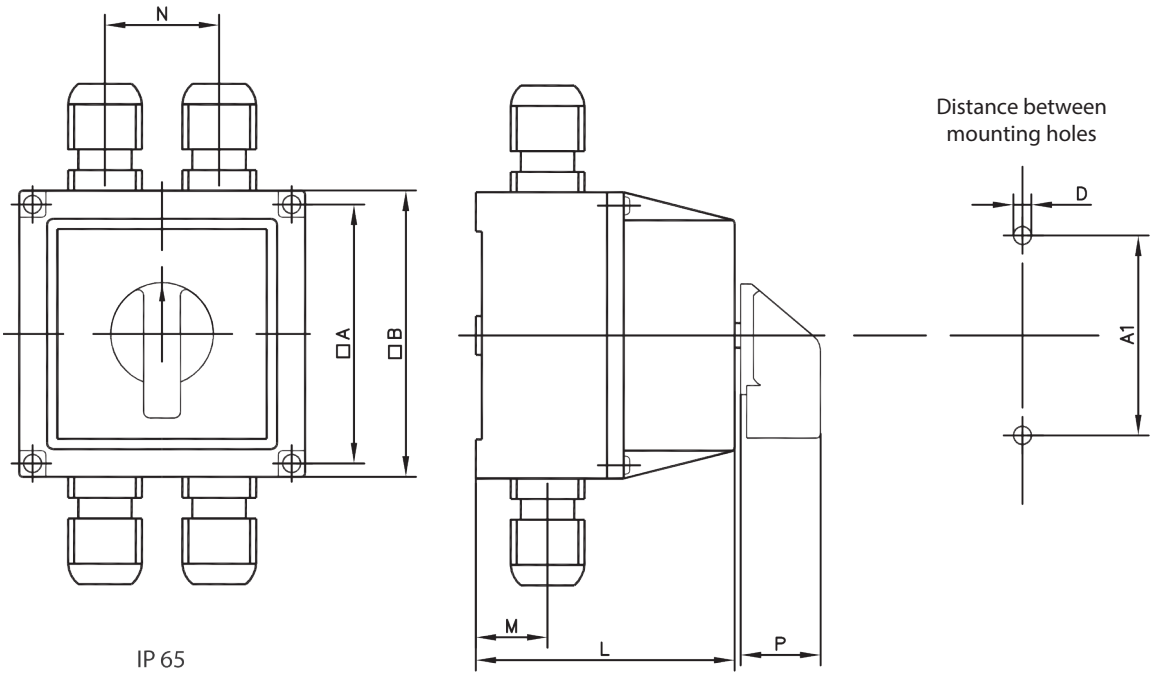
Switch with a rear panel mounting type

OU



Group	Type of the switch	D1	D2	A	A1	B	B1	C	E	F	G	L (depending on the amount of connecting elements)										
			Ø									1	2	3	4	5	6	7	8	9	10	11	12
A0	4G10	45	3,5	52	35	60	44	5	13,5	23	4	50,6	64	76,5	90	104	117	131	144	158	171	186	198
A1	4G16	48	4,5	56	39	64	48	5	16	26	4	55	71	87	103	119	135	151	167	183	199	215	231
	4G25	48	4,5	56	39	64	48	5	16	26	4	55	71	87	103	119	135	151	167	183	199	215	231
A2	4G40	68	4,5	60	60	76	76	6	17	37,5	5	53	70	87	104	121	138	155	172	189	206	-	-
	4G63 4G80	68	4,5	60	60	76	76	6	17	37,5	5	53	70	87	104	121	138	155	172	189	206	-	-
	4G63/100	68	4,5	60	60	76	76	6	17	37,5	5	70	104	138	172	206	-	-	-	-	-	-	-

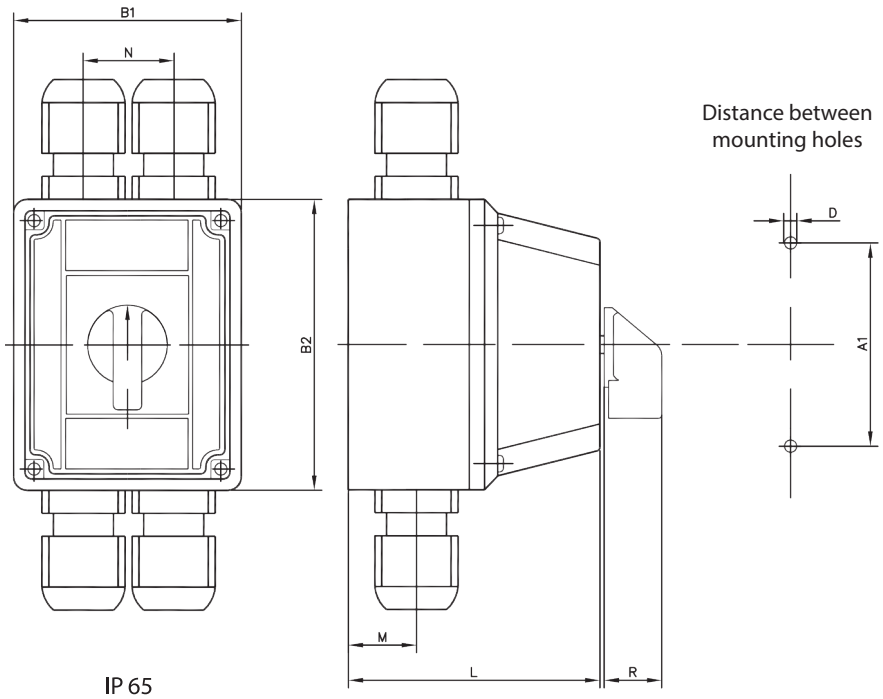
Switch in plastic housing



IP 65

Group	Type of the switch	D1	A	A1	B	M	N	R	L (depending on the amount of connecting elements)			
		Ø							1	2	3	4
A0	4G10	4,5	80	62	88	22	33	24	74	74	95	95
A1	4G16	4,5	91	72	100	26	39	24	86	86	114	114
	4G25	4,5	91	72	100	26	39	24	86	86	114	114

The configuration set includes:
self-tapping screws - 2 pcs.;
dowel - 2 pcs.



IP 65

Group	Type of the switch	D	A1	B1	B2	M	N	R	L (depending on the amount of connecting elements)			
		Ø							1	2	3	4
A2	4G40	5,5	130	126	162	27	50	29	102	102	136	136
	4G63 4G80	5,5	130	126	162	27	50	29	102	102	136	136
	4G63/100	5,5	130	126	162	27	50	29	102	102	136	136

The configuration set includes:
self-tapping screws - 2 pcs.;
dowel - 2 pcs.

Navigator for layouts of commutation programs

Commutation program		Number of the layout	Page
Switches with a zero position (0-1)			
1-pole		90	410
2-pole		91	
3-pole		10	
4-pole		92	
5-pole		99	
6-pole		100	
Switches with accelerated commutation (0-1)			
contacts with 30° advance 1-pole		270	410
contacts with 30° advance 2-pole		271	
contacts with 30° advance 3-pole		63	
3 contacts with 30° advance 1 contact with 30° advance 4-pole		272	
3 contacts with 30° advance 2 contacts with 30° advance 5-pole		273	
contacts with 30° advance 6-pole		274	
Switches with a zero position "0" (0-1-2)			
1-pole		51	411
2-pole		52	
3-pole		53	
4-pole		75	
5-pole		76	
6-pole		77	
7-pole		78	
8-pole		79	
9-pole		80	
10-pole		81	
Switches for current transformers (1-2)			
		57	411
Switches without a zero position (1-2)			
1-pole		54	412
2-pole		55	
3-pole		56	
4-pole		69	
5-pole		70	
6-pole		71	
7-pole		72	
8-pole		73	
9-pole		74	
10-pole		62	
Multiple-position switches with a zero position (0-1-2 ...)			
1-pole	2-positions	107	413
	3-positions	108	
	4-positions	109	
	5-positions	110	
	6-positions	111	
	7-positions	112	
	8-positions	113	
	9-positions	114	
	10-positions	115	
	11-positions	116	

Commutation program		Number of the layout	Page
2-pole	2-positions	123	414
	3-positions	124	
	4-positions	125	
	5-positions	126	
	6-positions	127	
	7-positions	128	
	8-positions	129	
	9-positions	130	
	10-positions	131	
	11-positions	132	
3-pole	2-positions	135	415
	3-positions	136	
	4-positions	137	
	5-positions	138	
	6-positions	139	
	7-positions	140	
4-pole	2-positions	145	
	3-positions	146	
	4-positions	147	
	5-positions	148	
5-pole	2-positions	151	416
	3-positions	152	
	4-positions	153	
6-pole	2-positions	156	
	3-positions	157	
	4-positions	158	
7-pole	2-positions	160	
	3-positions	161	
8-pole	2-positions	163	
	3-positions	164	
Multiple-position switches without a zero position			
1-pole	3-positions	82	417
	4-positions	83	
	5-positions	84	
	6-positions	85	
	7-positions	101	
	8-positions	102	
	9-positions	103	
	10-positions	104	
	11-positions	105	
	12-positions	106	
2-pole	3-positions	86	418-419
	4-positions	87	
	5-positions	88	
	6-positions	89	
	7-positions	117	
	8-positions	118	
	9-positions	119	
	10-positions	120	
	11-positions	121	
	12-positions	122	
3-pole	3-positions	93	419-420
	4-positions	94	
	5-positions	95	
	6-positions	96	
	7-positions	133	
	8-positions	134	

Commutation program		Number of the layout	Page
4-pole	3-positions	141	420
	4-positions	172	
	5-positions	143	
	6-positions	144	
5-pole	3-positions	149	421
	4-positions	150	
6-pole	3-positions	154	
	4-positions	155	
7-pole	3-positions	159	
8-pole	3-positions	162	
Group switches with a zero position			
1-pole	2-group	251	422
	3-group	254	
2-pole	2-group	252	
	3-group	255	
3-pole	2-group	253	
	3-group	256	
Conjugated group switches			
1-pole 2-group		257	422
2-pole 2-group		258	
3-pole 2-group		259	
Conjugated group switches parallel 2-pole 2-group		260	423
Switches for voltmeters and ammeters			
Switches for ammeters			423
2-pole L1-L2-L3		58	
2-pole 0-1-2-3		97	
1-pole 0-1-2-3		98	
Switches for voltmeters without a zero position			423
3 line voltages + 1 phase voltage		60	
Switches for voltmeters with a zero position			424
3 phase voltages		68	
3 line voltages		67	
3 line voltages + 3 phase voltages		66	
Toggle switch (with automatic return)			
Switches with zero position 1-0-2			424
Return to zero on both sides			
1-pole		201	
2-pole		202	
3-pole		203	
Toggle switch with a travel function to the left and to the right		210	
Toggle switch (with automatic return) Switches without a zero position (1-2)			
1 NC contact + 1 NO		204	425
2 NC contacts + 2 NO		205	
3 NC contacts + 3 NO		206	
For contactor control 1-pole		207	
1 contact in the ON position + 1 contact in the OFF position to travel to the right and to the left		208	
2 contacts in the ON position + 2 contacts in the OFF position to travel to the right and to the left		209	

Commutation program	Number of the layout	Page
Switches for motors		
Star-delta switches		425
Basic configuration	12	
Switch Y / Δ with a return from Y to 0	28	
with counter-current braking with a return from Y to 0	29	
as a voltage switch	30	
with contactor control	31	
with two directions of rotation	21	
Switches in the Dahlander system		
Double-speed Δ-0-YY	13	426
Double-speed 0-Δ-YY	19	
Double-speed bidirectional YY-Δ-0-Δ-YY	20	
Double-speed with contactor control	32	
Switches for double-winding motors		
1-0-2	53	426
0-1-2	22	
bidirectional	23	
with contactor control	33	
Switches for three-speed motors		
2 windings 0-Δ-YY-Y (with three poles in the Dahlander system)	34	427
2 windings 0-Δ-YY-Y (1 and 2 speeds in the Dahlander system)	35	
2 windings 0-Δ-YY-Y (2 and 3 speeds in the Dahlander system)	36	
Switches for a motor reverser		
Two-pole	24	428
Two-pole, return to the position "0"	25	
Three-pole	11	
Three-pole, return to the position "0"	26	
Three-pole with contactor control	27	
Switches for starting single-phase motors	15	

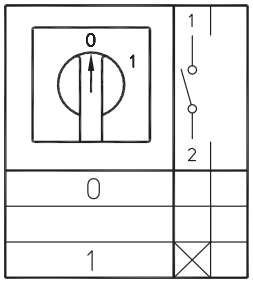
ATTENTION! This catalog has been developed to make the selection of a switch more comprehensible. It contains the most high-demand schemes and is being constantly updated. In the event that you have failed to find the necessary commutation scheme, be free to submit a request, so that we will be able to select the switch you have been searching for.

Layouts of commutation programs

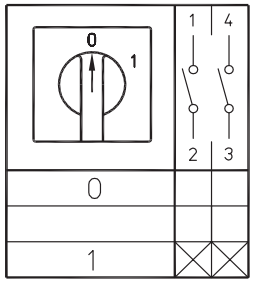
Switches with a zero position 0-1

Commutation program	Number of the layout
1-pole	90
2-pole	91
3-pole	10
4-pole	92
5-pole	99
6-pole	100

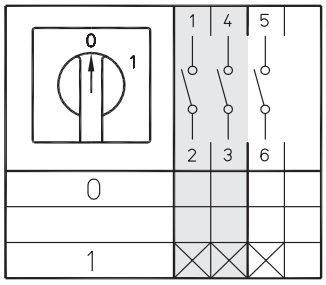
1-pole
Layout **90**



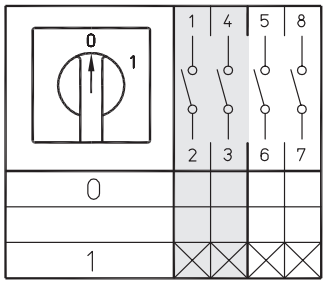
2-pole
Layout **91**



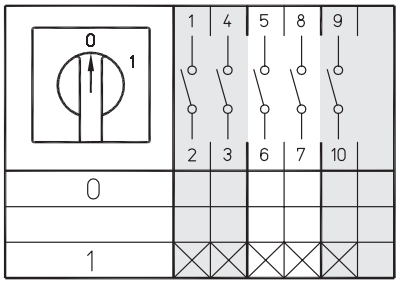
3-pole
Layout **10**



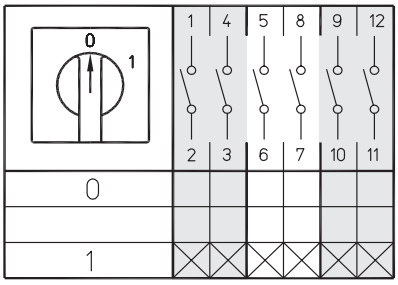
4-pole
Layout **92**



5-pole
Layout **99**

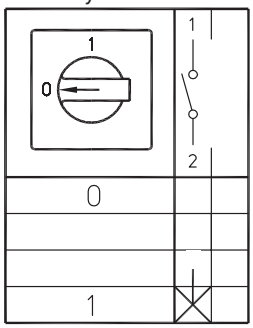


6-pole
Layout **100**

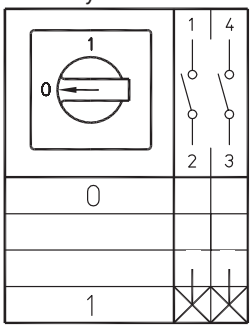


Commutation program	Number of the layout
contacts with 30° advance 1-pole	270
contacts with 30° advance 2-pole	271
contacts with 30° advance 3-pole	63
3 contacts with 30° advance 1 contact with 30° advance 4-pole	272
3 contacts with 30° advance 2 contacts with 30° advance 5-pole	273
contacts with 30° advance 6-pole	274

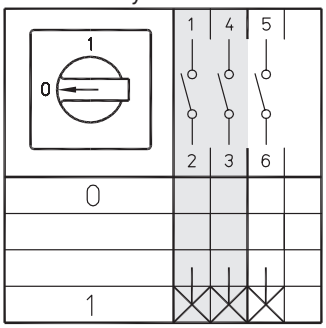
contacts with 30° advance
1-pole
Layout **270**



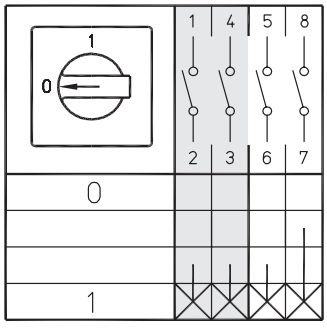
contacts with 30° advance
2-pole
Layout **271**



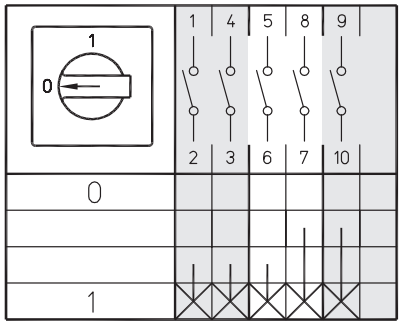
contacts with 30° advance
3-pole
Layout **63**



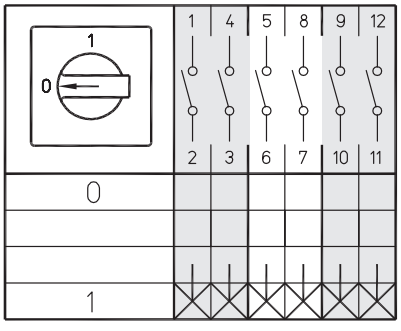
3 contacts with 30° advance
1 contact with 60° advance
4-pole
Layout **272**



3 contacts with 30° advance
2 contacts with 60° advance
5-pole
Layout **273**



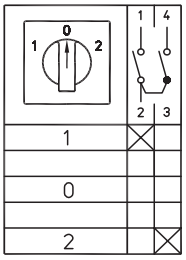
contact with 30° advance
6-pole
Layout **274**



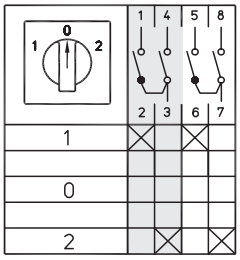
Switches with a zero position (1-0-2)

Commutation program	Number of the layout
1-pole	51
2-pole	52
3-pole	53
4-pole	75
5-pole	76
6-pole	77
7-pole	78
8-pole	79
9-pole	80
10-pole	81

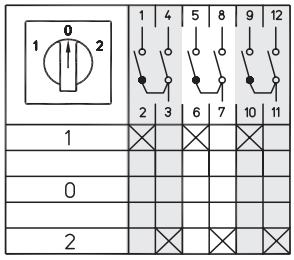
1-pole
Layout **51**



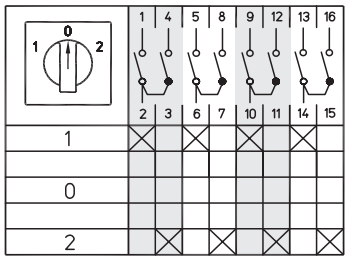
2-pole
Layout **52**



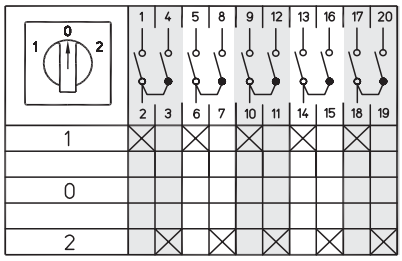
3-pole
Layout **53**



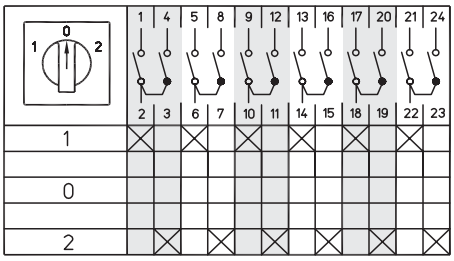
4-pole
Layout **75**



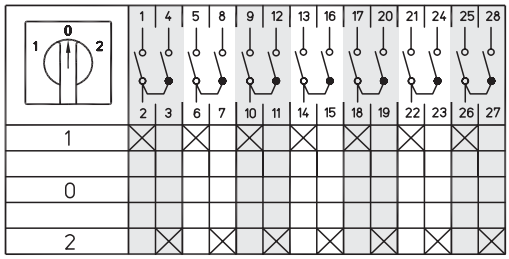
5-pole
Layout **76**



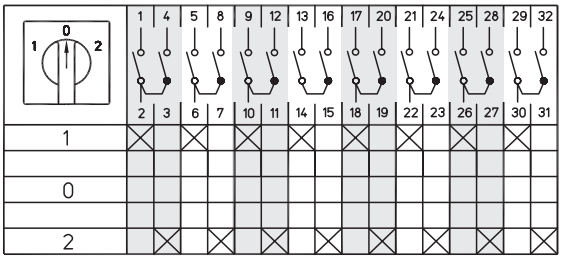
6-pole
Layout **77**



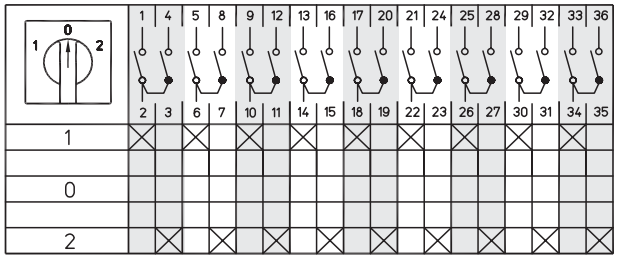
7-pole
Layout **78**



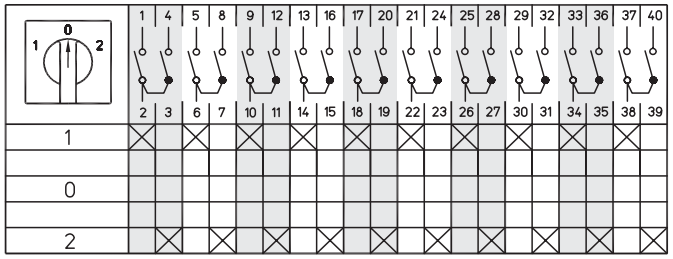
8-pole
Layout **79**



9-pole
Layout **80**

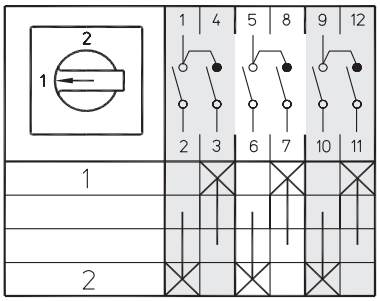


10-pole
Layout **81**



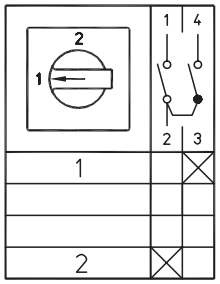
Switches for current transformers (1-2)

Layout **57**

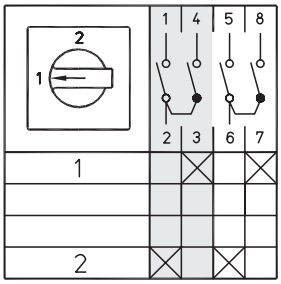


Switches without a zero position (1-2)

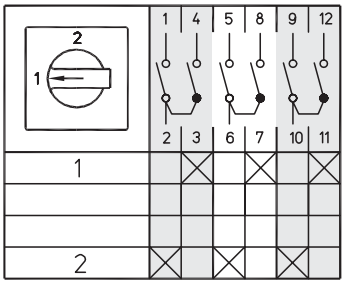
1-pole
Layout **54**



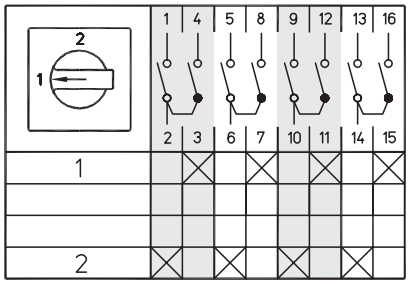
2-pole
Layout **55**



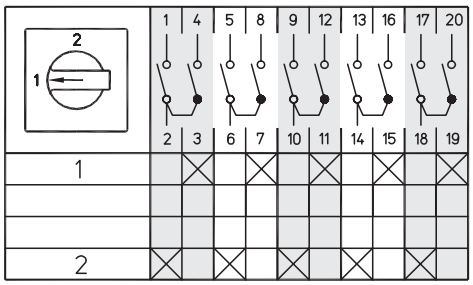
3-pole
Layout **56**



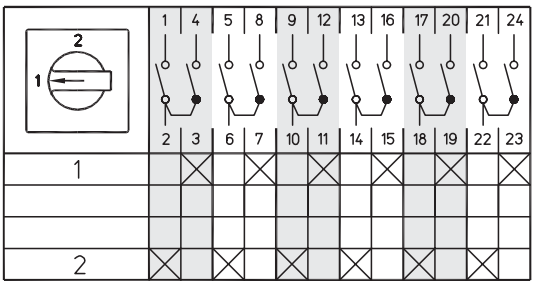
4-pole
Layout **69**



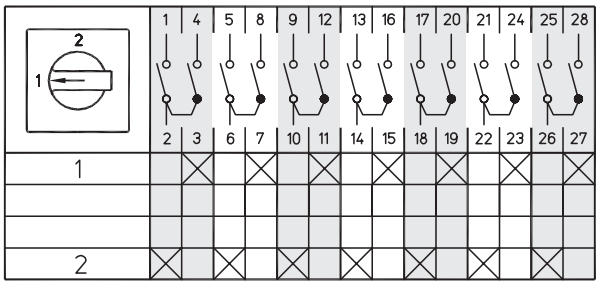
5-pole
Layout **70**



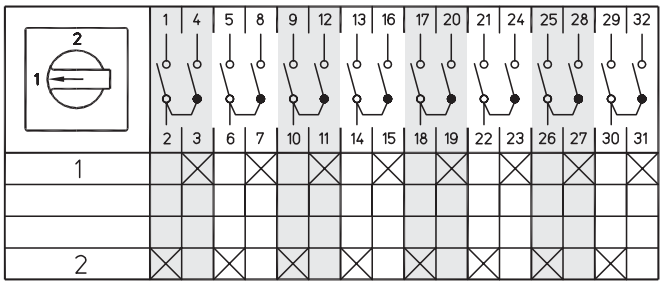
6-pole
Layout **71**



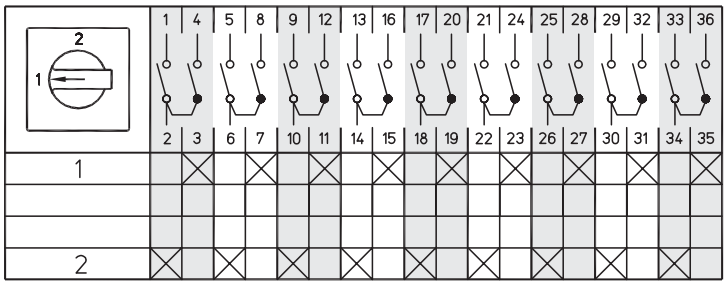
7-pole
Layout **72**



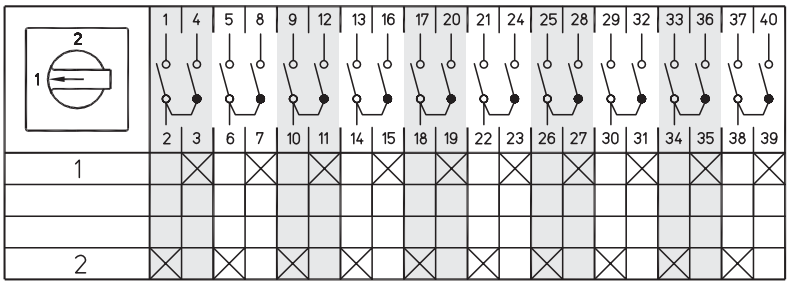
8-pole
Layout **73**



9-pole
Layout **74**



10-pole
Layout **62**

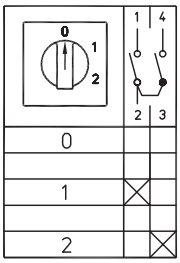


Commutation program	Number of the layout
1-pole	54
2-pole	55
3-pole	56
4-pole	69
5-pole	70
6-pole	71
7-pole	72
8-pole	73
9-pole	74
10-pole	62

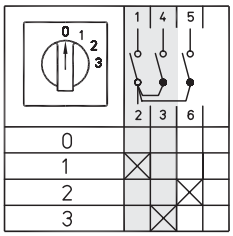
Multiple-position switches with a zero position (0-1-2 ...)

Commutation program		Number of the layout
1-pole	2-positions	107
	3-positions	108
	4-positions	109
	5-positions	110
	6-positions	111
	7-positions	112
	8-positions	113
	9-positions	114
	10-positions	115
	11-positions	116
2-pole	2-positions	123
	3-positions	124
	4-positions	125
	5-positions	126
	6-positions	127
	7-positions	128
	8-positions	129
	9-positions	130
	10-positions	131
	11-positions	132
3-pole	2-positions	135
	3-positions	136
	4-positions	137
	5-positions	138
	6-positions	139
	7-positions	140
4-pole	2-positions	145
	3-positions	146
	4-positions	147
	5-positions	148
5-pole	2-positions	151
	3-positions	152
	4-positions	153
6-pole	2-positions	156
	3-positions	157
	4-positions	158
7-pole	2-positions	160
	3-positions	161
8-pole	2-positions	163
	3-positions	164

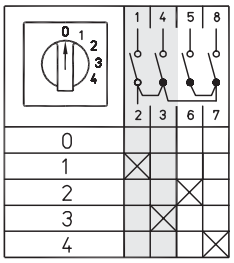
1-pole
2 positions
Layout **107**



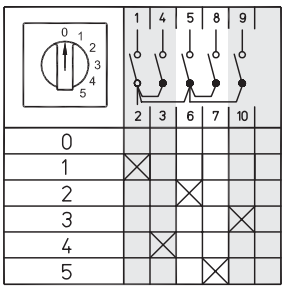
1-pole
3 positions
Layout **108**



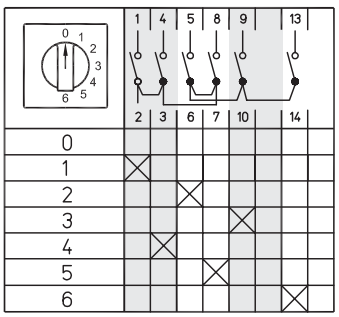
1-pole
4 positions
Layout **109**



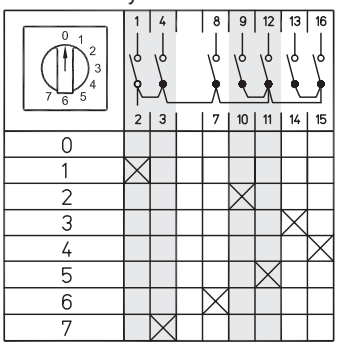
1-pole 5 positions
Layout **110**



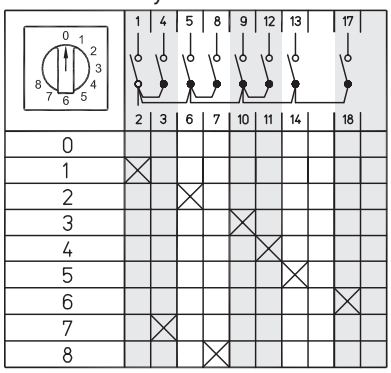
1-pole 6 positions
Layout **111**



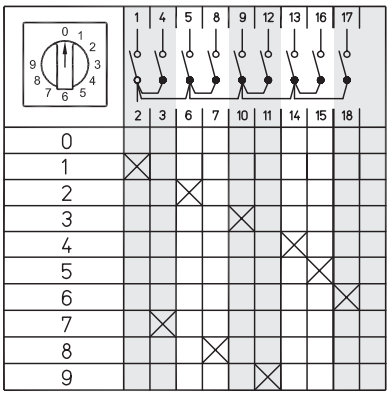
1-pole 7 positions
Layout **112**



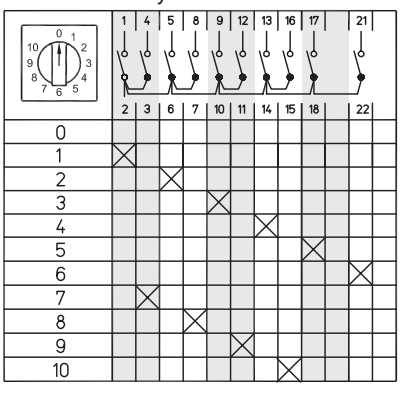
1-pole 8 positions
Layout **113**



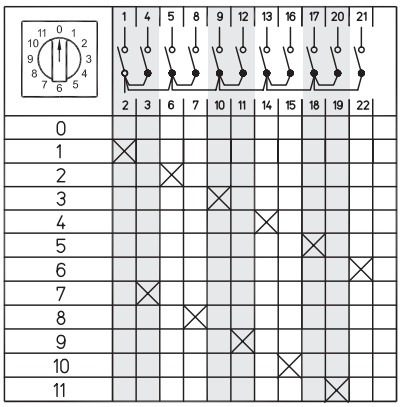
1-pole 9 positions
Layout **114**



1-pole 10 positions
Layout **115**

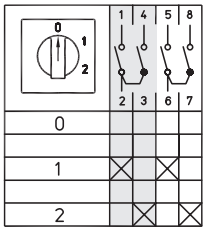


1-pole 11 positions
Layout **116**

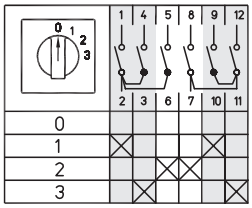


Multiple-position switches with a zero position (0-1-2 ...)

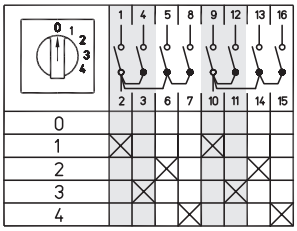
2-pole
2 positions
Layout **123**



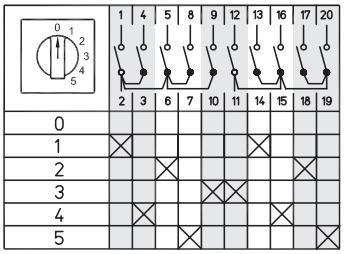
2-pole
3 positions
Layout **124**



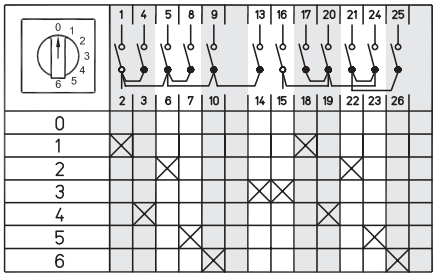
2-pole
4 positions
Layout **125**



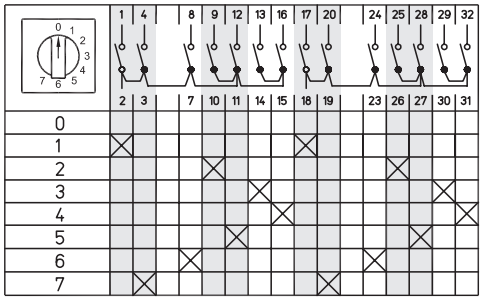
2-pole
5 positions
Layout **126**



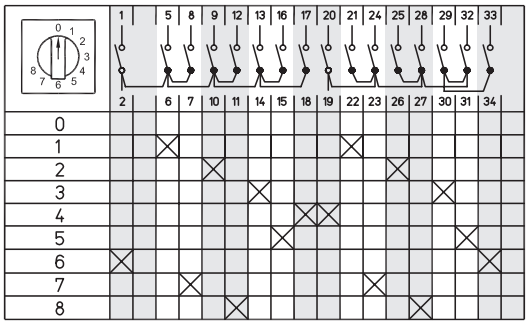
2-pole
6 positions
Layout **127**



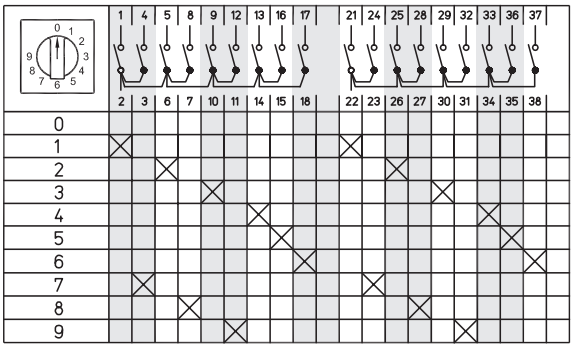
2-pole
7 positions
Layout **128**



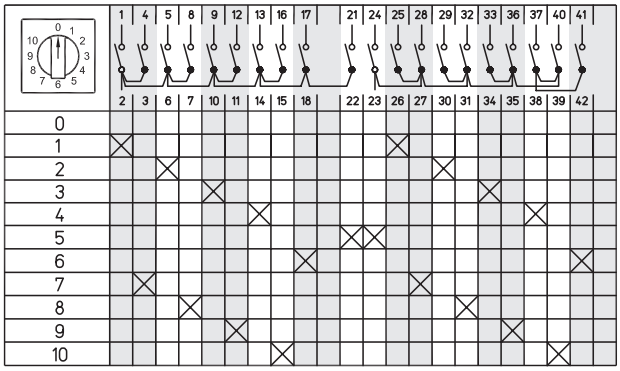
2-pole
8 positions
Layout **129**



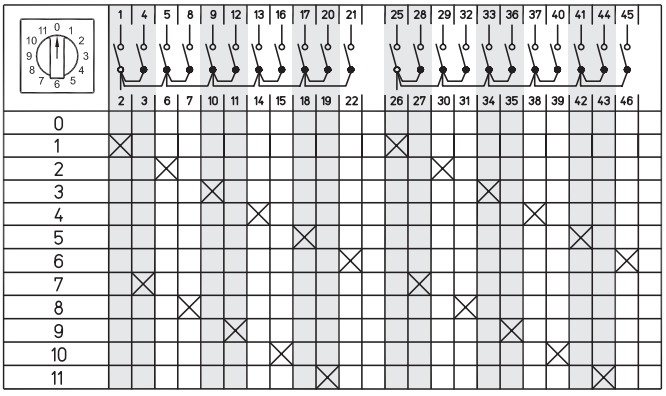
2-pole
9 positions
Layout **130**



2-pole
10 positions
Layout **131**

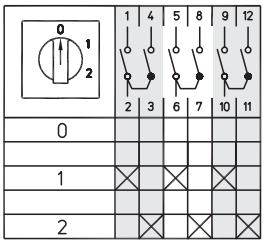


2-pole
11 positions
Layout **132**

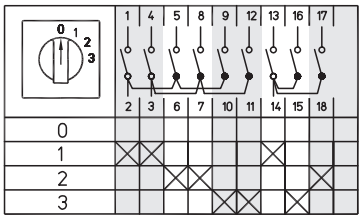


Multiple-position switches with a zero position (0-1-2 ...)

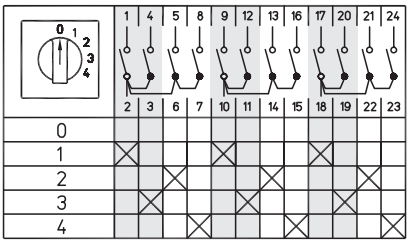
3-pole
2 positions
Layout **135**



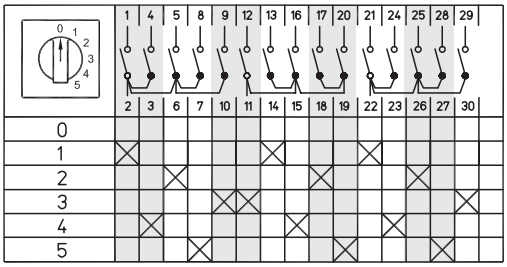
3-pole
3 positions
Layout **136**



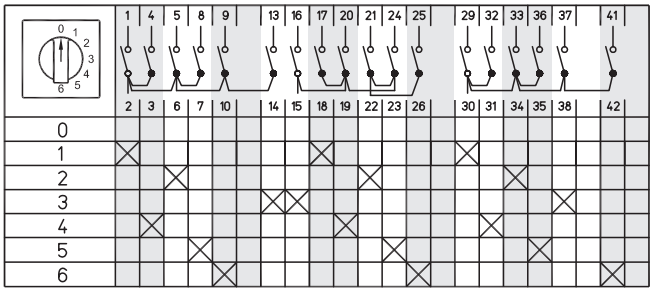
3-pole
4 positions
Layout **137**



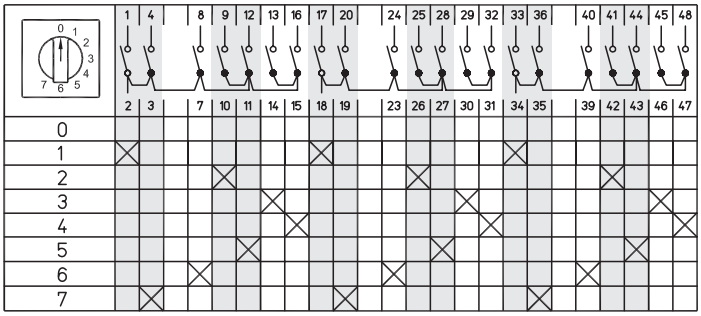
3-pole
5 positions
Layout **138**



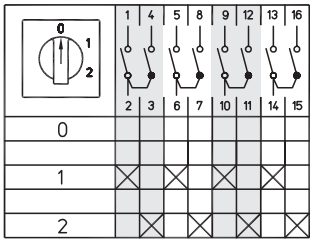
3-pole
6 positions
Layout **139**



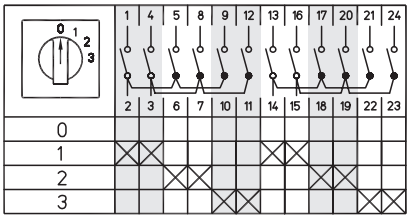
3-pole
7 positions
Layout **140**



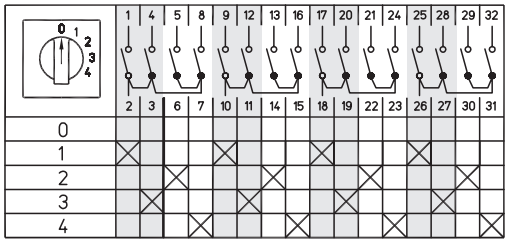
4-pole
2 positions
Layout **145**



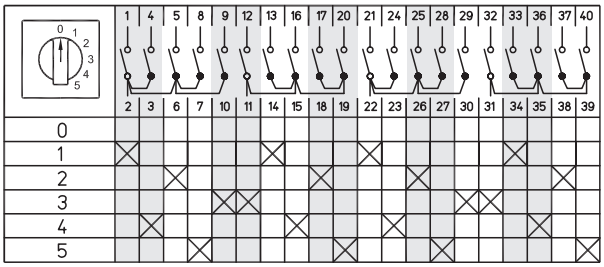
4-pole
3 positions
Layout **146**



4-pole
4 positions
Layout **147**

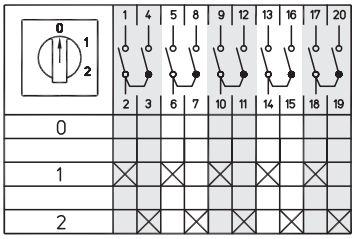


4-pole
5 positions
Layout **148**

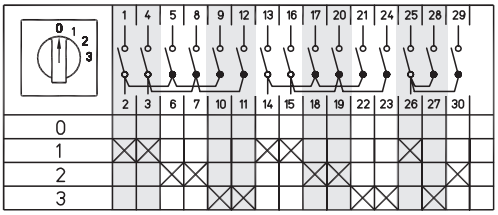


Multiple-position switches with a zero position (0-1-2 ...)

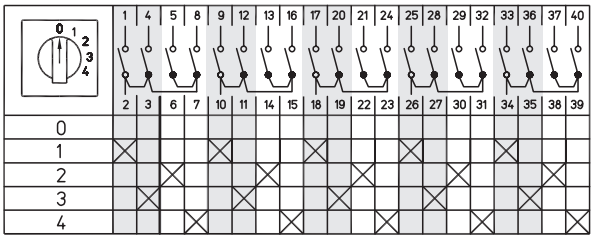
5-pole 2 positions
Layout **151**



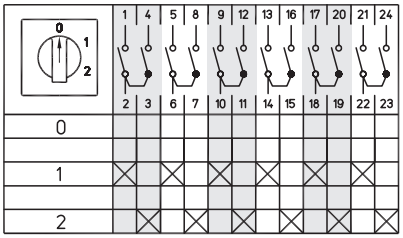
5-pole 3 positions
Layout **152**



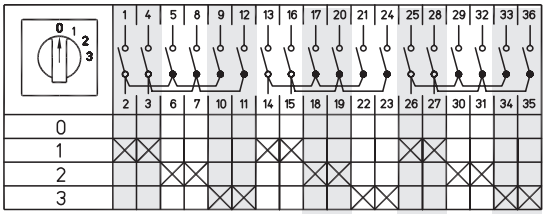
5-pole 4 positions
Layout **153**



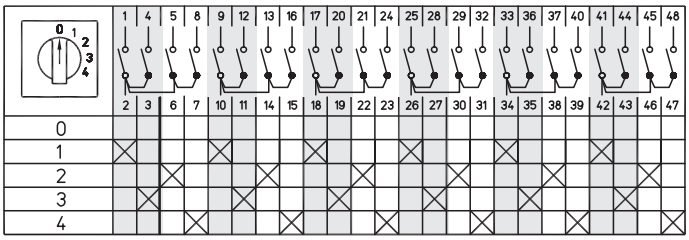
6-pole 2 positions
Layout **156**



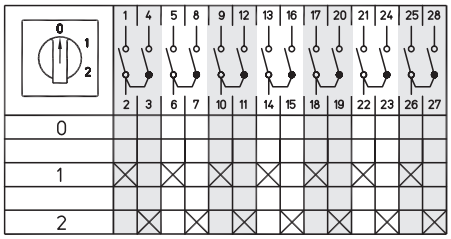
6-pole 3 positions
Layout **157**



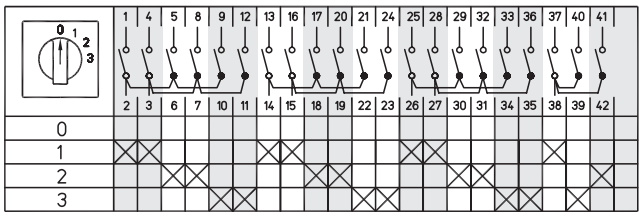
6-pole 4 positions
Layout **158**



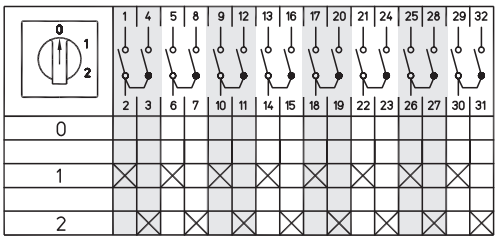
7-pole 2 positions
Layout **160**



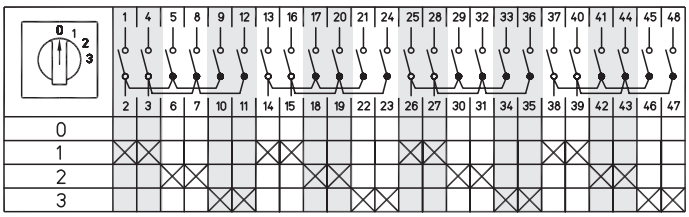
7-pole 3 positions
Layout **161**



8-pole 2 positions
Layout **163**



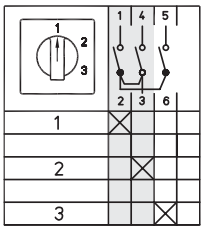
8-pole 3 positions
Layout **164**



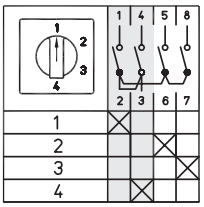
Multiple-position switches without a zero position

Commutation program		Number of the layout
1-pole	3-positions	82
	4-positions	83
	5-positions	84
	6-positions	85
	7-positions	101
	8-positions	102
	9-positions	103
	10-positions	104
	11-positions	105
	12-positions	106
2-pole	3-positions	86
	4-positions	87
	5-positions	88
	6-positions	89
	7-positions	117
	8-positions	118
	9-positions	119
	10-positions	120
	11-positions	121
	12-positions	122
3-pole	3-positions	93
	4-positions	94
	5-positions	95
	6-positions	96
	7-positions	133
	8-positions	134
4-pole	3-positions	141
	4-positions	172
	5-positions	143
	6-positions	144
5-pole	3-positions	149
	4-positions	150
6-pole	3-positions	154
	4-positions	155
7-pole	3-positions	159
8-pole	3-positions	162

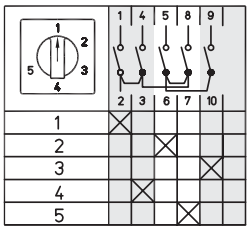
1-pole
3 positions
Layout **82**



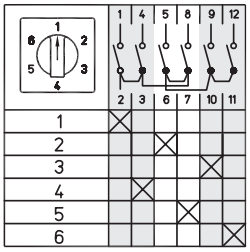
1-pole
4 positions
Layout **83**



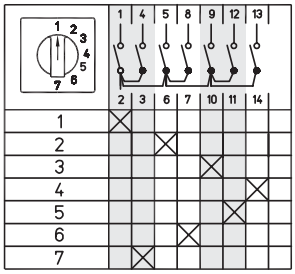
1-pole
5 positions
Layout **84**



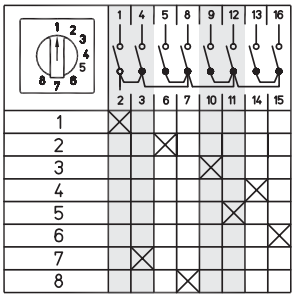
1-pole
6 positions
Layout **85**



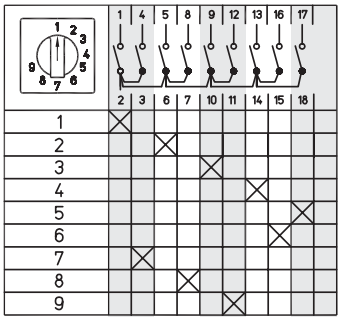
1-pole
7 positions
Layout **101**



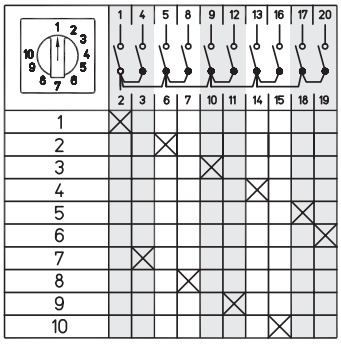
1-pole
8 positions
Layout **102**



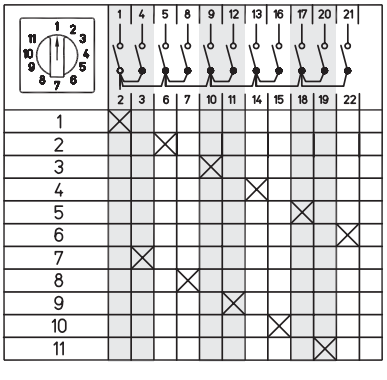
1-pole
9 positions
Layout **103**



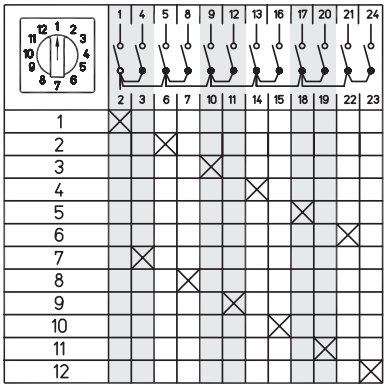
1-pole
10 positions
Layout **104**



1-pole
11 positions
Layout **105**

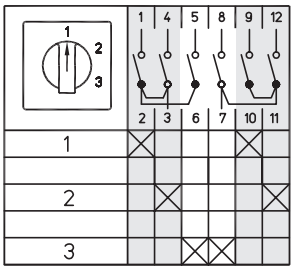


1-pole
12 positions
Layout **106**

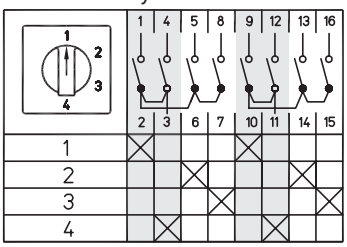


Multiple-position switches without a zero position

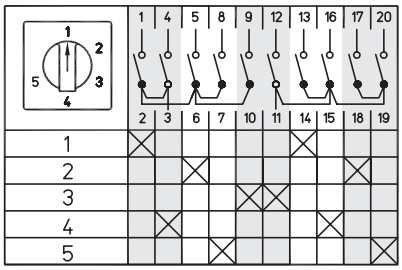
2-pole
3 positions
Layout **86**



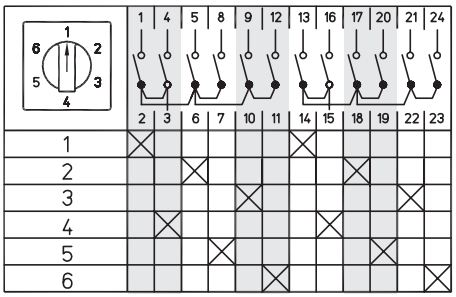
2-pole
4 positions
Layout **87**



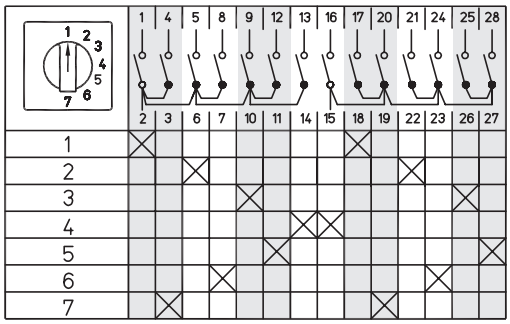
2-pole
5 positions
Layout **88**



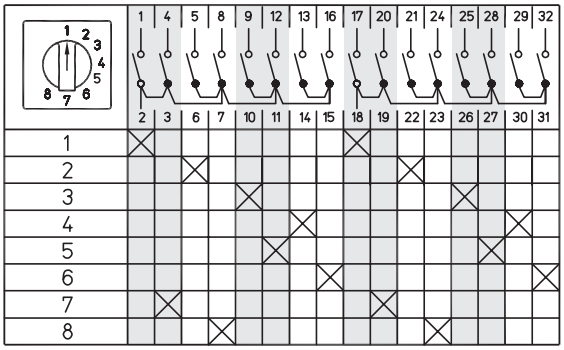
2-pole
6 positions
Layout **89**



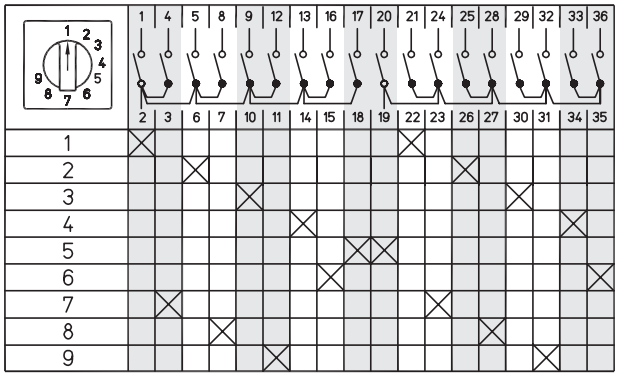
2-pole
7 positions
Layout **117**



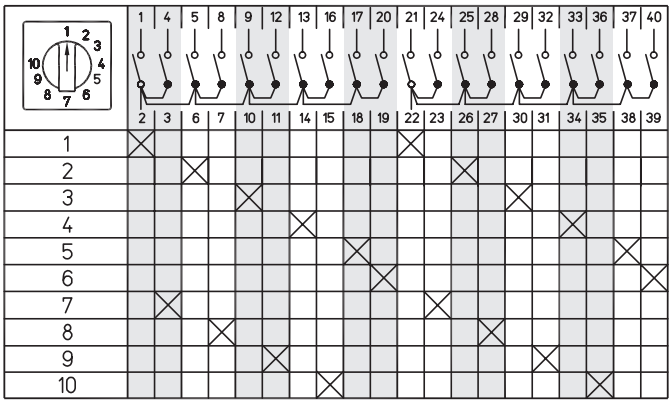
2-pole
8 positions
Layout **118**



2-pole
9 positions
Layout **119**

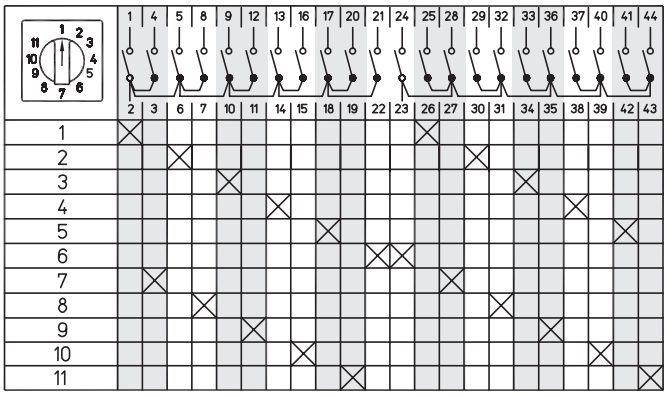


2-pole
10 positions
Layout **120**

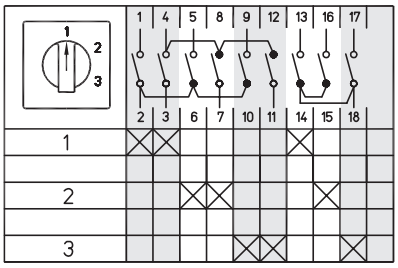


Multiple-position switches without a zero position

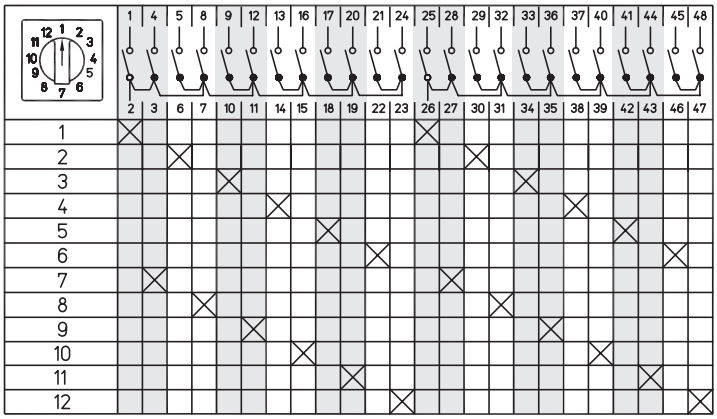
2-pole
11 positions
Layout **121**



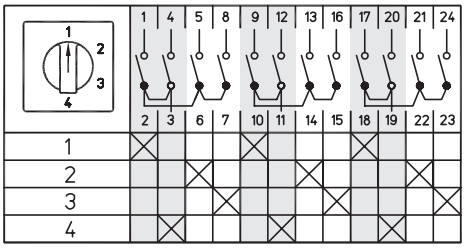
3-pole
3 positions
Layout **93**



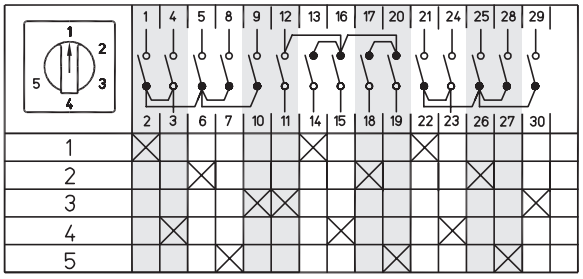
2-pole
12 positions
Layout **122**



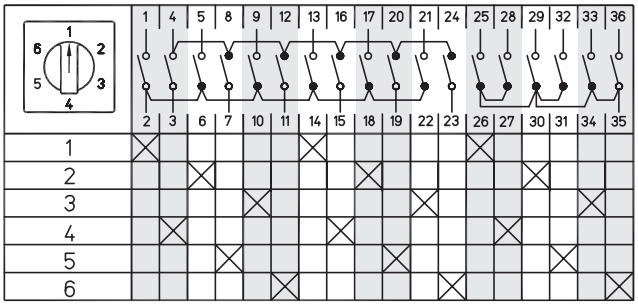
3-pole
4 positions
Layout **94**



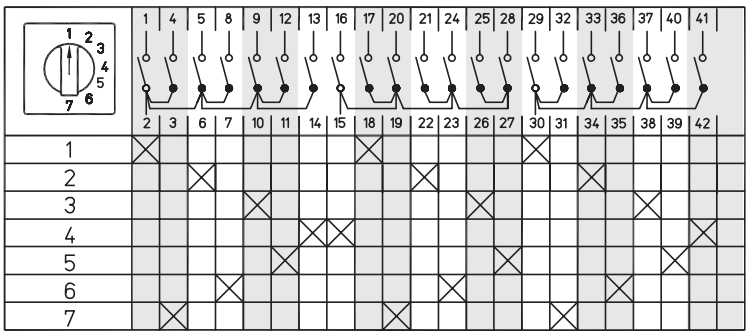
3-pole
5 positions
Layout **95**



3-pole
6 positions
Layout **96**

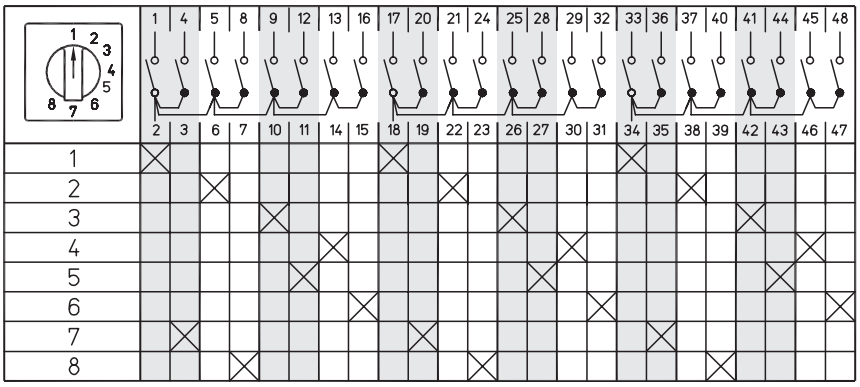


3-pole
7 positions
Layout **133**

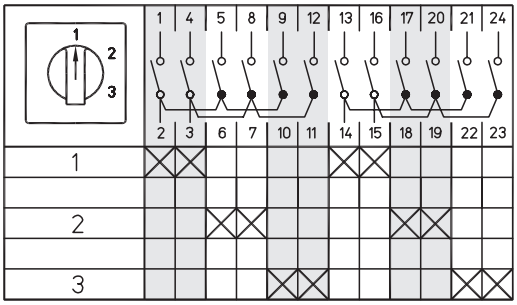


Multiple-position switches without a zero position

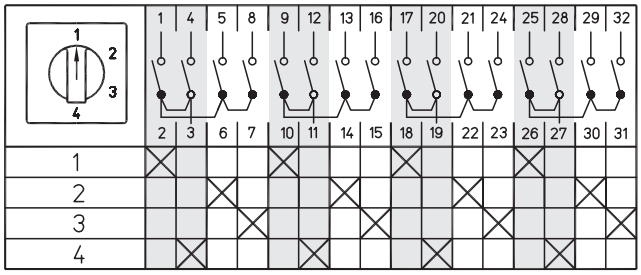
3-pole
8 positions
Layout **134**



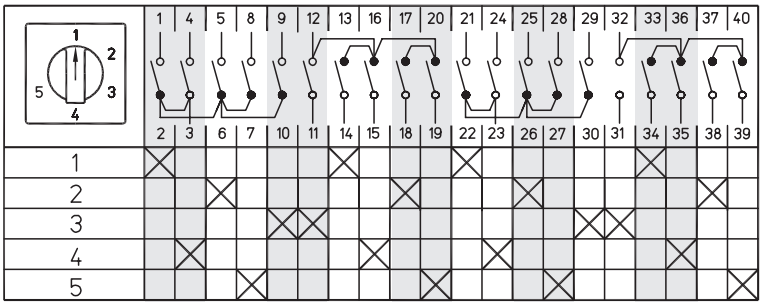
4-pole
3 positions
Layout **141**



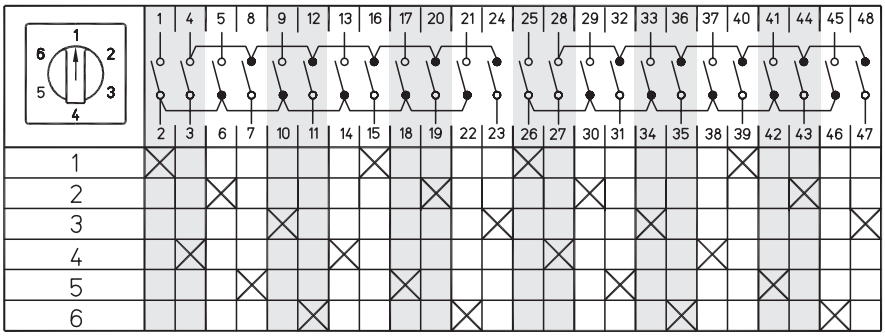
4-pole
4 positions
Layout **142**



4-pole
5 positions
Layout **143**

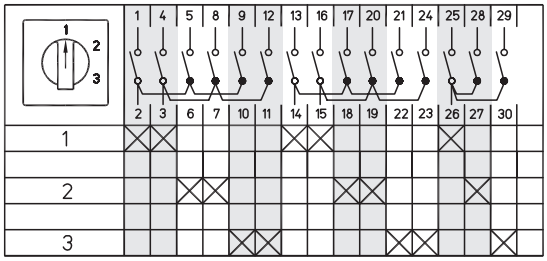


4-pole
6 positions
Layout **144**

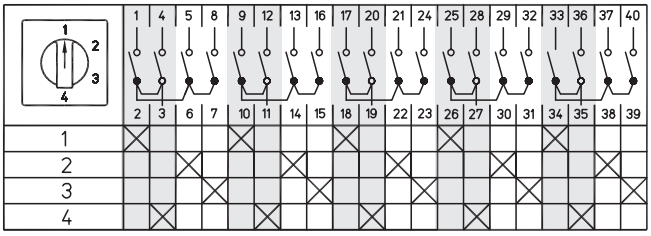


Multiple-position switches without a zero position

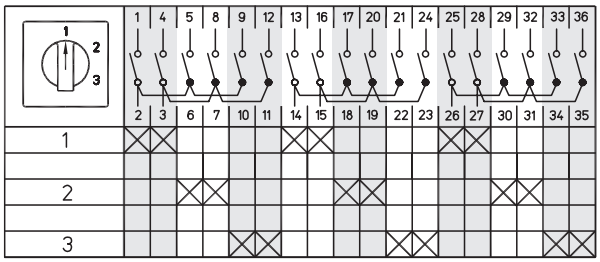
5-pole
3 positions
Layout **149**



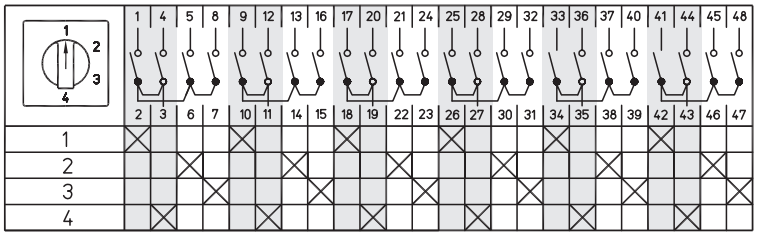
5-pole
4 positions
Layout **150**



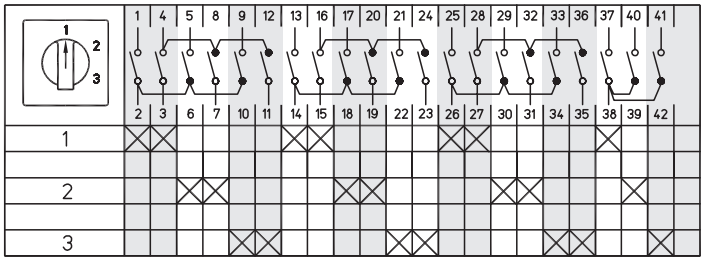
6-pole
3 positions
Layout **154**



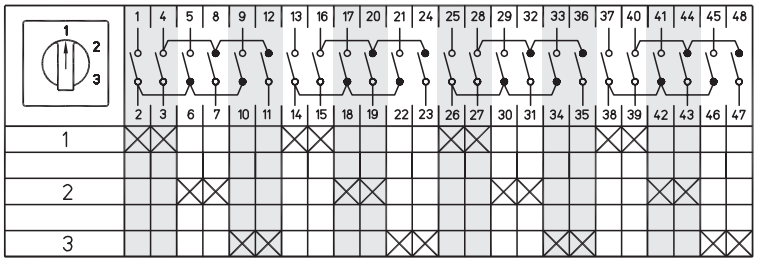
6-pole
4 positions
Layout **155**



7-pole
3 positions
Layout **159**



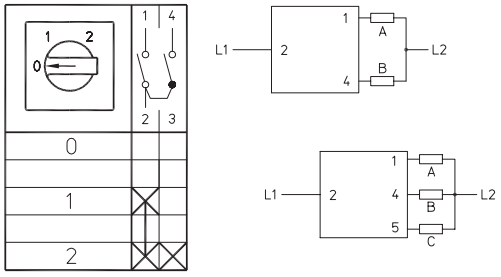
8-pole
3 positions
Layout **162**



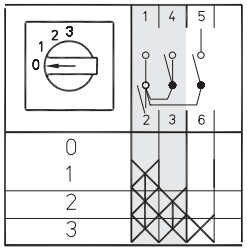
Group switches with a zero position

Commutation program		Number of the layout
1-pole	2-group	251
	3-group	254
2-pole	2-group	252
	3-group	255
3-pole	2-group	253
	3-group	256

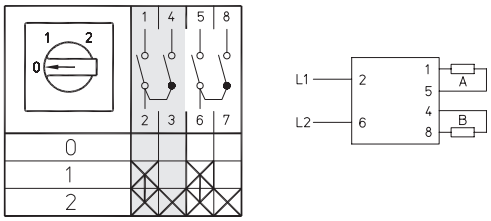
1-pole
2-group
Layout **251**



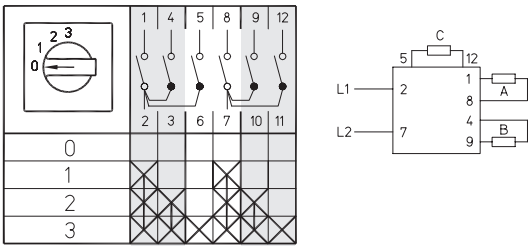
1-pole
3-group
Layout **254**



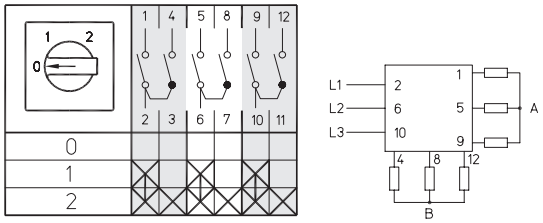
2-pole
2-group
Layout **252**



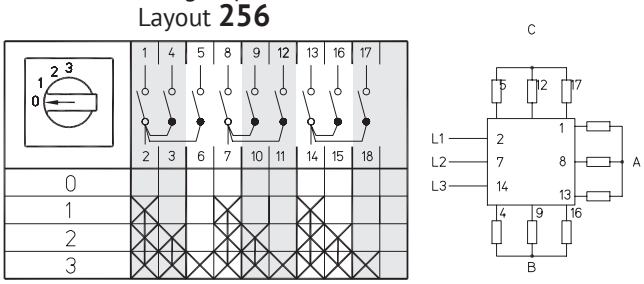
2-pole
3-group
Layout **255**



3-pole
2-group
Layout **253**



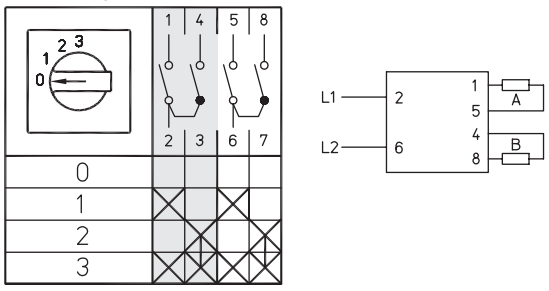
3-pole
3-group
Layout **256**



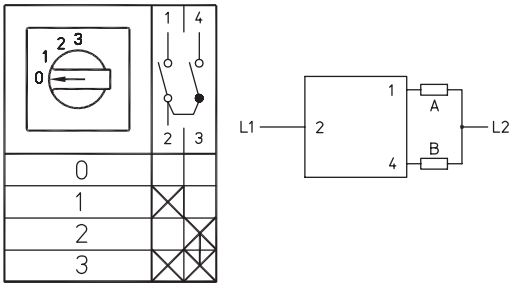
Conjugated group switches

Commutation program		Number of the layout
1-pole	2-group	257
2-pole	2-group	258
3-pole	2-group	259

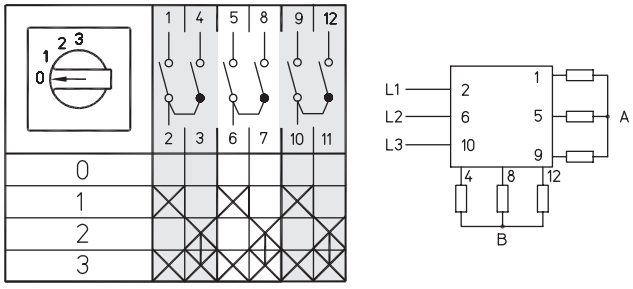
2-pole
2-group
Layout **258**



1-pole
2-group
Layout **257**



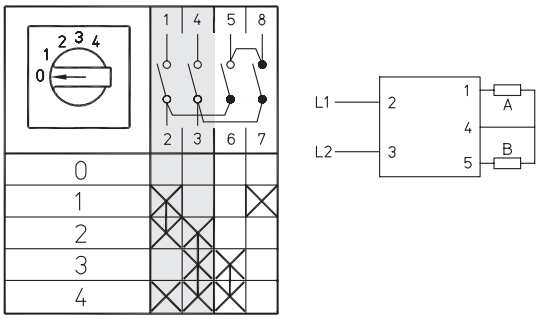
3-pole
2-group
Layout **259**



Conjugated group switches parallel

Commutation program		Number of the layout
2-pole	2-group	260

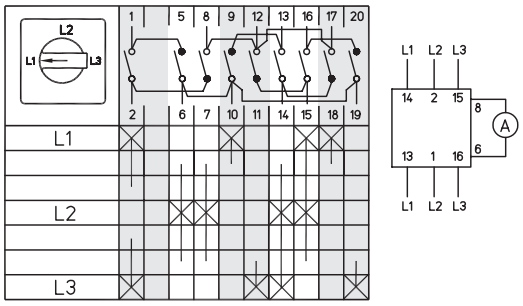
2-pole 2-group
Layout **260**



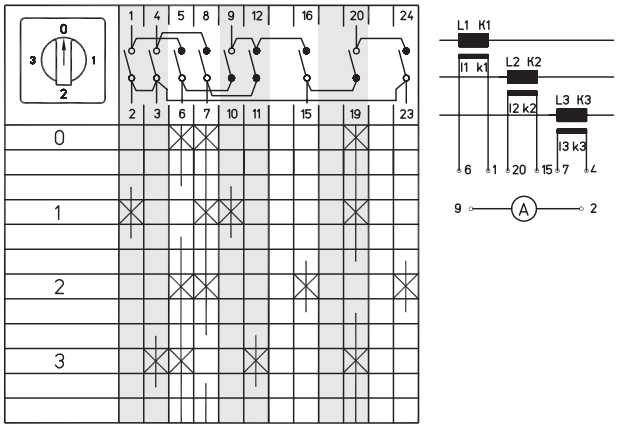
Switches for ammeters

Commutation program	Number of the layout
2-pole L1-L2-L3	58
2-pole 0-1-2-3	97
1-pole 0-1-2-3	98

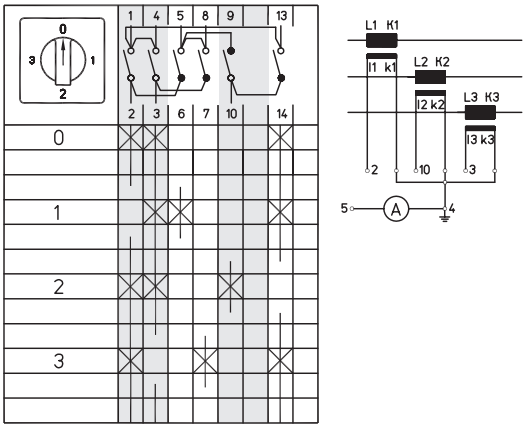
2-pole L1-L2-L3
Layout **58**



2-pole 0-1-2-3
Layout **97**



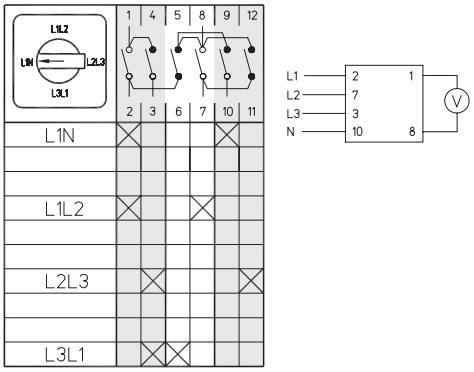
1-pole 0-1-2-3
Layout **98**



Switches for voltmeters without a zero position

Commutation program	Number of the layout
3 line voltages + 1 phase voltage	60

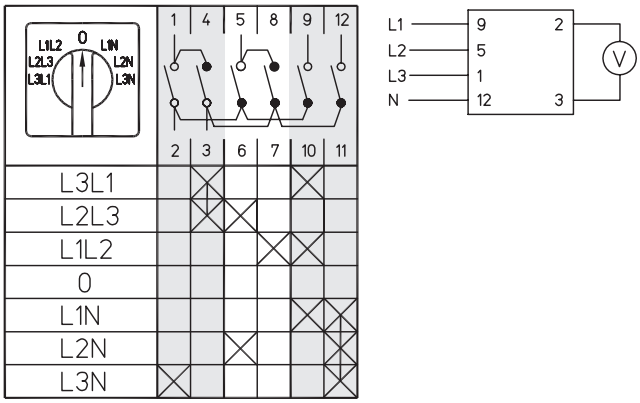
3 line voltages +
1 phase voltage
Layout **60**



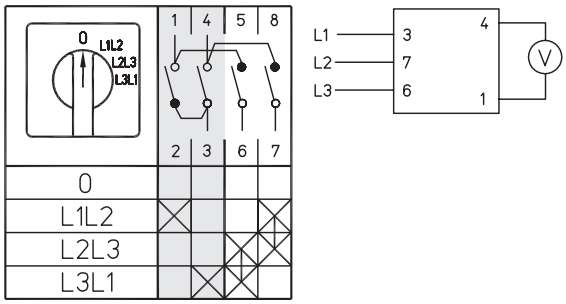
Switches for voltmeters with a zero position

Commutation program	Number of the layout
3 phase voltages	68
3 line voltages	67
3 line voltages + 3 phase voltages	66

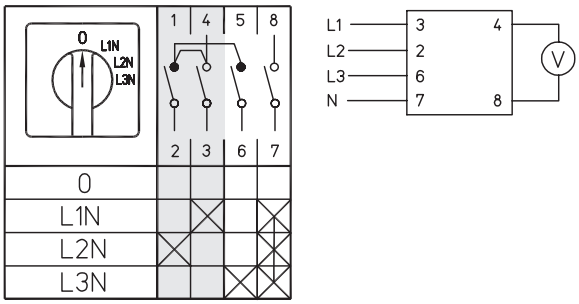
3 line voltages +
3 phase voltages
Layout **66**



3 line voltages
Layout **67**



3 phase voltages
Layout **68**

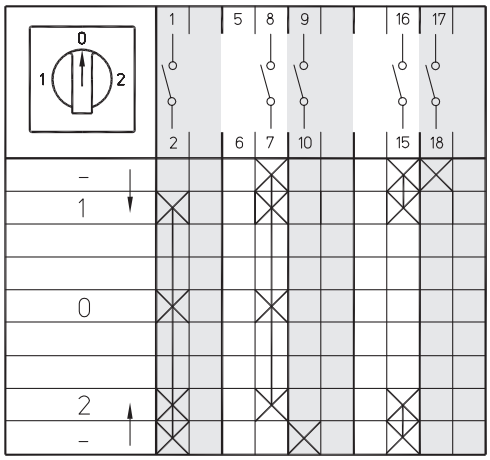


Toggle switch (with automatic return)

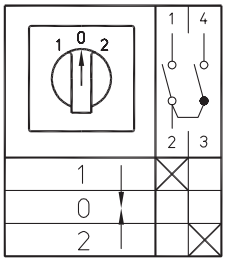
Switches with zero position (1-0-2)
Return to zero on both sides

Commutation program	Number of the layout
1 pole	201
2 pole	202
3 pole	203
Toggle switch with a travel function to the left and to the right	210

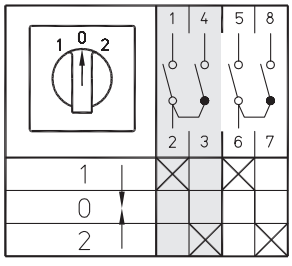
Toggle switch with a travel function to
the left and to the right
Layout **210**



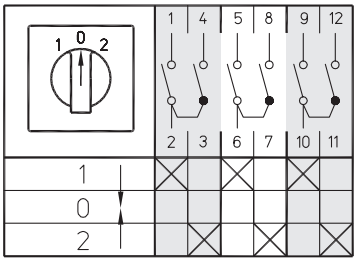
1-pole
Layout **201**



2-pole
Layout **202**



3-pole
Layout **203**



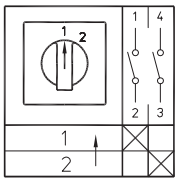
Toggle switch (with automatic return)

Switches without a zero position (1-2)

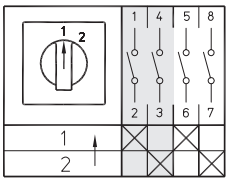
Commutation program	Number of the layout
1 NC contact + 1 NO	204
2 NC contacts + 2 NO	205
3 NC contacts + 3 NO	206
For contactor control 1-pole	207
1 contact in the ON position + 1 contact in the OFF position to travel to the right and to the left	208
2 contacts in the ON position + 2 contacts in the OFF position to travel to the right and to the left	209

Switches without a zero position (1-2)

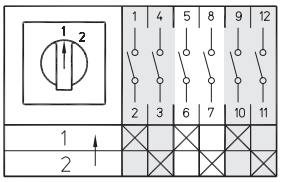
1 NC contact + 1 NO
Layout **204**



2 NC contacts + 2 NO
Layout **205**

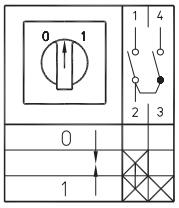


3 NC contacts + 3 NO
Layout **206**

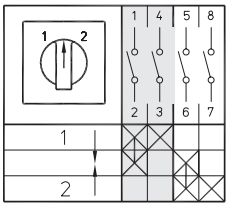


For contactor control

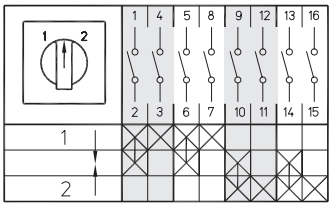
1-pole
Layout **207**



1 contact in the ON position + 1 contact in the OFF position to travel to the right and to the left
Layout **208**



2 contacts in the ON position + 2 contacts in the OFF position to travel to the right and to the left
Layout **209**

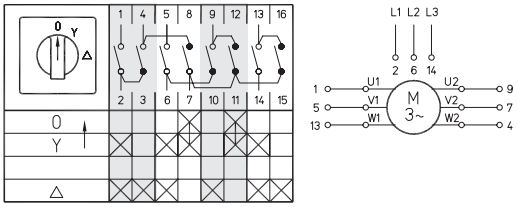


Switches for motors

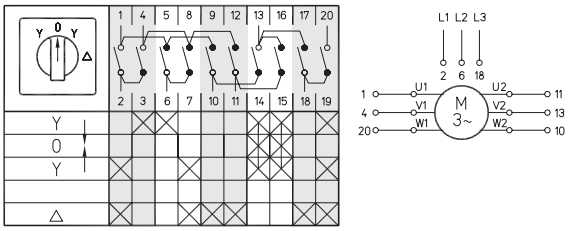
Star-delta switches

Commutation program	Number of the layout
Basic configuration	12
Switch Y / Δ with a return from Y to 0	28
with counter-current braking with a return from Y to 0	29
as a voltage switch	30
with contactor control	31
with two directions of rotation	21

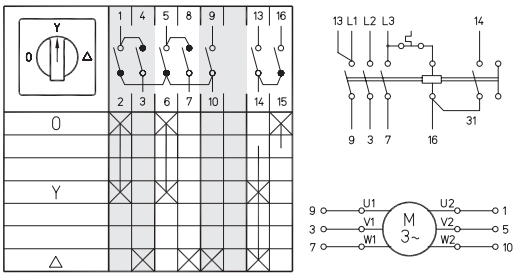
With a return from Y to "0"
Layout **28**



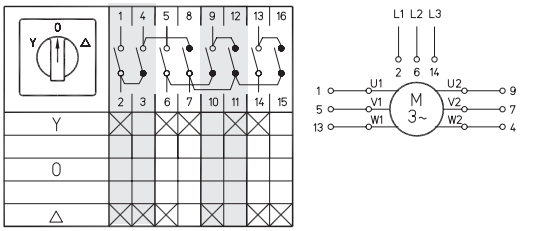
With counter-current braking with a return from Y to "0"
Layout **29**



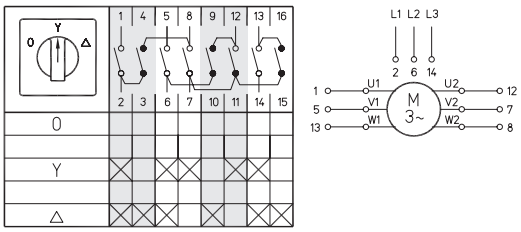
With contactor control
Layout **31**



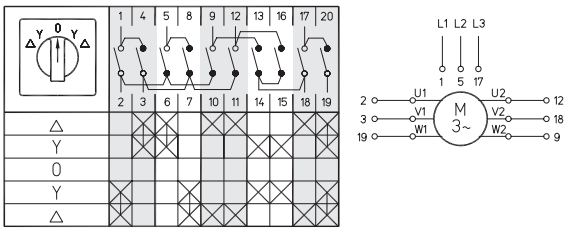
As a voltage switch
Layout **30**



Basic configuration
Layout **12**

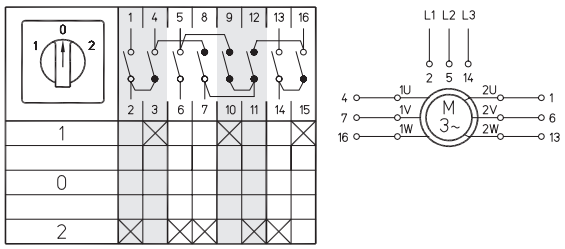


With two directions of rotation
Layout **21**

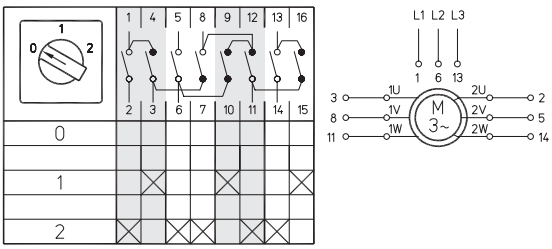


Switches in the Dahlander system

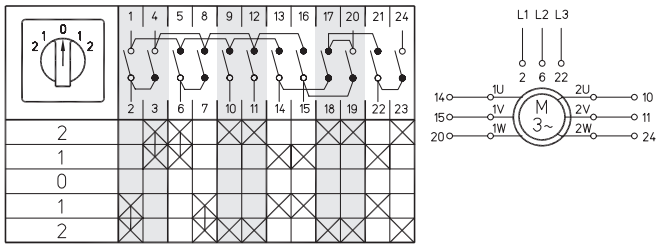
Double-speed Δ-0-YY
Layout **13**



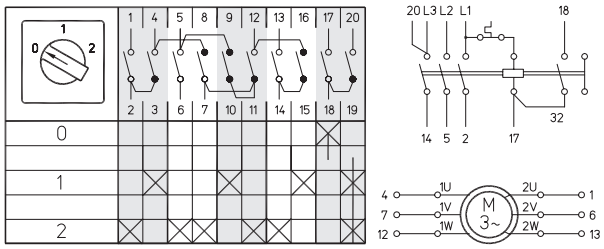
Double-speed 0-Δ-YY
Layout **19**



Double-speed bidirectional YY-Δ-0-Δ-YY
Layout **20**



Double-speed with contactor control
Layout **32**

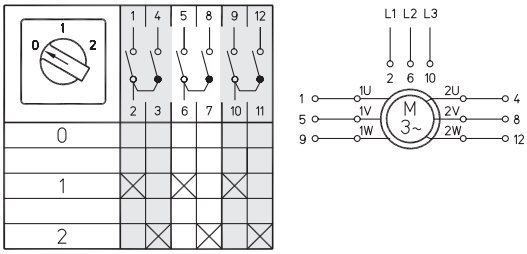


Commutation program	Number of the layout
Double-speed Δ-0-YY	13
Double-speed 0-Δ-YY	19
Double-speed bidirectional YY-Δ-0-Δ-YY	20
Double-speed with contactor control	32

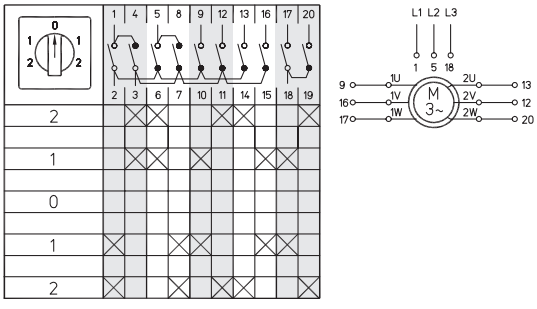
Switches for double-winding motors

Commutation program	Number of the layout
1-0-2	53
0-1-2	22
bidirectional	23
with contactor control	33

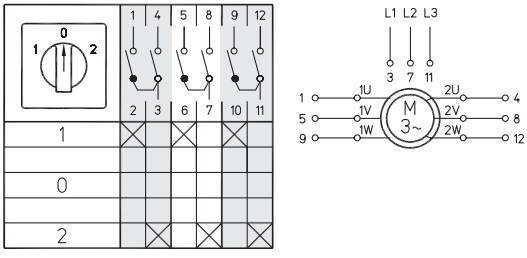
0-1-2
Layout **22**



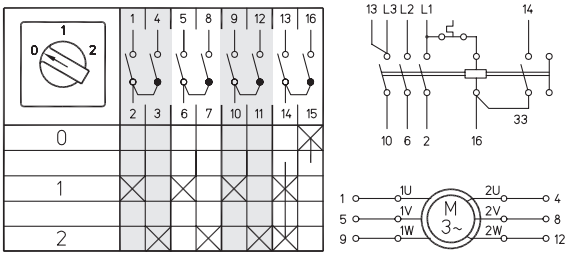
Bidirectional
Layout **23**



1-0-2
Layout **53**



With contactor control
Layout **33**

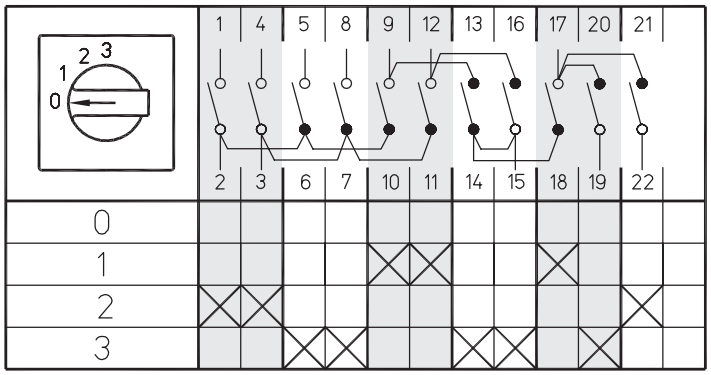


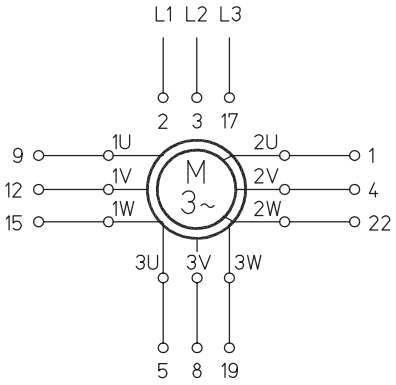
Switches for motors

Switches for three-speed motors

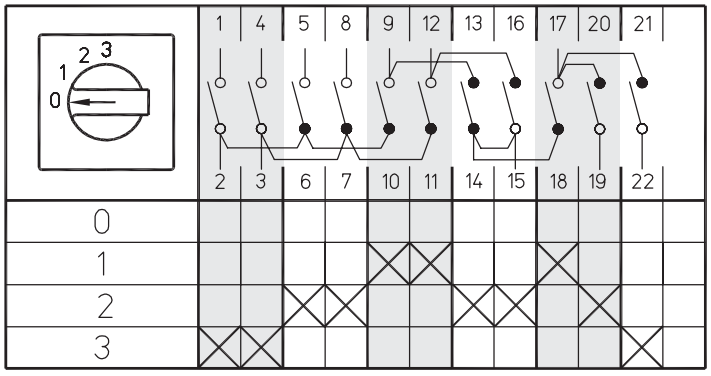
Commutation program	Number of the layout
2 windings 0-Δ-YY-Y (with three poles in the Dahlander system)	34
2 windings 0-Δ-YY-Y (1 and 2 speeds in the Dahlander system)	35
2 windings 0-Δ-YY-Y (2 and 3 speeds in the Dahlander system)	36

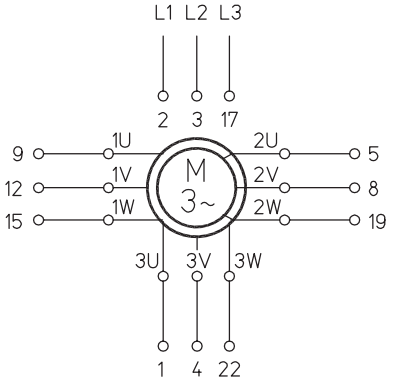
2 windings 0-Δ-YY-Y
(with three poles in the Dahlander system)
Layout **34**



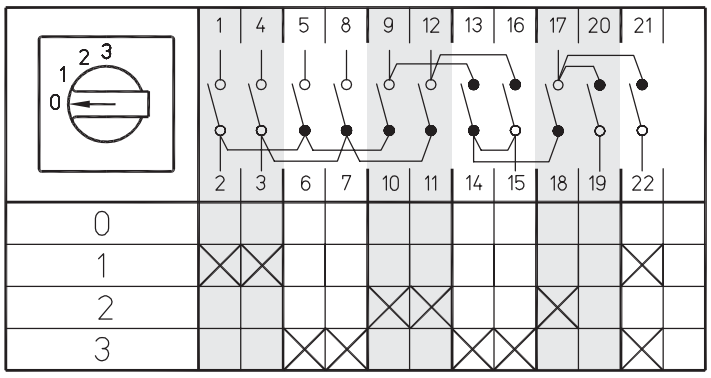


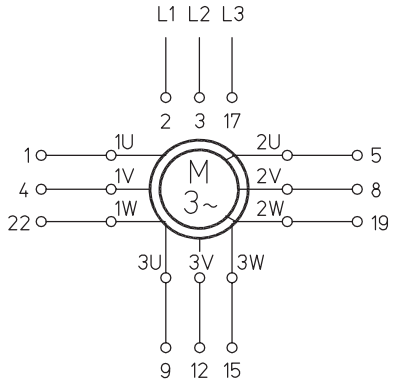
2 windings 0-Δ-YY-Y
(1 and 2 speeds in the Dahlander system)
Layout **35**





2 windings 0-Δ-YY-Y
(2 and 3 speeds in the Dahlander system)
Layout **36**



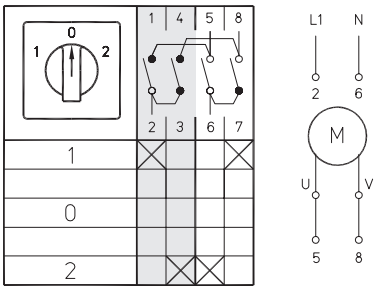


Switches for motors

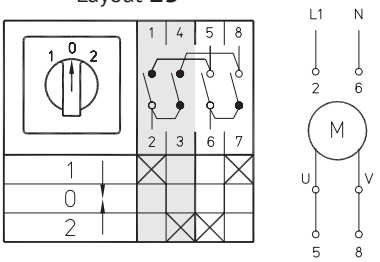
Switches for a motor reverser

Commutation program	Number of the layout
2-pole	24
2-pole, return to the position "0"	25
3-pole	11
3-pole, return to the position "0"	26
3-pole with contactor control	27
Switches for starting single-phase motors	15

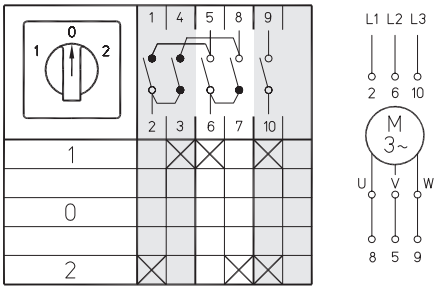
2-pole
Layout **24**



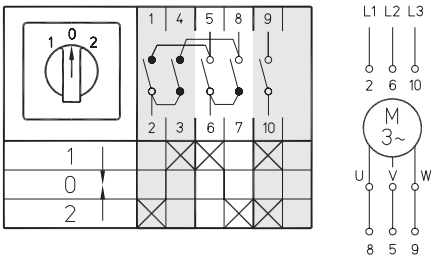
2-pole, return to the position "0"
Layout **25**



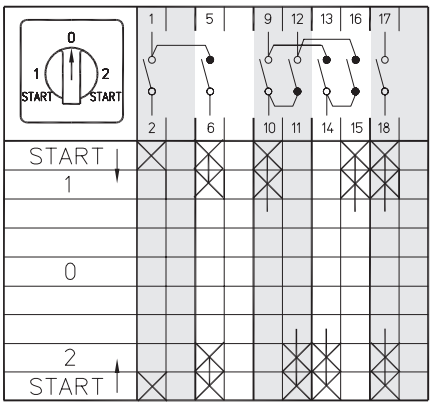
3-pole
Layout **11**

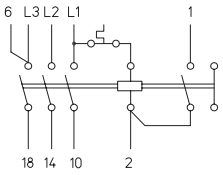


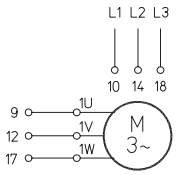
3-pole, return to the position "0"
Layout **26**



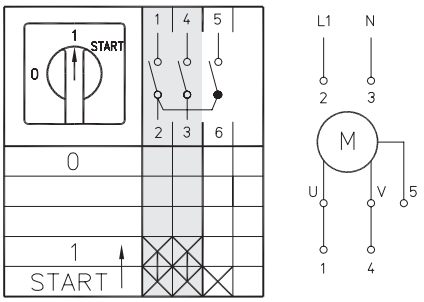
Three-pole with contactor control
Layout **27**



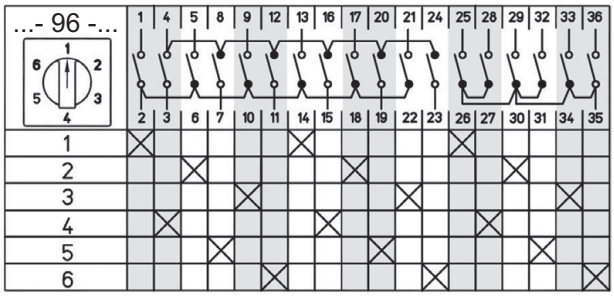


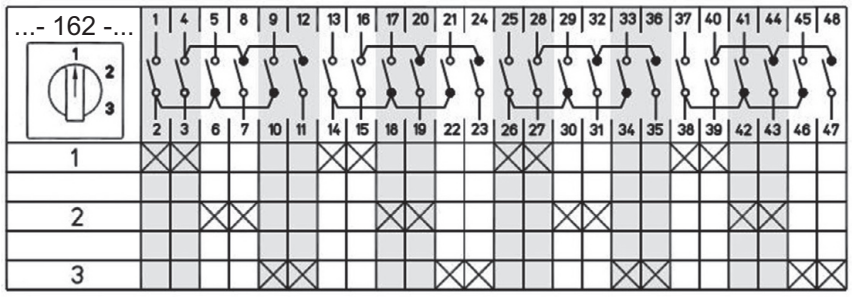


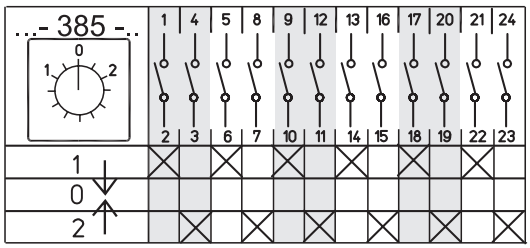
Switches for starting single-phase motors
Layout **15**

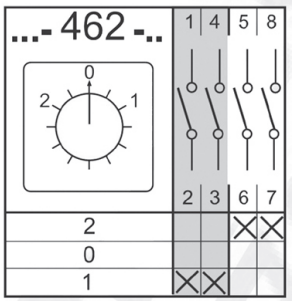


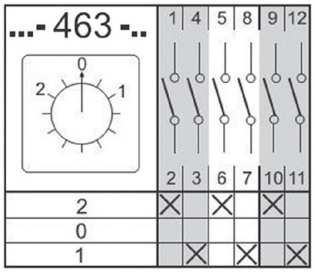
Layouts of additional commutation programs

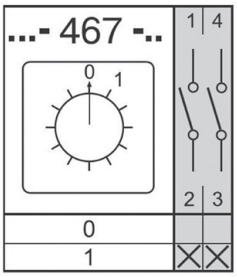


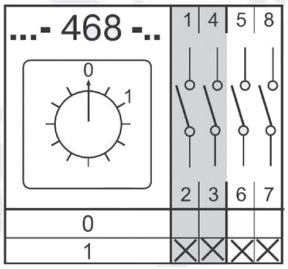


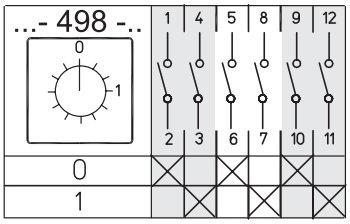


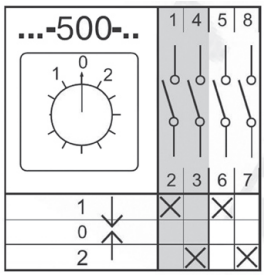


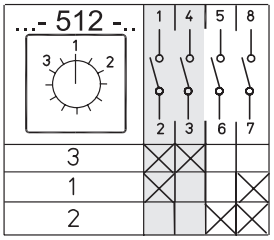


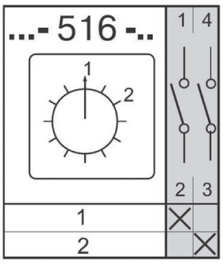


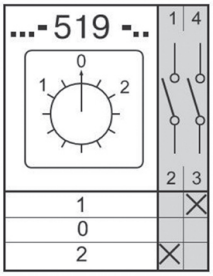


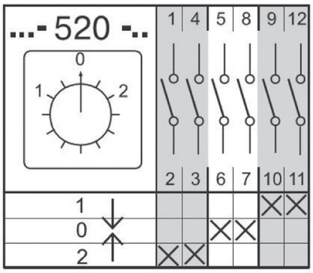


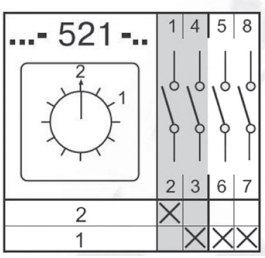


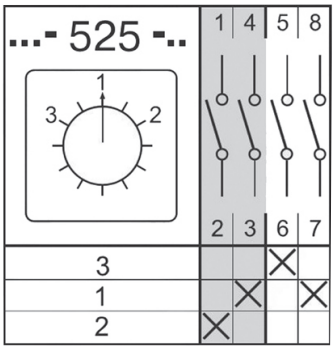











...- 525 -..
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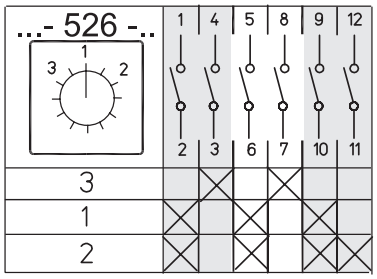
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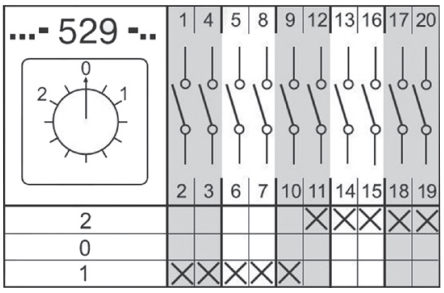
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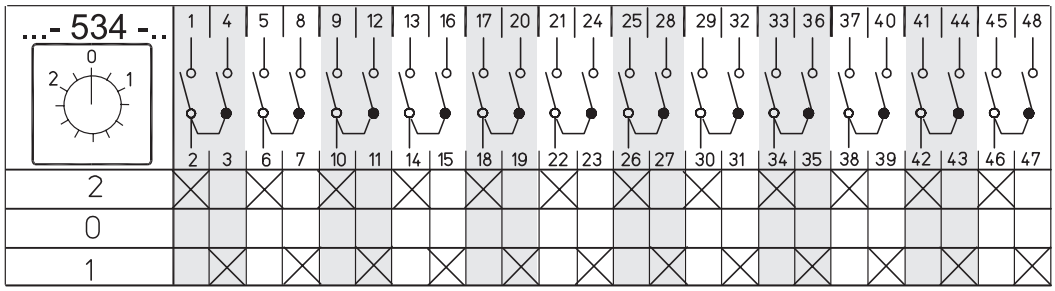
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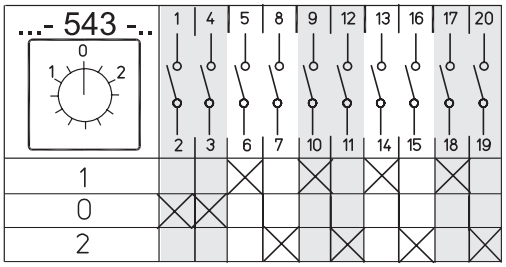
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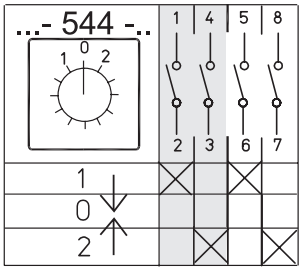
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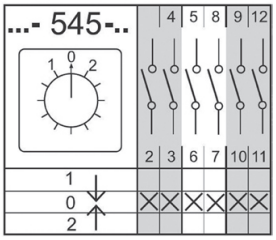
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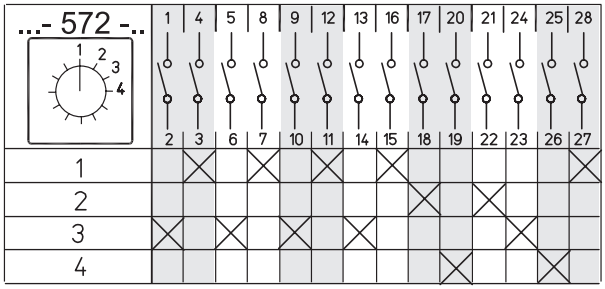
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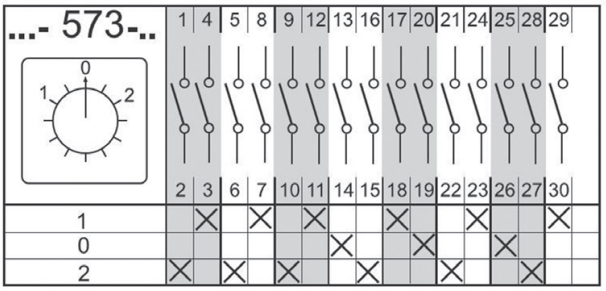
3
4


...- 573-..
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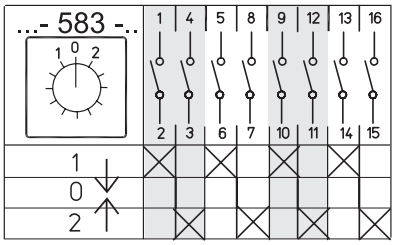
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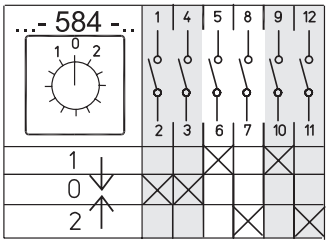
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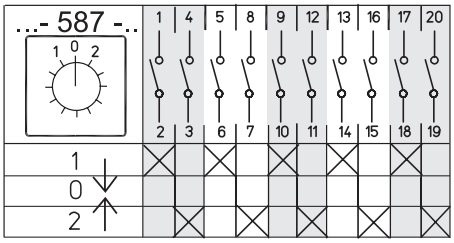
2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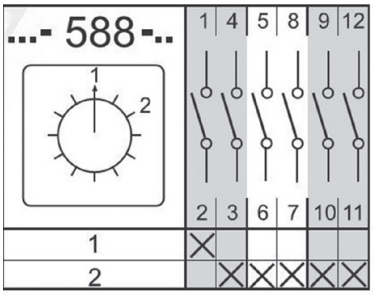
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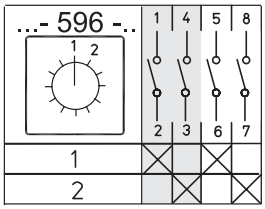
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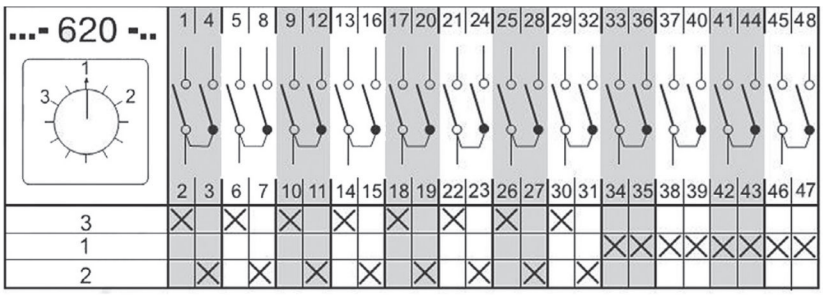
...- 620 -..
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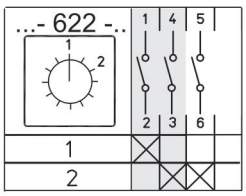
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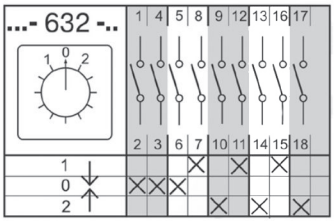
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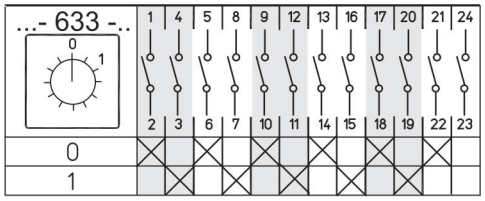
...- 633 -..
1 4 5 8 9 12 13 16 17 20 21 24
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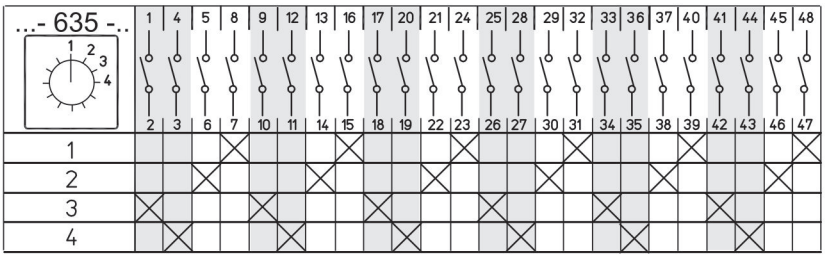
...- 635 -..
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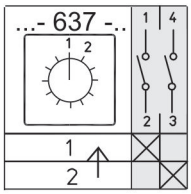
4


...- 637 -..
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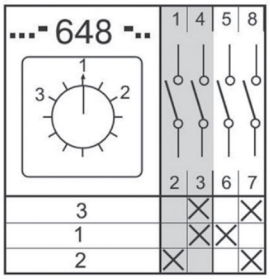
...- 648 -..
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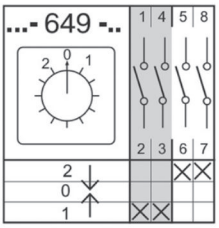
2


...- 649 -..
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2 3 6 7
2
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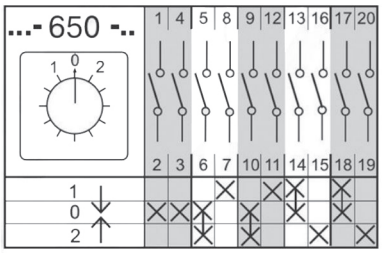
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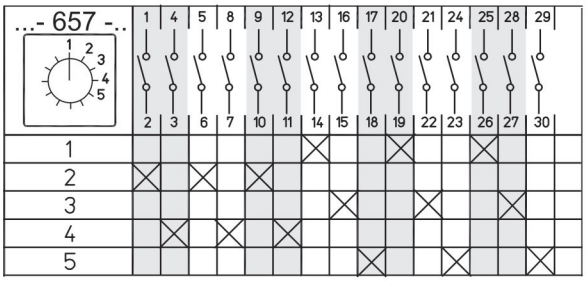
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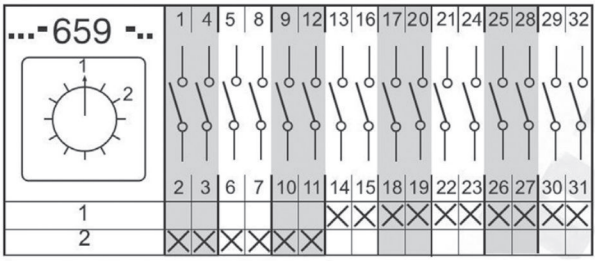
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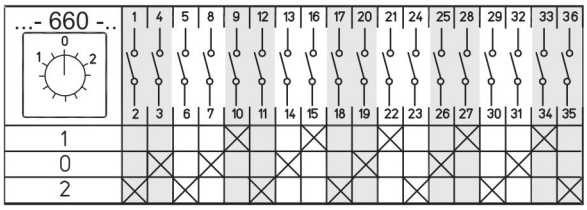
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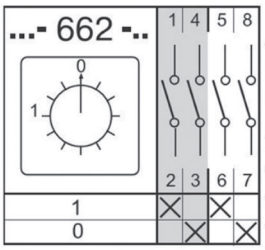
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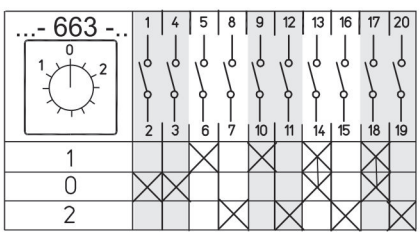
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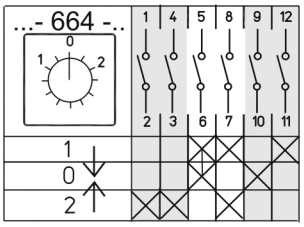
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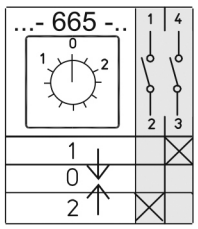
...- 665 -..
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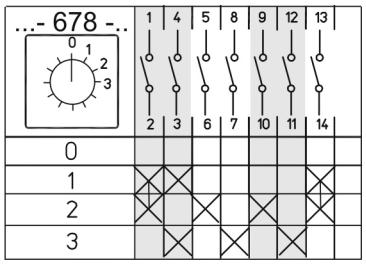
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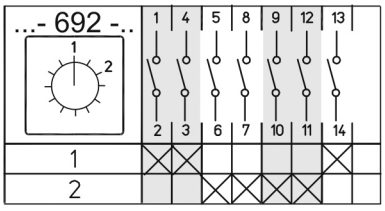
2
3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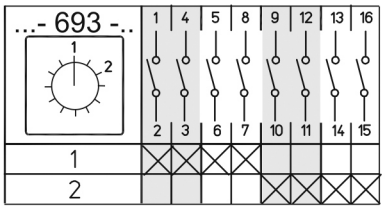
...- 693 -..
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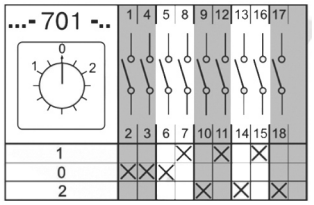
2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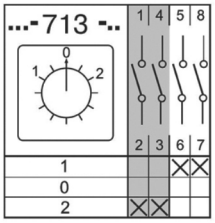
2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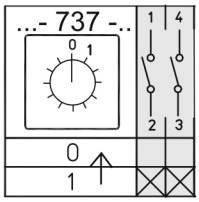
0
2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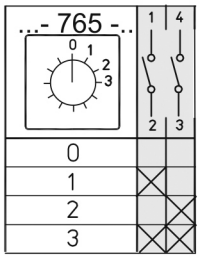
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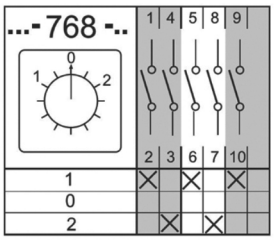
3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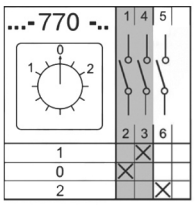
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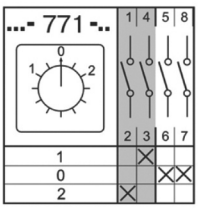
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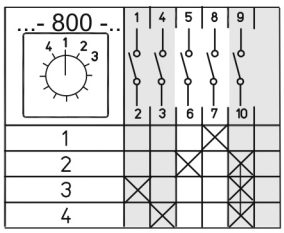
0
2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3
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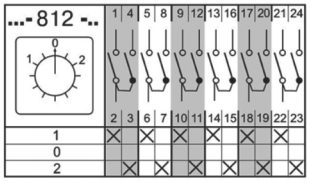
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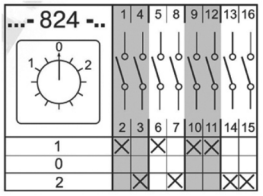
0
2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2 3 6 7 10 11 14 15
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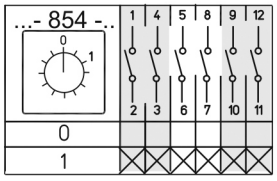
0
2


...- 854 -..
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2 3 6 7 10 11
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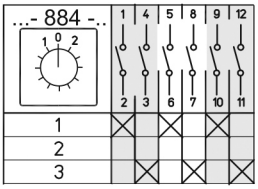
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2 3 6 7 10 11
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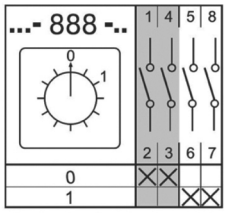
2
3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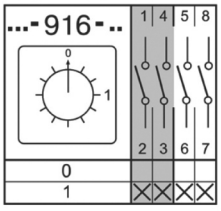
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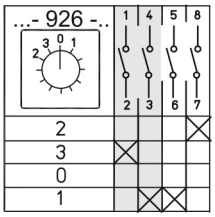
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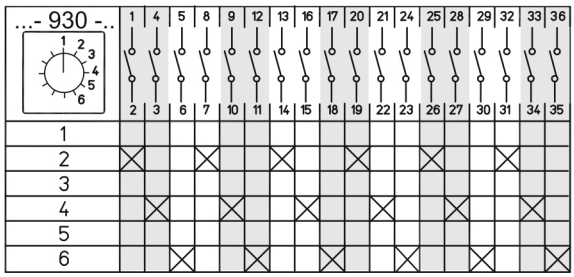
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3
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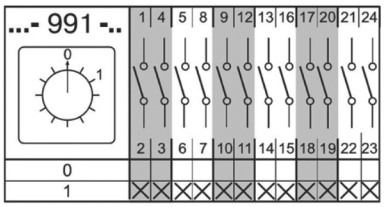
5
6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0
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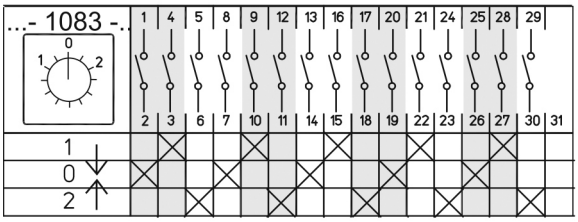
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2 3 6 7 10 11 14 15 18 19 22 23 26 27 30 31
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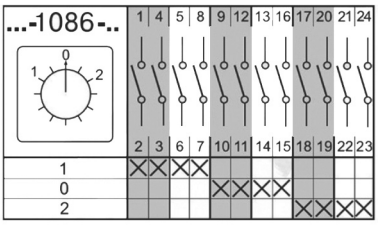
2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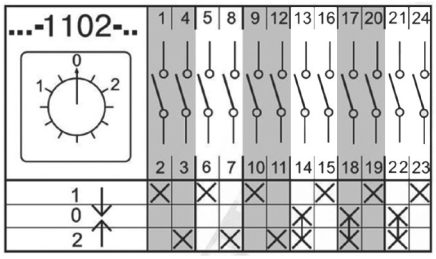
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2 3 6 7 10 11 14 15 18 19 22 23
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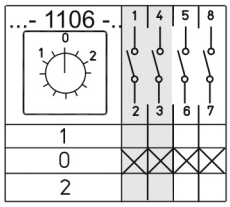
...- 1106 -..
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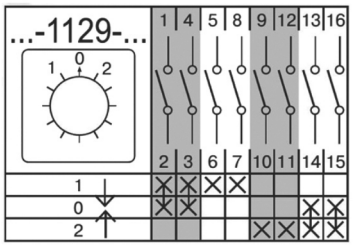
0
2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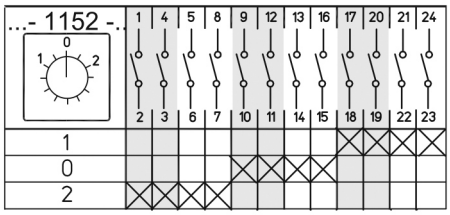
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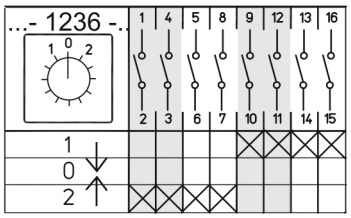
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2 3 6 7 10 11 14 15
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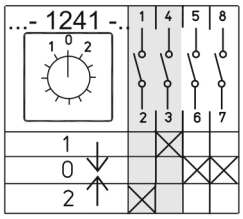
2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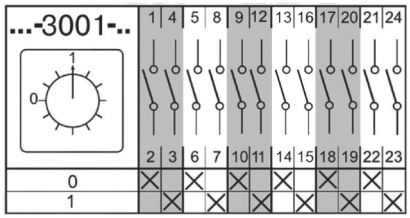
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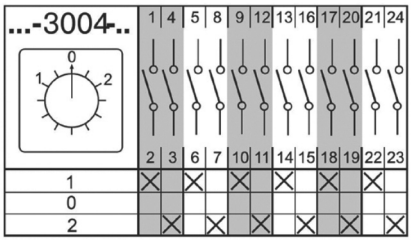
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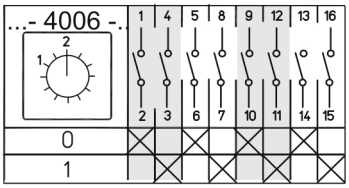
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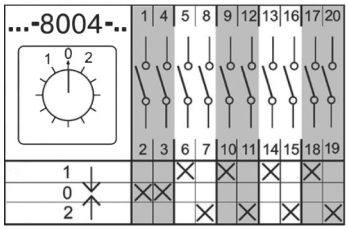
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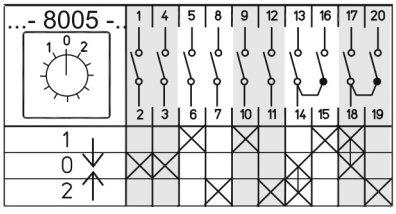
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2 3 6 7 10 11 14 15 18 19
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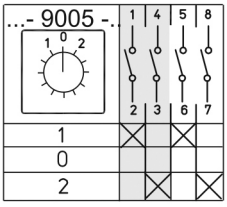
...- 9005 -..
1 4 5 8
2 3 6 7
1
0
2

The table of analog layouts

ATTENTION !!!: "Switches - ANALOGS" of the 4G series possess the commutation program that accurately follows the program of the switch to be replaced. Dimensions, technical characteristics and other parameters of "analog switches" correspond to the values related to the characteristics of the standard 4G series.
IMPORTANT: In the absence of the analog layout in this catalog, it is necessary to submit a request, according to which an additional analog layout will be developed.

Number	4G
ПК, ПКУ3	
Б0101	637
0101	516
А0102	665
0102	519
Б0103	737
0103	91
А1005	2088
0105	524
0106	2099
0109	522
0115	90
0116	2139
0117	2140
А0118	2141
0118	2142
0119	2143
0120	2148
0121	765
А0122	2149
0123	2150
0124	2151
0125	2152
А0126	2153
0127	2154
0128	2155
0129	2156
0131	2157
А2001	649
2001	462
А2002	766
2002	589
2003	2003
2004	699

Number	4G
А2006	2005
2006	2006
А2008	2007
2008	2008
2009	2009
2010	2010
2012	2012
2013	2013
Б2014	2014
2014	596
А2015	2015
2015	525
А2016	2011
2016	2016
А2017	2017
2017	512
А2018	2018
2020	2020
А2024	2024
2024	672
2026	2026
А2027	2027
2027	787
А2028	2028
2028	698
А2029	2019
2029	2029
А2030	2030
2030	785
2031	2031
А2032	2034
2032	2032
2034	648
2035	926

Number	4G
А2036	2036
2036	616
Б2037	2037
2037	92
А2038	2041
2038	2038
2039	2039
2040	2040
2044	2044
А2047	2042
2047	2047
2048	940
2049	2049
2051	2051
2052	2052
2054	2054
2055	2055
2056	2056
2057	2057
2058	2058
2059	521
2060	754
2061	2061
2062	2062
2063	2063
2064	2064
2065	531
2066	2066
2067	2067
2068	908
2069	2069
А2071	2071
2071	905
А2072	2033

Number	4G
2072	2072
2073	2073
2074	2074
2075	2075
2076	2076
2079	2079
2080	622
2081	1084
2082	2082
2083	2083
2084	2084
2085	2085
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2089	2089
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А2094	2050
2094	2094
2095	2095
2096	2096
2098	2098
2100	2100
А2101	2101
2101	2101
2102	2102
2103	2103
2104	2104
2105	2105
2106	2106
2107	2107
2108	2108

Number	4G
2109	2109
2110	2110
2111	2111
2112	2112
2113	2113
2114	2114
2115	2115
2116	2116
2117	2117
А2118	2118
2119	2119
2120	2120
2121	2121
2122	2122
2123	2123
2124	2124
2125	2125
2126	2126
2127	2127
2128	2128
2129	2129
2130	2130
А2132	2077
2132	2132
А2133	2133
2134	2134
2135	2135
2136	2136
2137	2137
2138	2138
А2144	2146
2144	2144
А2145	2147
2145	2145

Number	4G
A3001	2158
3001	2159
3002	3002
3003	3003
3004	2160
3005	3005
3006	3006
3007	3007
A3008	2161
3008	3008
A3010	3009
3010	3010
A3011	2162
3011	3011
3013	3013
3014	854
3015	3015
A3023	2163
3023	3023
3025	3025
A3026	3024
3026	3026
3027	3027
3028	3028
3029	3029
A3030	2164
3030	3030
A3031	2165
3031	3031
A3033	520
3033	742
3034	3034
3035	582
3036	3036
3037	673
3039	3039
A3040	3040
3041	3041
3043	3043
3044	3044
A3045	3038
3045	1082
3046	3046
3047	636
A3048	3042
3048	3048
3051	3051
A3052	3049
3052	3052
A3053	3050
3053	3053
3054	3054
3055	3055
A3056	3056
3056	844
A3057	2167
3057	3057
A3058	2168
3058	3058
3060	3060
3061	3061

Number	4G
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A3065	3063
3065	786
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3070	3070
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3073	3073
3074	3074
3075	3075
3076	3076
3077	3077
3078	3078
3079	757
3080	555
3082	588
3083	623
3085	3085
3086	3086
3087	3087
3088	3088
3089	3089
3090	1003
3091	597
3093	1085
3100	567
3103	674
3104	3104
3105	783
3106	3106
3107	3107
3108	3108
3109	3109
3110	3110
3112	3112
3114	3114
3117	3117
3118	3118
3121	3121
3122	3122
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3133	3133
3134	3134
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3136	3136
3137	3137
3138	3138
3139	3139
3140	3140
3141	3141
3142	3142
3143	3143
3144	3144

Number	4G
3145	3145
3146	3146
3147	947
3148	3148
3149	3149
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3192	3192
A3193	3184
3193	3193
3194	3194
3195	3195

Number	4G
4011	4011
4012	4012
4013	4013
4015	4015
4017	4017
A4018	4018
4018	913
4019	4019
Б4020	3067
4020	4020
A4021	4021

Number	4G
4021	952
4022	931
4024	4024
A4025	4022
4025	4025
A4027	4027
4027	955
A4028	3068
4028	4028
4030	4030
4031	694
A4032	4029
4032	4032
4034	4034
A4036	4036
4036	527
A4037	691
4037	1043
4038	4038
4040	4040
4041	4041
A4042	4039
4042	4042
4043	532
4044	4044
4045	4045
4046	4046
4047	4047
A4048	4048
4048	850
4049	4049
4050	4050
4051	927
4052	4052
4052	861
4054	4054
4055	845
4056	4056
4057	4057
4058	4058
4059	4059
4060	4060
4061	956
4063	4063
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4067	4067
4068	4068
A4069	4061
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4071	4071
A4072	4033
4072	4072
4074	4074
4076	692
4078	4078
4079	4079
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4081	1050
4082	4082
4083	4083

Number	4G
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4086	4086
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4093	958
4094	4094
4095	882
4096	530
4097	780
4098	715
4099	4099
4100	4100
4101	629
4102	4102
4103	4103
4104	4104
4105	4105
4106	4106
4108	693
4109	4109
4110	4110
4111	592
4112	4112
4113	4113
4114	678
4115	4115
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4145	4145
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4149	4149
4150	4150
4151	4151
4152	4153
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4155	4155

Number	4G
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4164	4164
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4168	4168
4169	4169
4170	4170
4171	4171
4172	4172
4174	4174
A4177	4075
4177	4177

Number	4G
5001	5001
5002	5002
5003	5003
5004	5004
5005	5005
5006	528
5007	5007
5008	667
5009	5009
5010	5010
5013	5013
5014	987
5015	752
5016	5016
5017	5017
5018	5018
5019	5019
5020	5020
5022	5022
5023	5023
5024	5024
5028	529
5030	5030
5031	5031
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5035	5035
5036	5036
5037	5037
5038	781
5039	5039
5041	671
5042	5042
5045	5045
5046	5046
5048	5048
5049	5049
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5062	5062
5063	5063

Number	4G
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A5087	5087
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5093	5093
5094	5094
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5096	5096
5097	5097
5098	5098
5100	5100
5101	5101
5102	5102
5103	5103
5104	5104

Number	4G
6003	6003
6004	941
6005	944
6006	609
6008	6008
6009	6009
A6010	3084
6010	6010
6011	876
6013	1971
6014	923
6016	700
6017	904
6019	6019
6020	907
6022	6022
6023	6023
6024	975
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6030	6030
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6032	6032

Number	4G
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6039	991
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6067	6067
A6068	3092
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A6071	6071
A6072	6072
6073	6073
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6084	6084
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6089	6089
A6091	3094
6091	77
A6092	3095
6092	6092
6093	6093
6094	6094

Number	4G
7006	2802

Number	4G
8012	658
8016	1781

Number	4G
УП	
3	888
6	929
9	828
16	835
A23	665
23	519
26	92
A29	1236
29	713
36	2790
39	2478
43	2789
A44	1131
44	1652
A45	1241
45	771
70	1118
85	2697
105	951
106	827
128	2778
A142	1132
142	2698
143	2776
150	1144
151	2822
186	1660
A202	1141
202	2699
225	2791
227	1584
254	959
278	1194
314	1407
322	812
327	924
330	2777
332	830
343	825
367	1740
398	1134
A426	1233
428	1058
440	1000
470	1106
474	1109
556	1801

Number	4G
МКФ	
11	662
22	9005
44	1434
1111	4006
1122	594
2222	590
111111	3001
112222	543
222222	3004
126a6a	1418
1266a6a	1296

Number	4G
ПКУ 2	
1	90
4	91
7	516
8	1199
10	55
12	10
17	2673
29	92
31	815
43	99
57	946
58	100
75	2969
95	1051
116	53
137	2824
150	1523

Number	4G
МКВ	
22	544
26	1419
1122	584
1266	1297
2222	583
112222	8004
222222	361
2266a	1298
22226a6a	965

Number	4G
ПВП	
101	90
102	91
201	10
215	92
220	3453
222	909
229	910
231	3379
302	588
303	1967
317	100
327	3448
328	53
331	3449
413	911
504	3304

Number	4G
SEZ s 10	
1102	91
1103	10
1104	92
1105	99
1106	100
2203	53
2253	56
2254	69
2352	86
2353	93
2401	109
2452	2897
9151	2898
JVL1106	2683

Number	4G
ПМОВ	
22	544
222	884
2222	591
2227	499
22222	587
111111	545
111222	632
112222	8004
112233	8004
112256	8005
113333	8004
115566	650
222222	385
222266	1868
222555	1102
125566Д63	3469
777777 д65	1902
1210з10з10з10з	1083

Number	4G
GANZ KK	
4036	66
4489	83
6001	91
6002	10
6005	52
6005	53
6008	11
6042	92
6044	92
6054	90
6094	51
6096	92
6099	75
6122	75
6169	51
6426	51
6432	75
9001	91
9002	10
9003	55
9004	56
9417	69
9432	75

Number	4G
ПМОФ	
111111	3001
111225	634
111888	686
112222	543
112244	802
112266	803
112277	604
112556	654
222222	3004
222444	658
222777Д15	573
223344	930
224466	801
225566	655
233317	572
333333	3004
444777	914
555666	798
778888	1335
111144Д43	606
111222Д86	1332
222888Д16	3467
227777Д133	3285
237777Д87	1216
334466Д26	794
444444Д46	660
555577Д84	3468
777777Д50	1901
888888Д39	635

Number	4G
MOELLER	
8007	66
8210	51
8211	52
8212	53
8214	201
8216	203
15431	51
15511	2980
15679	2830
15683	2829
15907	2828
8342	100
8223	69
15920	67

Number	4G
ABB	
0_A01_	90
0_A02_	91
0_A03_	10
0_A04_	92
0_A1_	90
0_A2_	91
0_A3_	10
0_S021_	107
0_S031_	108
0_S041_	109
0_ST31_	82
0_ST41_	83
0_U2_	52
0_U3_	53
0_U4_	75
0_URR1_	201
0_URR2_	202
0_V30_	66
0_WC1_	2807
Q_A6_	3406
Q_ST33_	3407

Number	4G
OBZOR	
1102	91
1103	10
1104	92
1105	99
1107	3374
1108	3376
2252	55
2253	56
2255	70
2351	3470
2451	83
2551	84
2202A8	3377
2205A8	3375

Number	4G
Schneider	
K.B-004T	3370
K.E-503W	3349
K_F-013NL	733
K_F-024NL	788
K10D-012QCH	123
K11-023NCH	2823
K1A-001ACH9	0
K1B-001S	3364
K1B-001UCH	51
K1 B-002ACH9	1
K1 B-002NCH	516
K1B-003TCH	3284
K1B-006TCH	201
K1B-006TLH	201
K1B-011UCH	2964
K2B-1002HLH	91
K1C-003NCH	2963
K1 D-002U	52
K1D-002ULH	52
K1 D-004ALH	92
K1D-012NCH	3437
K1D-012U	55
K1D-012UCH	55
K1D-024MLH	67
K2D-004HLH	92
K2D-012ULH	795
K1 F-003U	53
K1F-003ULH	53
K1F-006ALH	100
K1F-006N	85
K1F-006N	3434
K1F-013NCH	3436
K1F-013QLH	2986
K1F-013U	56
K1 F-027MLH	66
K1H-014NLH	2931
K1H-026MLH	3439
K2H-014ULH	796
K1 K-005U	76
K1K-015	70
K1M-016N	3435
K2M-033NL	3440
K21-023QCH	3438

Number	4G
Kraus&Naimer	
A004	67
A005	68
A007	66
A176	207
A200	90
A201	91
A202	10
A203	92
A210	51
A211	52
A212	53
A213	75
A214	201
A215	202
A216	203
A220	54
A221	55
A222	56
A223	69
A230	82
A231	83
A240	107
A251	87
A252	88
A271	94
A290	270
A291	271
A292	63
A293	272
A341	99
A342	100
A543	3378

Number	4G
LOVATO	
The numbers of the standard LOVATO layouts coincide with the numbers of 4G. Example: 7GN20-91P corresponds to the 4G layout 91.	

ATTENTION!!!
The current nomenclature base of 4G switches contains more than 3000 titles. Therefore, in this directory, we consider expedient to place only the most well-demanded layouts. If you do not have the necessary information about the position you are interested in, it can be found on the website www.keaz.ru or contact our staff members.