



ROTARY SWITCHES



TYPES OF ROTARY SWITCHES



KK0-20-6002



KK1-32-6002



KK2-40-6002
KK2-63-6002
KK2-80-6002



KK2-115-6002



KK1-32-6002-EXF2



KKZ0-20-6008



KKL1-32-6002



KKV2-80-9022-T



KKMV1-32-9022



KKMS0-20-9022

KK0-20, KK1-32

- terminals with degree of protection IP 20
- 30°, 45°, 60°, 90° switching angle
- front plate dimensions, according to world-wide usage
- snap on a rail 35 mm
- legend plates can be ordered
- open or plastic enclosed version, this version consists 2 pcs terminals for protective wires
- switch-disconnector
- switch-disconnector with emergency stop function
- front plate with degree of protection IP 65 too
- locable execution
- padlockable variant
- **it is possible to deliver switches with red handle** (differently from basic execution).

Type	Front plate [mm]		P _e [kW] AC-3 400 V	I _{th} [A]
	basic	other		
KK0-20	□ 48	064 088	5,5	20
KK1-32	□ 64	048 088	11	32

KK2-40, KK2-63, KK2-80, KK2-115

- 60°, 90° switching angle
- front plate with degree of protection IP 65 too
- door coupling execution
- switch-disconnector
- switch-disconnector with emergency stop function
- open or plastic enclosed version, this version consists 2 pcs terminals for protective wires
- padlockable variant
- front plate-dimensions according to world-wide usage

Type	Front plate [mm]	P _e [kW] AC-3 400 V	I _{th} [A]
KK2-40	□ 88	15	40
KK2-63		22	63
KK2-80		25	80
KK2-115		37	115

KK3-115, KK4-150, KK5-315

- front or rear mounting
- 45°, 60°, 90° switching angle
- front plate with degree of protection IP 65
- open or plastic enclosed version, this version consists 1 pc terminal for protective wire

Type	Front plate [mm]	P _e [kW] AC-3 400 V	I _{th} [A]
KK3-115	□ 88	30	115
KK4-150	□ 88	37	150
KK5-315	□ 130	55	315

GK20 ... GK315

- open or plastic enclosure
- front or rear mounting
- front plate with degree of protection IP 65
- padlockable
- increased clearance between contacts
- door coupling execution
- fit to 45 mm mountplate-slot
- switch-disconnector
- switch-disconnector with emergency stop function
- snap on a rail 35 mm

Type	Front plate [mm]	P _e [kW] AC-3 400 V	I _{th} [A]
GK20	□ 30 □ 48 □ 64	5,5	25
GK20 A			
GK20 B			
GK32	□ 30 □ 48 □ 64	7,5	32
GK32 A			
GK32 B			
GK41	□ 48 □ 64	11	40
GK41 B			
GK64	□ 48 □ 64	18,5	63
GK64 B			
GK80	□ 64 □ 88	22	80
GK80 C			
GK100	□ 64 □ 88	30	100
GK100 C			
GK125	□ 88	37	125
GK160	□ 88	45	160
GK250	□ 88	55	250
GK315	□ 88	75	315

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KK0, KK1, KK2 ROTARY SWITCHES

Type-sizes of rotary switches: KK0, KK1, KK2.

The thermal current is indicated with hyphen in the type-mark, for example: KK0-20; KK1-32, KK2-40, etc. Next 4 numbers mean the switching program.

Degree of protection of wire-clamps at type-sizes KK0, KK1 and KK2 switches is IP 20 (except KK2-115 type). Lockable types have a key as the device's turning handle that can be removed only at 180° angles.

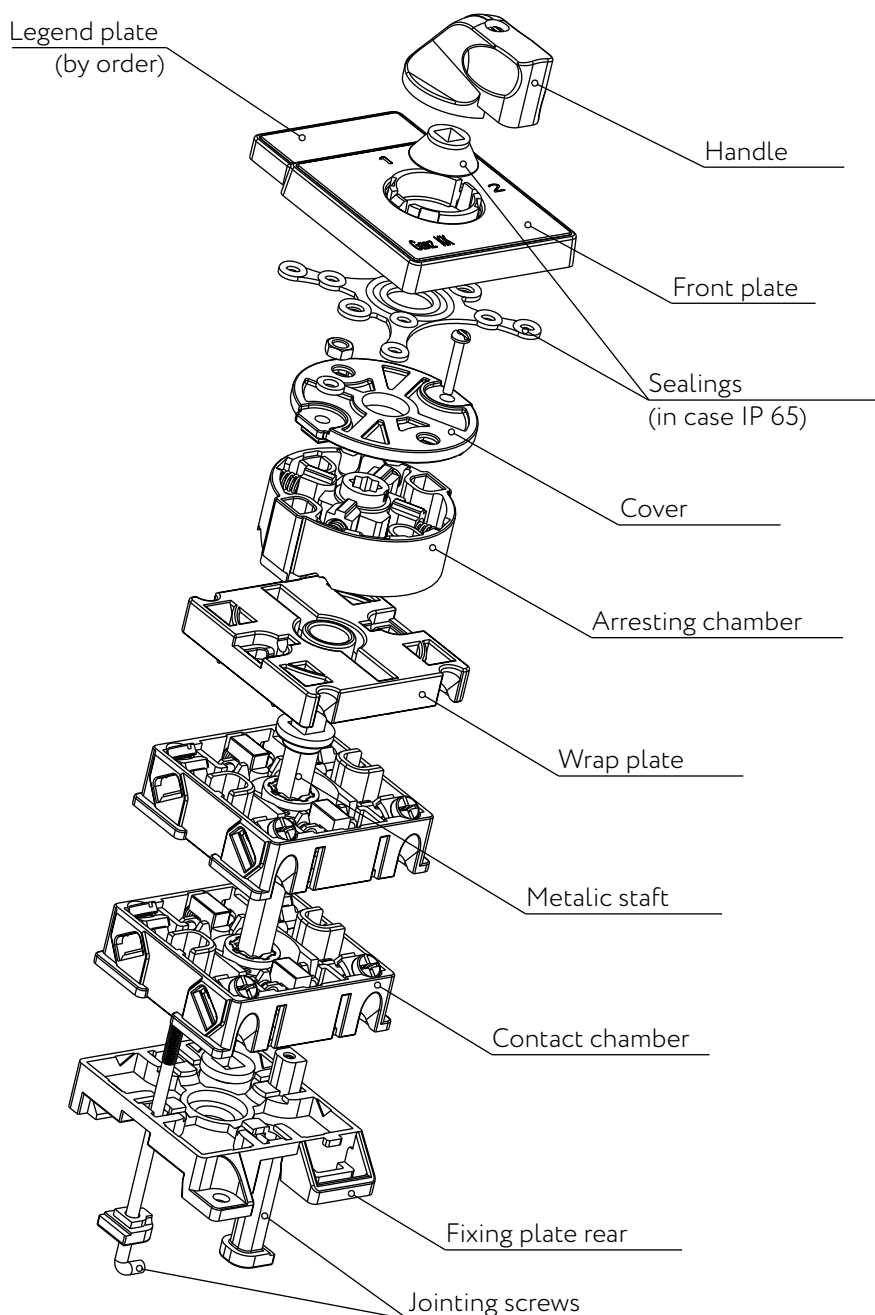
Switches in **plastic enclosures** have connecting terminals inside the enclosure to ensure the continuity of the neutral and earth wires.

Padlockable types can be ordered with one or more padlocking positions.

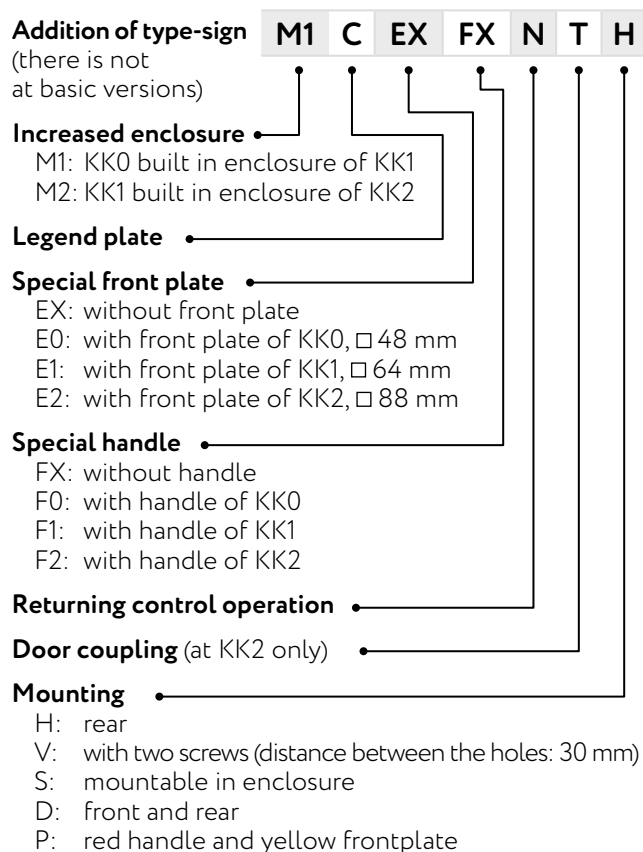
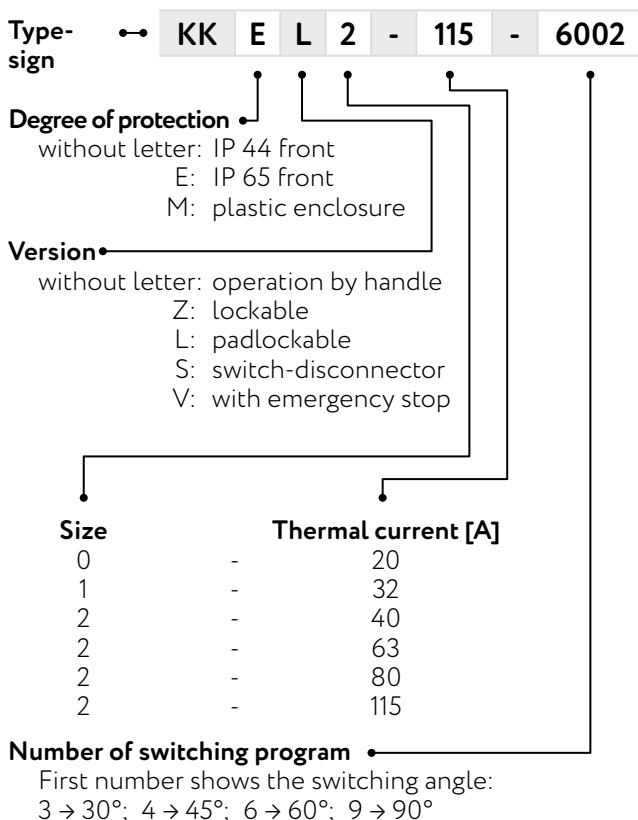
Switch-disconnector (black handle, padlockable) and **switch-disconnector with emergency stop function** (red handle, yellow background, padlockable) are padlockable in 0 position only.

At **door coupling executions** the door of board can be opened in all position of switch.

At door coupling executions the door of board can be opened in all position of handle.



Structure of order-code



Orderable versions:

	Designation	Letter	KK0	KK1	KK2
Versions	Operation by lock	Z	+	+	-
	Padlockable	L	+	+	+
	Switch-disconnector	S	+	+	+
	Switch-disconnector with emergency stop	V	+	+	+
	Returning control operation	N	+	+	-
	Door coupling	T	-	-	+
Assortment of front plate	EWithout front plate	EX	+	+	+
	With front plate of KK0 (□ 48 mm)	E0	+	+	-
	With front plate of KK1 (□ 64 mm)	E1	+	+	-
	With front plate of KK2 (□ 88 mm)	E2	+	+	+
	Front plate with degree of protection IP 65	E	+	+	+
Legend plate		C	+	+	+
Assortment of handle	Without handle	FX	+	+	+
	With handle of KK0	F0	+	+	-
	With handle of KK1	F1	+	+	-
	With handle of KK2	F2	-	-	+
Mounting	Rear mounting on a rail 35 mm	H	+	+	+
	with two screws	V	+	+	-
	Mountable in enclosure	S	+	+	+
	Front and rear	D	+	+	+
Enclosures	Built-in enclosure of KK0	M0	+	-	-
	Built-in enclosure of KK1	M1	+	+	-
	Built-in enclosure of KK2	M2	-	+	+

Examples: KKM0-20-6002 on-off switch $I_{th}=20$ A in enclosure
KKM 1-32-6002-M2 on-off switch $I_{th}=32$ A in increased enclosure (KK1 switch in enclosure of KK2)
KKZ0 -20-6006-N lockable $I_{th}=20$ A with returning control operation
KK1-32-6002-E2 on-off switch $I_{th}=32$ A with KK2 front plate
KKV2-80-9022-T $I_{th}=80$ A switch-disconnector with emergency stop function, with door coupling

Switching programs

Front plate	Description	Size	Switching program No.	Number of contacts	Number of chambers ^{*)}	Connection diagram
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ON-OFF switches

	2 Pole	0 1 2	6001	2	1	
	3 Pole	0 1 2	6002	3	2	
	4 Pole	0 1 2	6044 6042 6096	4 4 4	2 2 2	
	3 Pole	0 1 2	9002	3	2	

Switch-disconnectors, emergency-stop switches

	3 Pole	0 1 2	9022	3	2	
	4 Pole	0 1 2	9021	4	2	

Motor (starter) switches

	reversing	0 1 2	6008	5	3	
	star-delta change over	0 1 2	6009	8	4	
	star-delta change-over for two rotating directions	0	6492	10	6	
		1	6184	10	6	
		2	6092	10	6	
	for Dahlander motors, for two number of revolution	0 1 2	6013	8	4	
	two positions, one rotating direction for separate winded motors	0 1 2	6016	6	3	
	with one phase and one auxiliary phase for one rotating direction, returning	0	0493	3	2	
		1	0185	3	2	
	with one phase and one auxiliary phase for two rotating directions, returning from two directions	0	0494	6	5	
		1	0186	6	5	

Returning control operators

	ON returning	0	0477	1	1	
		1	0166	1	1	
	OFF returning	0	0478	1	1	
		1	0167	1	1	
	ON - OFF returning from two directions	0	0479	2	1	
		1	0168	2	1	

Change-over switches

	2 Pole	0	6066	4	2	
	1 Pole	0	6043	6	6	
	1 Pole	0 1	6037	6	3	

Voltmeter change-over switches

	for 3 phase voltage	0 1	4032	4	2	
	for 3 line voltage	0 1	4033	4	2	
	for 3 line voltage and for 3 phase voltage	0 1	4036	8	4	
	for 3 line voltage and for 3 phase voltage without "0" position	0 1	6036	8	4	

Amperemeter change-over switch

	1 amperemeter 3 current transformer	0	9519	6	4	
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^{*)} At KK2-115 type number of chambers is twofold of the given value (it is possible max. 5 chambers)

Switching programs

Front plate	Description	Size	Switching program No.	Number of contacts	Number of chambers ^a	Connection diagram
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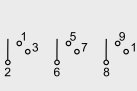
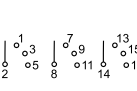
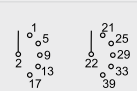
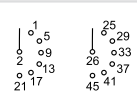
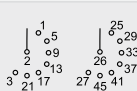
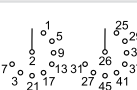
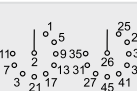
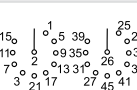
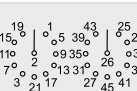
Change-over switches with "0" position

	1 Pole	0	6426	2	1	
		1	6169	2	1	
		2	6094	2	1	
	2 Pole	0	6005	4	2	
		1	6006	6	3	
	3 Pole	0	6432	8	4	
		1	6129	8	4	
	4 Pole	2	6099	8	4	
		0	6476	2	1	
		1	6170	2	1	
		2	6093	2	1	
	2 Pole	0	6003	4	2	
		1	6004	6	3	
	3 Pole	0	6417	8	4	
		1	6171	8	4	
	4 Pole	2	6095	8	4	

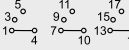
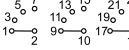
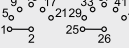
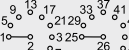
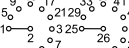
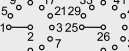
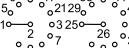
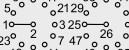
Change-over switches without "0" position

	1 Pole	0	6476	2	1	
		1	6170	2	1	
		2	6093	2	1	
	2 Pole	0	6003	4	2	
		1	6004	6	3	
	3 Pole	0	6417	8	4	
		1	6171	8	4	
	4 Pole	2	6095	8	4	

Step switches with "0" position

	2 step	1 Pole	0	4480	2	1	
			1	4172	2	1	
		2 Pole	0	4481	4	2	
			1	4173	4	2	
		3 Pole	1	4482	6	3	
			1	4174	6	3	
	3 step	1 Pole	0	4483	3	2	
			1	4175	3	2	
		2 Pole	0	4484	6	3	
			1	4176	6	3	
		3 Pole	0	4485	9	5	
			1	4177	9	5	
	5 step	1 Pole	0 1	3600	5	5	
		2 Pole	0 1	3620	10	10	
	6 step	1 Pole	0 1	3700	6	6	
		2 Pole	0 1	3720	12	12	
	7 step	1 Pole	0 1	3800	7	6	
		2 Pole	0 1	3820	14	12	
	8 step	1 Pole	0 1	3900	8	6	
		2 Pole	0 1	3920	16	12	
	9 step	1 Pole	0 1	3A00	9	6	
		2 Pole	0 1	3A20	18	12	
	10 step	1 Pole	0 1	3B00	10	6	
		2 Pole	0 1	3B20	20	12	
	9 step	1 Pole	0 1	3C00	11	6	
		2 Pole	0 1	3C20	22	12	

Step switches without "0" position

	3 step	1 Pole	0	4486	3	2		
			1	4178	3	2		
			2 Pole	0	4487	6		3
				1	4179	6		3
		3 Pole	1	4488	9	5		
			1	4180	9	5		
	4 step	1 Pole	0	4489	4	2		
			1	4181	4	2		
		2 Pole	0	4490	8	4		
			1	4182	8	4		
		3 Pole	0	4491	12	6		
			1	4183	12	6		
	6 step	1 Pole	0 1	3619	6	6		
		2 Pole	0 1	3639	12	12		
	7 step	1 Pole	0 1	3719	7	6		
		2 Pole	0 1	3739	14	12		
	8 step	1 Pole	0 1	3819	8	6		
		2 Pole	0 1	3839	16	12		
	9 step	1 Pole	0 1	3919	9	6		
		2 Pole	0 1	3939	18	12		
	10 step	1 Pole	0 1	3A19	10	6		
		2 Pole	0 1	3A39	20	12		
	11 step	1 Pole	0 1	3B19	11	6		
		2 Pole	0 1	3B39	22	12		
	12 step	1 Pole	0 1	3C19	12	6		
		2 Pole	0 1	3C39	24	12		

Special switching programs

The construction of this switch-series allows a large number of special types besides the listed ones. To make clear your order, it is practical to copy the enclosed „Order Form” (p. 24.) and attach it to your order.

Some piece of advice to design switching programs and how to fill the „Order Form”:

- a common disc controls the contacts of the two circuits in one contact chamber, therefore the action of the two contacts is independent only in switching positions rotated to 180° angle;
- connecting terminals can be linked vertically inside

the same chamber (1-3; 2-4 e.g.) and horizontally in two neighboring chambers (1-5; 2-6 e.g.);

- maximum 8 contacts can be opened by one switching action;
- switching end-position can be arrested, but circle rotatable variants can be ordered also;
- at the KK2-115 type two contacts are parallel connected with a link on the side of the switch body;
- the 30° switching angle rotary switches with special programs we can only deliver in case of previous agreement and large quantity.

Filling of the „Order Form” for special switching programs

Type	Version	Switching angle	Mounting	Front plate
☒ KK0-20-...	☒ Normal	☒ 45°	☒ Front	☒ 60°
☐ KK1-32-...	☐ Plastic enclosure	☐ 60°	☐ Rear	☐ 45°/90°
☐ KK2-40-...	☐ Lockable	☐ 90°	☐ Front with 2 pcs screws	
☐ KK2-63-...	☐ Padlockable		☐ Front and rear	
☐ KK2-80-...	☐ Switch-disconnector			
☐ KK2-115-...	☐ Emergency-stop switch			
☐ KK3-115-...	☐ Rotating			
☐ KK4-150-...	☐ Returning control			
☐ KK5-315-...	☐ Door coupling			

Contact-chamber No.	Terminal position	1	2	3	4	5	6	7	8	Links	Terminal indication	Links
1	1		X							1-2	2	
2	3						X			3-4	4	
3	5							X		5-6	6	
4	7			X						7-8	8	
5	9									9-10	10	
6	11									11-12	12	
7	13									13-14	14	
8	15									15-16	16	
9	17									17-18	18	
10	19									19-20	20	
11	21									21-22	22	
12	23									23-24	24	
13	25									25-26	26	
14	27									27-28	28	
15	29									29-30	30	
16	31									31-32	32	
17	33									33-34	34	
18	35									35-36	36	
19	37									37-38	38	
20	39									39-40	40	
21	41									41-42	42	
22	43									43-44	44	
23	45									45-46	46	
24	47									47-48	48	

Terminal No.	Switching position				
	1	2	3	4	
				←	returning control operator
1-2		X			contacts are closed in switching position 2
3-4		X	X		a short opening occurs in case of 90° switching angle
5-6				X	returning contact (ON push-button) can be fitted only in outside-switching position 90°
7-8		X	X		contacts continually are closed in switching positions 2 and 3
9-10		X			delayed break contact
11-12			X		hurry-forward make contact
13-14		X			between two switching positions make contact giving short impulse, at 90° only

← This example shows the filling of the „Order Form” in case of the type KK0-20-6005 which is not a special switching program.

Rated operational DC currents

Rotary switches type KK... are suitable mainly for switching of alternating currents. The values of switchable direct currents depend particularly on speed of switching. In case of bigger voltage's values it should be connected in series more current-paths.

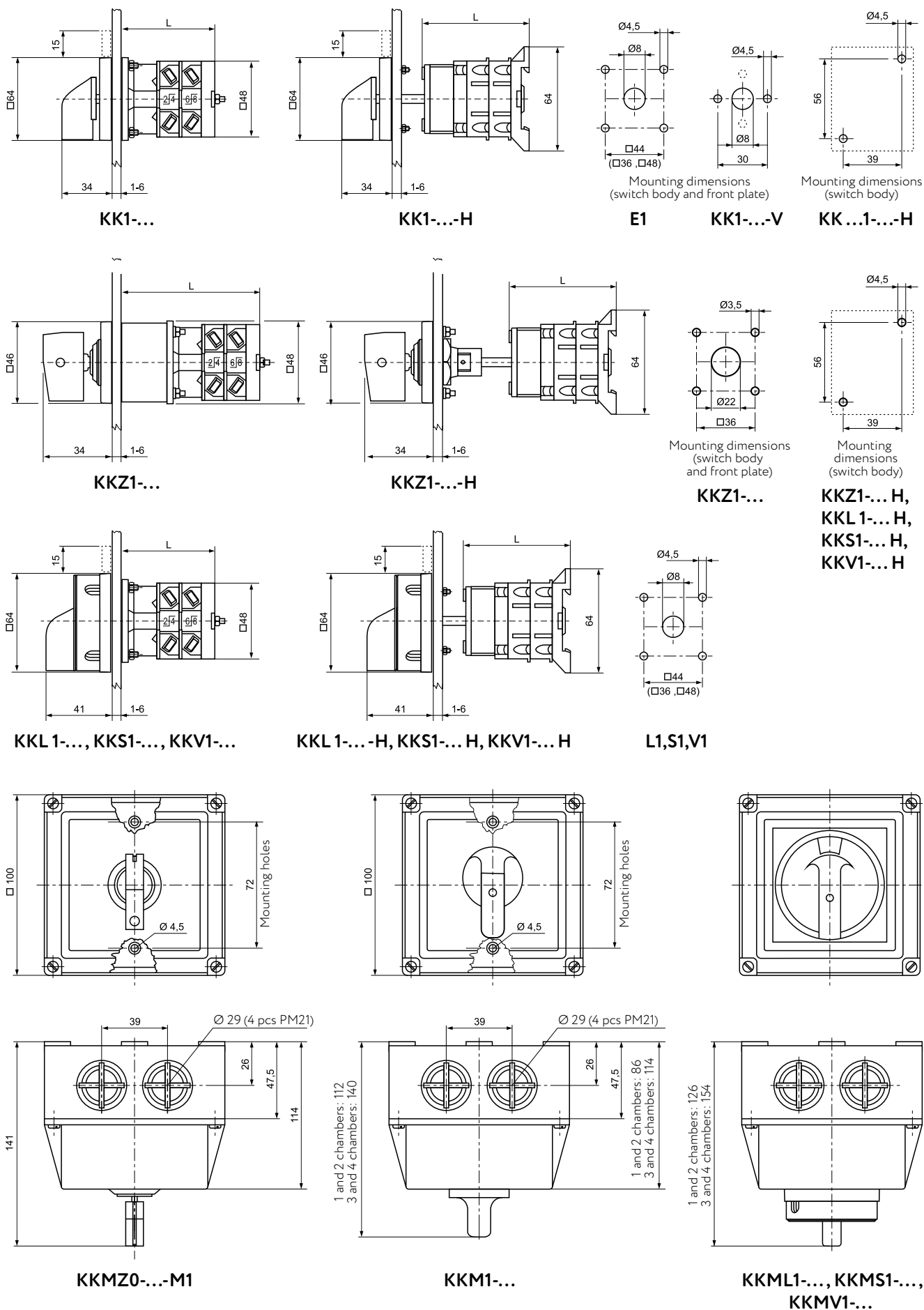
				KK0-20	KK1-32	KK2-40	KK2-63	KK2-80	KK2-115
I_e [A]	DC-21 T= 1 ms	24...48 V DC	2 in series	20	32	40	63	63	-
		110 V DC	3 in series	12	20	25	35	35	-
		220 V DC	6 in series	10	16	20	32	32	-
	DC-23 T= 7,5 ms	24...48 V DC	2 in series	12	20	25	35	35	-
		110 V DC	3 in series	10	16	20	25	25	-
		220 V DC	6 in series	8	12	16	22	22	-
	DC-13 T= 50 ms	24...48 V DC	2 in series	10	16	-	-	-	-
		110 V DC	3 in series	5	8	-	-	-	-
		220 V DC	6 in series	2,5	4	-	-	-	-

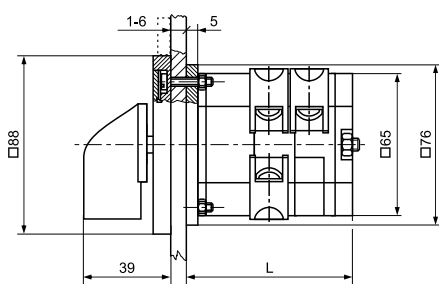
Technical data

				KK0-20	KK1-32	KK2-40	KK2-63	KK2-80	KK2-115	
Rated insulation voltage [V]				690	690	690	690	690	690	
Rated impulse withstand voltage [kV]				6	6	6	6	6	6	
Conventional free-air thermal current I _{th} =I _e (AC-21) [A]				20	32	40	63	80	115	
Switching power 3-phase P _e [kW] 400...690 V	AC-21			14	22	27,5	43,5	55	80	
	AC-23 A			7,5	15	22	30	30	45	
	AC-3			5,5	11	15	22	25	37	
	AC-3 star-delta starting			7,5	15	22	30	30	-	
	AC-4			3	5,5	11	15	15	18,5	
Rated operational current I _e [A]	AC-23A		400 V	15,5	30	40	55	55	81	
			690 V	9	17,5	23,8	32	32	47	
	AC-3	star-delta starting	400 V	11,7	22	30	41	46,6	68	
			400 V	15,5	30	40	55	55	-	
			690 V	9	17,5	23,8	32	32	-	
	AC-15		230 V	6	8	-	-	-	-	
			400 V	4	6	-	-	-	-	
Electrical durability* 50 c/h of the switching power AC-3, 400 V			[x10 ⁶ c]	0,15	0,15	0,1	0,1	0,1	0,1	
			[kW]	5,5	11	15	22	25	37	
Mechanical durability [x10 ⁶ c]				0,5	0,5	0,3	0,3	0,3	0,3	
Max. switching frequency [c/h]				1500						
Ambient temperature at 80% rel. humidity [°C] standard cold-resisting				-5... +40						
Degree of protection	switch body			IP 20					IP 00	
	front plate	basic type		IP 40						
		increased protection		IP 65						
	enclosed			IP 65						
	lockable			IP 42	IP 42	-	-	-	-	
Cross-section of connectable wires [mm ²]	solid				1x2,5	1x6	1x25	1x25	1x25	Ø6x35 mm ² cable shoe
					2x1,5	2x4	2x10	2x10	2x10	
	flexible				1x2,5	1x4	1x16	1x16	1x16	
					2x1,5	2x2,5	2x6	2x6	2x6	
Max. number of elements	open			12	12	10	10	10	5	
	in enclosure			4	4	4	4	4	-	
Rated short-time withstand current (1 s) [A]				350	500	800	800	800	1300	
Pick withstand current [A]				700	1100	1600	1600	1600	2600	
Rated short-circuit making capacity [A]				250	300	500	500	500	800	
Rated conditional short-circuit current, [kA _{eff}]				6	6	15	15	15	15	
with fuse [A]				25	35	63	63	80	125	
Protection class / overvoltage category				II. / III.						
Relevant standards				EN 60947, EN 60204-1						
Switching angle				30°; 45°; 60°; 90°			60°; 90°			
The size and tightening torque of the connecting screw				M3,5; 1,2 Nm			M5; 2 Nm			

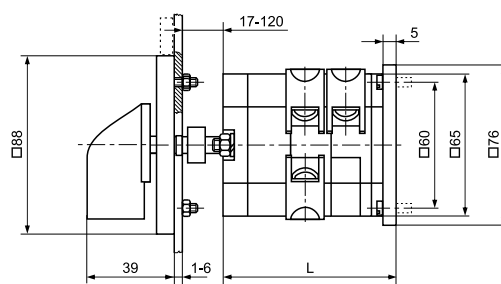
* Informative data

Dimensions

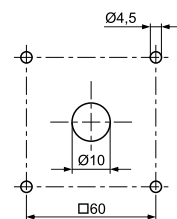




KK2-...

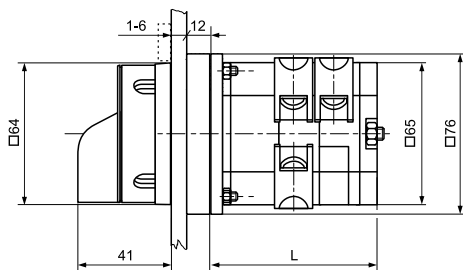


KK2-...-H

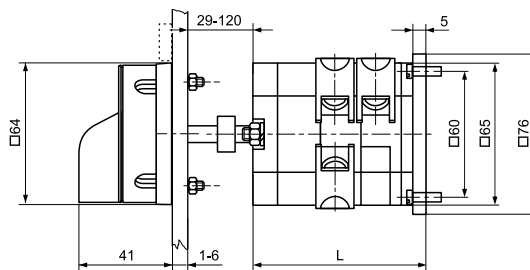


Mounting dimensions
(switch body
and front plate)

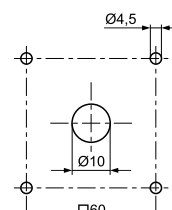
E2



KKL2-..., KKS2-..., KKV2-...

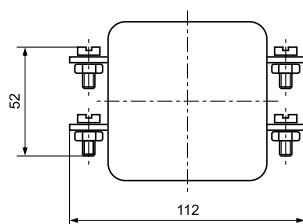


KKL2-...-H, KKS2-...-H, KKV2-...-H



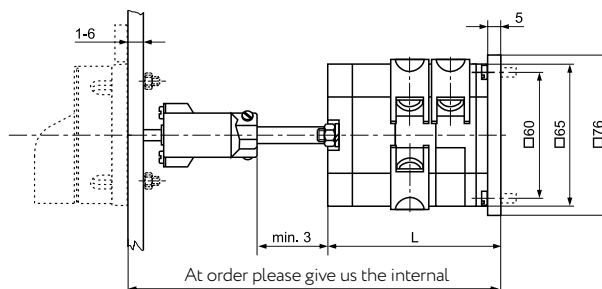
Mounting dimensions
(switch body
and front plate)

L2, S2, V2

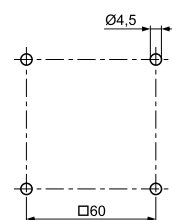


KK2-115

Overhang of terminal-plates



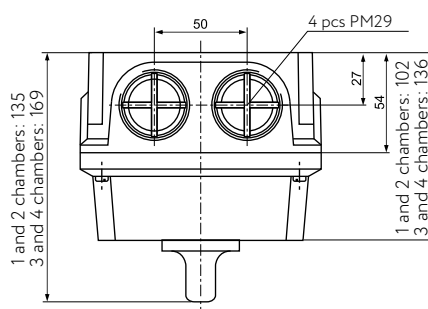
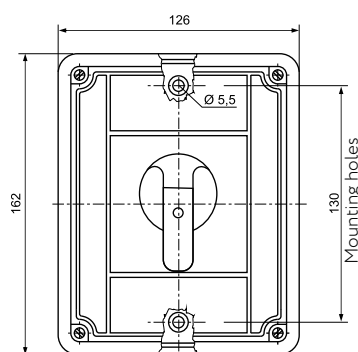
KK2-...-T, KKL2-...-T, KKS2-...-T, KKV2-...-T



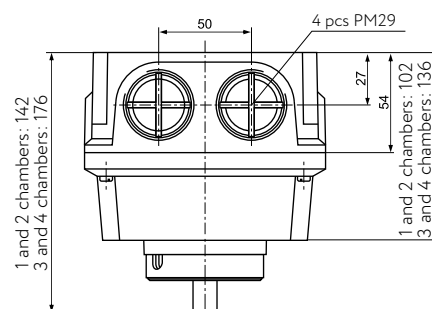
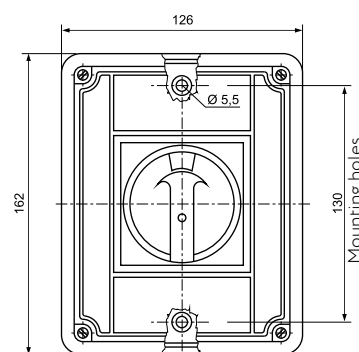
Mounting dimensions
(switch body
and front plate)

KK...2-...H

Chambers	L				
	KK1-..., KKL1-..., KKS1-..., KKV1-...	KKZ1-...	KK1-...-H, KK...1-...-H	KK2-40, KK2-63, KK2-80	KK2-115
1	48	74,6	55	53	70
2	64	90,6	71	70	104
3	80	107	87	87	138
4	96	123	103	104	172
5	112	139	119	121	206
6	128	155	135	138	
7	144	171	151	155	
8	160	187	167	172	
9	176	203	183	189	
10	192	219	199	206	
11	208	235	215		
12	224	251	231		



KKM2



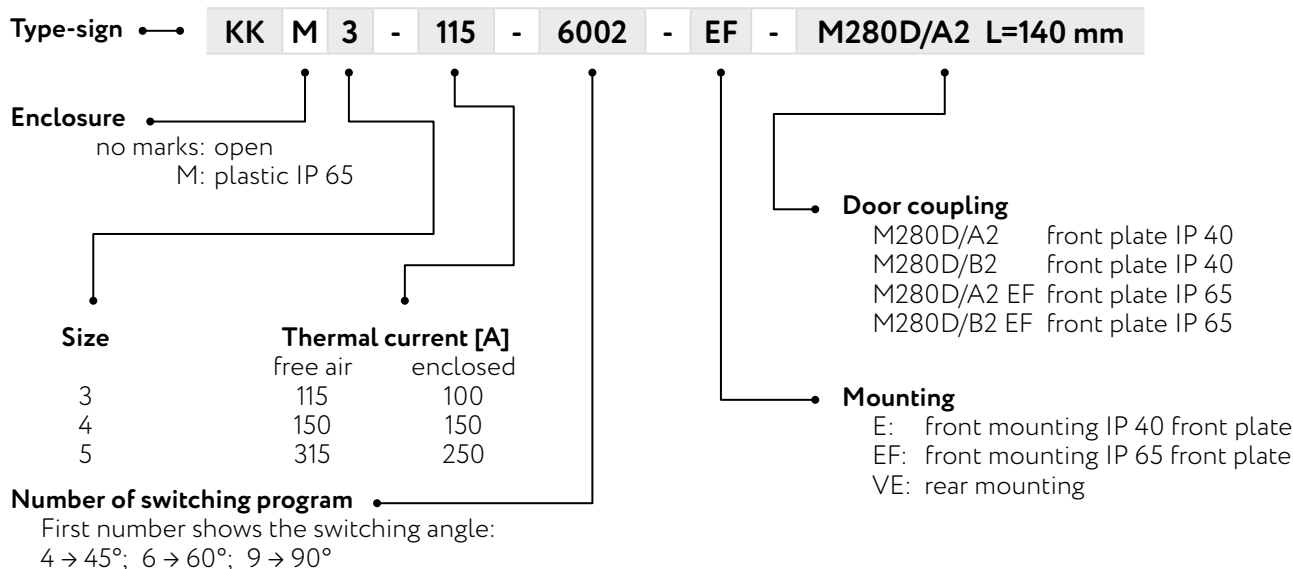
KKML2; KKMS2; KKMV2

KK3, KK4, KK5 ROTARY SWITCHES

The basic unit of the switches is the chamber containing 1 or 2 double breaking contacts. These contacts are

moved in perpendicular direction to the shaft by control discs attached to the shaft.

Structure of order-code



Door coupling types offer the possibility of operating the switch by a special tool only when the door is open. This special tool has the profile-covering of this shaft. Door coupling can be ordered with lock, it means that the door can be opened only if the switch is in „0” position. The most common combinations are listed below:

- with profil-covering, without lock: A2
- with profil-covering, with lock: B2

The length of the shaft (L) is according to the dimensions on page 14.

For emergency-stop switch or switch-disconnector functions we recommend our GK types.

Ordering example: KK3-115-6002-E

Switching programs

Front plate	Description	Size	Switching program No.	Number of chambers	Number of contacts	Connection diagram
-------------	-------------	------	-----------------------	--------------------	--------------------	--------------------

ON-OFF switches

	1 Pole	3 4 5	6054	1	1	
	2 Pole	3 4 5	6001	1	2	
	3 Pole	3 4 5	6002	2	3	
	4 Pole	3 4 5	6046	2	4	

Change-over switches without "0" position

	1 Pole	3 4 5	6047	1	2	
	2 Pole	3 4 5	6048	2	4	
	3 Pole	3 4 5	6004	3	6	
	4 Pole	3 4 5	6049	4	8	

Change-over switches with "0" position

	1 Pole	3 4 5	6050	1	2	
	2 Pole	3 4 5	6051	2	4	
	3 Pole	3 4 5	6006	3	6	
	4 Pole	3 4 5	6044	4	8	

Front plate	Description	Size	Switching program No.	Number of chambers	Number of contacts	Connection diagram
-------------	-------------	------	-----------------------	--------------------	--------------------	--------------------

Motor (starter) switches

	reversing	3 4 5	6008	3	5	
	star-delta change-over	3 4 5	6009	4	8	
	star-delta change-over for two rotating directions	3 4 5	4052	5	10	
	for Dahlander motors two positions	3 4 5	6013	4	8	
	two positions one rotating direction for separate wound motors	3 4 5	6016	3	6	

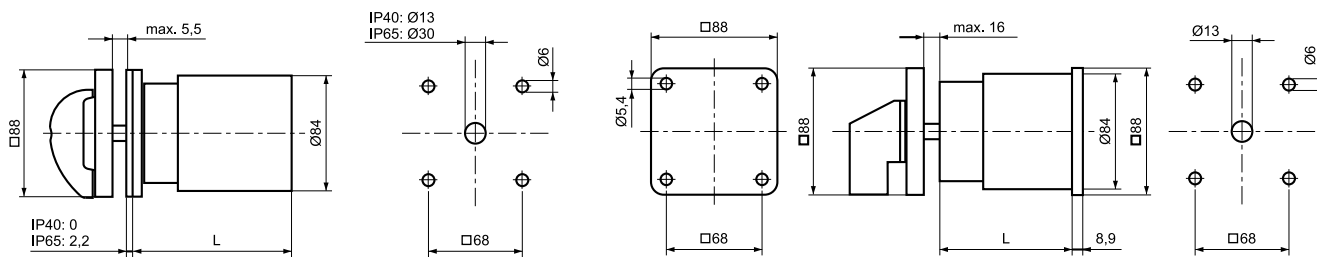
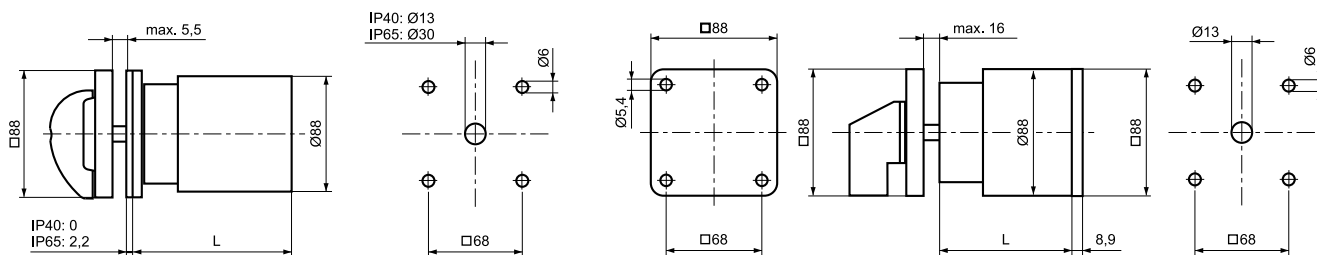
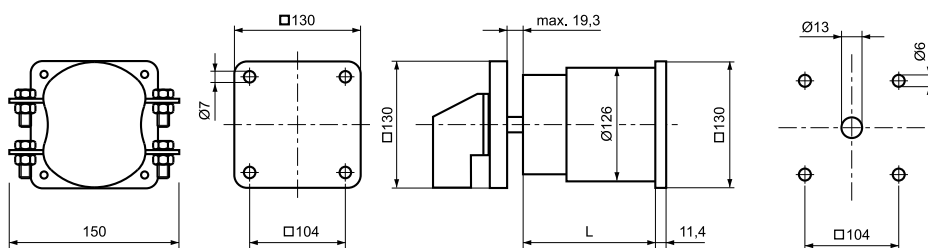
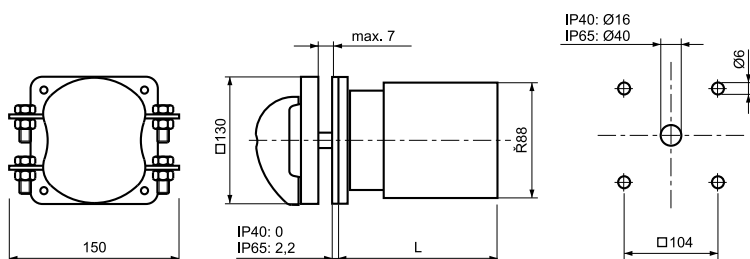
Assortment of front plates

Under drawing of the front plates are the switching program № and the type-size of the switch.

60° switching angle

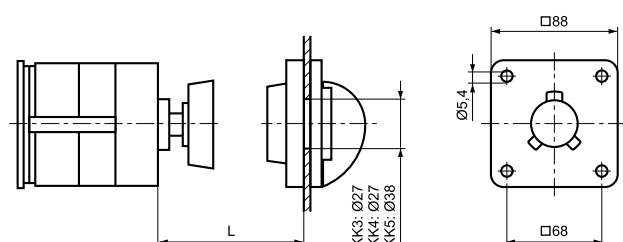
	F070 3;4;5		F071 3;4;5		F072 3;4;5		F073 3;4
	F080 3;4;5		F249 3;4		F754 3;4		

Dimensions


KK3-...-VE

KK4-...-VE

KK5-...-VE

Number of chambers	L		
	KK3	KK4	KK5
1	61,5	67,5	78,6
2	88,0	100	117,2
3	114,5	132,5	155,8
4	141,0	165,0	194,4
5	167,5	197,5	233,0
6	194,0	230,0	271,6
7	220,5	262,5	310,2
8	247,0	295,0	348,8
9	273,5	327,5	387,4
10	300,0	360,0	426,0
11	326,5	392,5	464,6
12	353,0	425,0	503,2

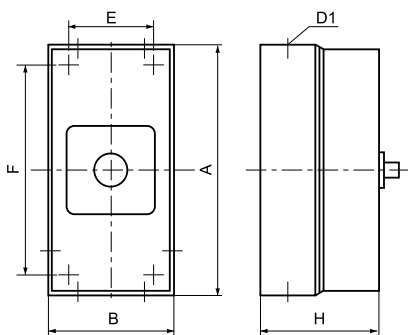
Door coupling M280D. and M280D/. EF



In the order should be given the value of L from these:

Type	L [mm]			
KK3	60...90	90...120	120...150	150...180
KK4	60...90	90...120	120...150	150...180
KK5	60...95	95...130	130...165	165...200

Plastic enclosures



Type-size	Max. number of chambers	Code of enclosure	Degree of protection	Dimensions [mm]					Stuffing box (D1)
				A	B	H	E	F	
KKM3	1	ST1 A011B	IP 54	180	140	115	128	150	2×M40 and 1×M16
	2	ST1 A011B	IP 54	180	140	115	128	150	
	3	ST6 T999/B019	IP 65	280	190	180	164	254	
KKM4	1	ST1A011A	IP 54	180	140	115	128	150	2×M40 and 1×M16
	2	ST6 T999/B019	IP 65	280	190	180	164	254	
	3	ST6 T999/B019	IP 65	280	190	180	164	254	
KKM5	2	ST6 T999/B022	IP 65	280	280	230	254	254	2×M40 and 1×M16
	3	ST6 T999/B025	IP 65	280	280	280	254	254	

Technical data

									KK3-115	KK4-150	KK5-315
Rated insulation voltage [V]									690		
Rated impulse withstand voltage [kV]									6		
Conventional thermal current [A]		free-air							115	150	315
		enclosed							100	150	250
Rated operational current (AC-21A and AC-22A) [A]									100	150	315
Breaking capacity [A]		3x220...240 V							830	1200	2000
		3x380...440 V							700	1200	2000
		3x660...690 V							480	480	335
Switching power [kW]		AC-3			380...440 V				30	37	55
		AC-23A			380...440 V				45	75	132
Rated operational d.c. current [A] number of serially connected contacts:		1	2	3	4	5	6	8			
max. operational voltage [V]:	resistive load T<1 ms	24	48	70	95	120	145	190	125	200	315
		48	95	140	190	240	290	350	100	160	250
	inductive load T=50 ms	24	48	70	95	120	145	190	100	160	250
		30	60	90	120	150	180	240	33	50	70
Short-circuit strength		max. value of gL characteristic fuse [A]							125	200	315
		rated short-time withstand current (1 s) [A]							1300	2000	4200
		rated conditional short-circuit current [kA _{eff}]							25	25	30
Max. cross-section of connected wires [mm ²]		single core							35	70	185
		stranded (with ferrule)							25	50	150
Degree of protection		open							IP 00		
		front plate							IP 45		
		enclosed							IP 65		
Max. number of chambers		open							12		
		enclosed							3		
Relevant standards									EN 60947-3, EN 60204-1		
The size and tightening torque of the connecting screw									M5; 4 Nm	M6; 4,5 Nm	M8; 14 Nm

GK20 ... GK315 ROTARY SWITCHES

The structure of a GK switch is different from the previously described KK types. The basic unit of a GK switch contains three double breaking contacts moving in line with the shaft.

The above described difference in structure refers to different fields at application. Because of the larger opening clearance the GK switches are particularly suitable for switch-disconnector and emergency-stop switch functions but can not be used for example as star-delta motorstarters.

All types are made with 90° switching angle.

Loosely screwed „self-lifting” clamps offer easy connecting. These wire clamps are delivered with non-losable screws and - , up to GK 160 - with shrouding against accidental touching.

Modular construction allows subsequent changes, so stocking costs can be lowered.

Further modules - except the cam-driven and rack-driven auxiliary contacts - can be snapped on the switches even after mounting.

Under the GK 160 size the switches can contain one or two basic units with three or four main contacts. Above this size only one basic unit can be in a switch.

Elements that can be fixed to the left or right side of the switch:

- earth wire terminal
- neutral wire terminal
- auxiliary contact

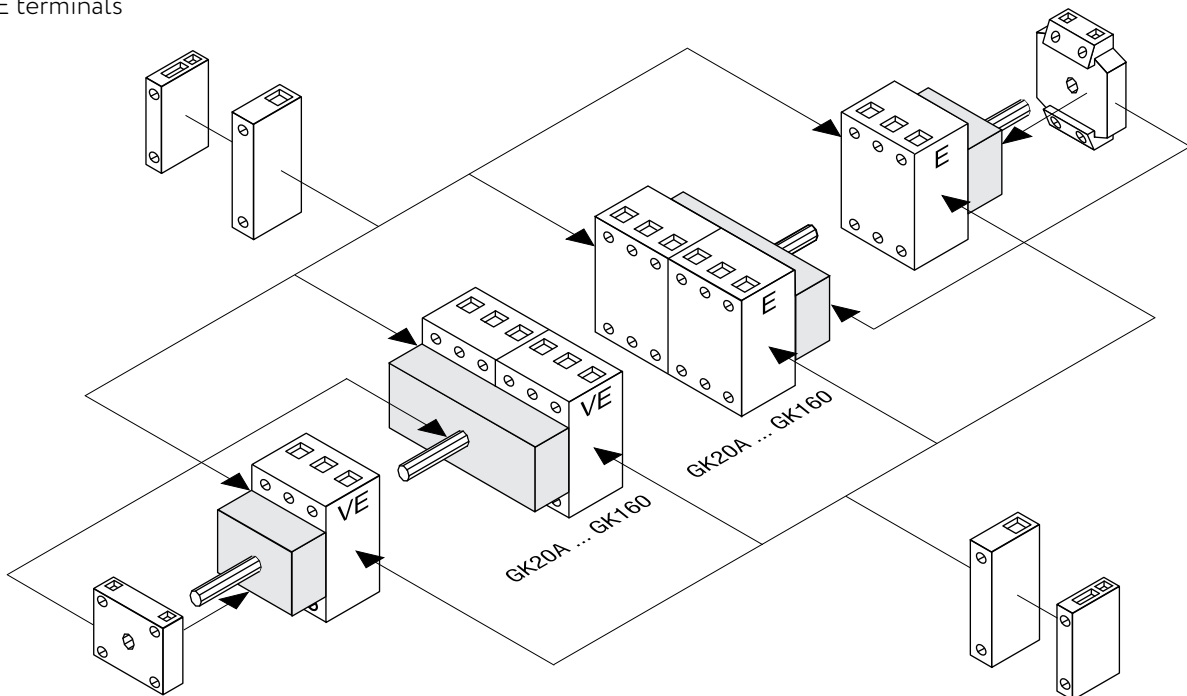
The above elements can be snapped into place simply by pushing the elements in parallel direction with the shaft in the special slot while the switch is in „ON” position.

At door-coupling versions the door of board is openable only in „0” position of switch.

Structure of the switches having three main contacts:

two auxiliary contacts for GK20...GK 100C
or: three auxiliary contacts for GK125...GK315
or: PE terminals

Max. four cam-driven auxiliary contacts
for GK20...GK 160
or: max. six rack-driven auxiliary contacts
for GK125...GK315



Max. four cam-driven auxiliary contacts
for GK20...GK 160
or: max. six rack-driven auxiliary contacts
for GK125...GK315

Neutral wire terminal
or: two auxiliary contacts for GK20...GK 100C
or: three auxiliary contacts for GK125...GK315

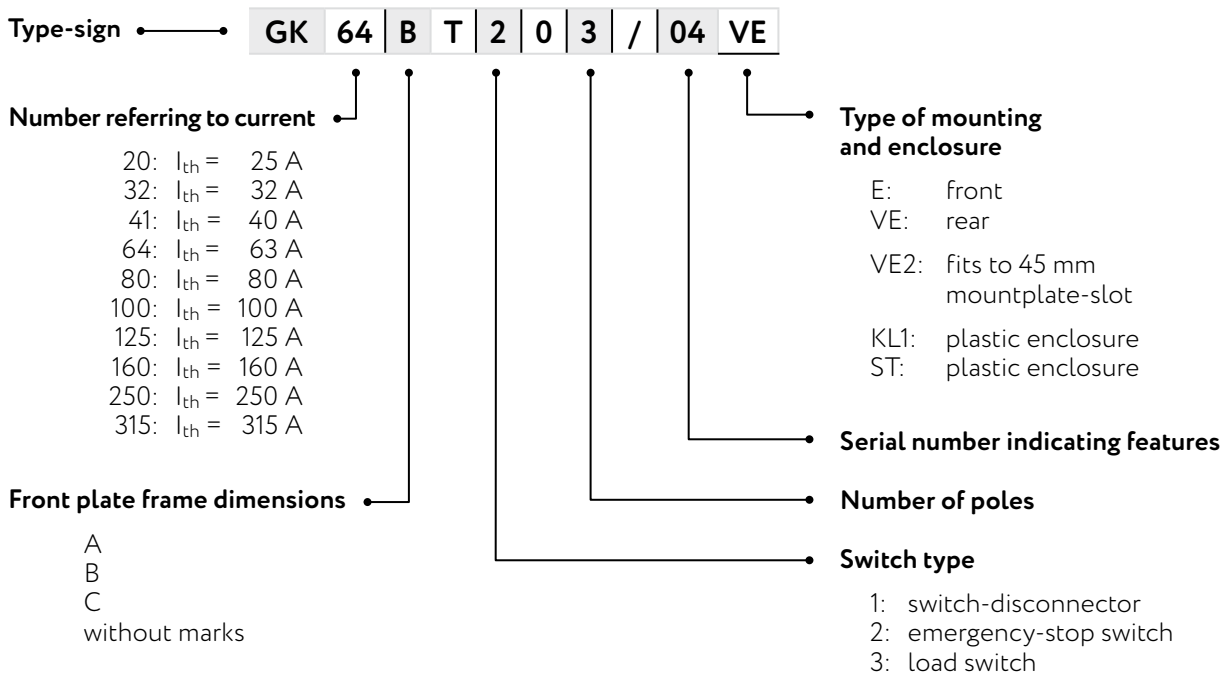
Technical data

Dimensions of front plate [mm x mm]	30x30	GK20	GK32	-	-	-	-	-	-	-	-
	48x48	GK20A	GK32A	GK41	GK64	-	-	-	-	-	-
	64x64	GK20B	GK32B	GK41B	GK64B	GK80	GK100	-	-	-	-
	88x88	-	-	-	-	GK80C	GK100C	GK125	GK160	GK250	GK315
Rated values											
Insulation voltage [V]		690	690	690	690	690	690	1000 ²⁾	1000 ²⁾	1000 ²⁾	1000 ²⁾
Impulse withstand voltage [kV]		6	6	6	6	6	6	8	8	8	8
Conventional thermal current [A]	free air	25	32	40	63	80	100	125	160	250	315
	enclosed	25	32	40	50	63	80	100	140	200	250
Operational current (AC-21A) [A]		20	32	40	63	80	100	125	160	200	250
Breaking capacity [A]	3x220...240 V	180	220	300	350	560	700	800	900	1600	1800
	3x380...440 V	180	220	300	350	560	650	750	850	1380	1650
	3x660...690 V	125	135	150	190	200	280	340	340	400	400
As switch-disconnector											
Limiting voltage of realization of disconnecting conditions [V] ¹⁾		690	690	690	690	690	690	1000 ²⁾	1000 ²⁾	1000 ²⁾	1000 ²⁾
Switching power											
AC-3 motorstarter [kW]	3x220...240 V	3	4	7,5	11	15	18,5	22	30	37	45
	3x380...440 V	5,5	7,5	11	18,5	22	30	37	45	55	75
	3x660...690 V	5,5	7,5	11	15	18,5	22	30	37	45	45
AC-23 motorstarter and AC-23B switch-disconnector [kW]	3x220...240 V	4	5,5	7,5	11	18,5	22	30	30	37	55
	3x380...440 V	7,5	11	15	22	30	37	45	55	90	110
	3x660...690 V	7,5	11	15	18,5	22	30	37	37	45	45
Short-circuit strength											
Max. value of gL char. fuse [A]		35	35	50/35	63/50	80	100	125	160	200	250
Rated values cond. short-circuit current [kA _{eff}]		15	15	15/25	15/25	25	25	30	30	30	30
Short-time withstand current [A]		350	430	500	580	1600	1850	2500	3000	4600	5800
Max. cross-section of connected wires											
Solid (single and multicore) [mm ²]		6	6	16	16	35	35	95	95	185	185
Stranded, with ferrule [mm ²]		4	4	10	10	25	25	50	50	120	120
Max. width of copper rail [mm]		-	-	-	-	-	-	20	20	25	25
Dimension of terminal screw		-	-	-	-	-	-	M10	M10	M12	M12
Auxiliary contacts											
Rated values											
Insulation voltage [V]		500	500	690	690	690	690	690	690	690	690
Impulse withstand voltage [kV]		6	6	6	6	6	6	6	6	6	6
Conventional thermal current [A]	free air	10	10	16	16	16	16	16	16	16	16
	enclosed	10	10	16	16	16	16	16	16	16	16
Operational current [A]	220...240 V	2,5	2,5	6	6	6	6	6	6	6	6
	380...440 V	1,5	1,5	3	3	3	3	4	4	4	4
Short circuit strength											
Max. value of gL char. fuse [A]		10	10	16	16	16	16	16	16	16	16
Rated cond. short-circuit c. [kA _{eff}]		3	3	3	3	3	3	3	3	3	3
Max. cross-section of connected wires											
solid (single and multicore) [mm ²]		1,5	1,5	4	4	4	4	4	4	4	4
stranded [mm ²]		1,5	1,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5

1) in case of network with earthed neutral, overvoltage category: III., pollution degree: 3

2) in case of switching without load over 690 V (AC-20A)

Ordering informations



Switch-disconnectors, emergency-stop switches

The EN 60204-1 standard (Safety of machinery. Electrical equipment of machines. General requirements.) specifies the requirements for emergency-stop switches and switch-disconnectors:

Switch-disconnector

- black or gray handle, if the device is not used as an emergency-stop switch as well;
- only two ("ON" and "OFF") positions, marked as "0" and "I" (in the directions of 9 o'clock and 12 o'clock);
- padlockable in "OFF" position;
- position indicator can only show "OFF" if the contacts are open.

Emergency-stop switch

Its structure is the same as that of the switch-disconnector, however, the color of the handle is red and the background is yellow.

Ordering data

3-pole ON-OFF load switch				4-pole ON-OFF load switch			
Front mounting, IP 65 protection	Rear mounting, IP 40 protection			Front mounting, IP 65 protection	Rear mounting, IP 40 protection		
	without shaft-lengthening	with shaft-lengthening			without shaft-lengthening	with shaft-lengthening	
GK20A T303 E	GK20A T303 VE	GK20A T303/57 VE		GK20A T304 E	GK20A T304 VE	GK20A T304/57 VE	
GK32A T303 E	GK32A T303 VE	GK32A T303/57 VE		GK32A T304 E	GK32A T304 VE	GK32A T304/57 VE	
GK41 T303 E	GK41 T303 VE	GK41B T303/57 VE		GK41 T304 E	GK41 T304 VE	GK41B T304/57 VE	
GK64 T303 E	GK64 T303 VE	GK64B T303/57 VE		GK64 T304 E	GK64 T304 VE	GK64B T304/57 VE	
GK80 T303 E	GK80 T303 VE	GK80 T303/57 VE		GK80 T304 E	GK80 T304 VE	GK80 T304/57 VE	
GK100 T303 E	GK100 T303 VE	GK100 T303/57 VE		GK100 T304 E	GK100 T304 VE	GK100 T304/57 VE	
GK125 T303 E	GK125 T303 VE	GK125 T303/57 VE		GK125 T304 E	GK125 T304 VE	GK125 T304/57 VE	
GK160 T303 E	GK160 T303 VE	GK160 T303/57 VE		GK160 T304 E	GK160 T304 VE	GK160 T304/57 VE	
GK250 T303 E	GK250 T303 VE	GK250 T303/57 VE		GK250 T304 E	GK250 T304 VE	GK250 T304/57 VE	
GK315 T303 E	GK315 T303 VE	GK315 T303/57 VE		GK315 T304 E	GK315 T304 VE	GK315 T304/57 VE	

Ordering data

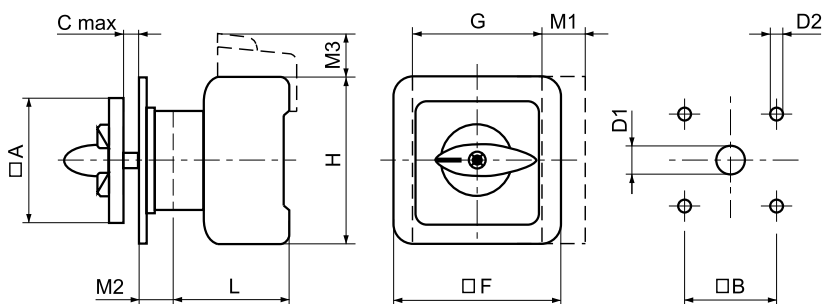
		3-pole ON-OFF switch with protection IP 65		4-pole ON-OFF switch with protection IP 65	
		Switch-disconnector	Emergency-stop switch	Switch-disconnector	Emergency-stop switch
Front mounting with	max. 2 padlock	GK20A T103/04 E	GK20A T203/04 E	GK20A T104/04 E	GK20A T204/04 E
		GK32A T103/04 E	GK32A T203/04 E	GK32A T104/04 E	GK32A T204/04 E
		GK41B T103/04 E	GK41B T203/04 E	GK41B T104/04 E	GK41B T204/04 E
		GK64B T103/04 E	GK64B T203/04 E	GK64B T104/04 E	GK64B T204/04 E
		GK80 T103/04 E	GK80 T203/04 E	GK80 T104/04 E	GK80 T204/04 E
		GK100 T103/04 E	GK100 T203/04 E	GK100 T104/04 E	GK100 T204/04 E
	max. 4 padlock	GK125 T103/04 E	GK125 T203/04 E	GK125 T104/04 E	GK125 T204/04 E
		GK160 T103/04 E	GK160 T203/04 E	GK160 T104/04 E	GK160 T204/04 E
		GK250 T103/05 E	GK250 T203/05 E	GK250 T104/05 E	GK250 T204/05 E
		GK315 T103/05 E	GK315 T203/05 E	GK315 T104/05 E	GK315 T204/05 E
Rear mounting	door coupling, with max. 3 padlock	GK20B T103/65 VE	GK20B T203/65 VE	GK20B T104/65 VE	GK20B T204/65 VE
		GK32B T103/65 VE	GK32B T203/65 VE	GK32B T104/65 VE	GK32B T204/65 VE
		GK41B T103/65 VE	GK41B T203/65 VE	GK41B T104/65 VE	GK41B T204/65 VE
		GK64B T103/65 VE	GK64B T203/65 VE	GK64B T104/65 VE	GK64B T204/65 VE
		GK80 T103/65 VE	GK80 T203/65 VE	GK80 T104/65 VE	GK80 T204/65 VE
		GK100 T103/65 VE	GK100 T203/65 VE	GK100 T104/65 VE	GK100 T204/65 VE
		GK125 T103/65 VE	GK125 T203/65 VE	GK125 T104/65 VE	GK125 T204/65 VE
		GK160 T103/65 VE	GK160 T203/65 VE	GK160 T104/65 VE	GK160 T204/65 VE
		GK250 T103/65 VE	GK250 T203/65 VE	GK250 T104/65 VE	GK250 T204/65 VE
		GK315 T103/65 VE	GK315 T203/65 VE	GK315 T104/65 VE	GK315 T204/65 VE

Plastic enclosed switches with degree of protection IP 65							
3-pole ON-OFF switch with max. 3 padlock				Load switch			
Switch-disconnector		Emergency-stop switch		3-pole		4-pole	
GK20 T103/75 KL1		GK20 T203/75 KL1		GK20 T303 KL1		GK20 T304 KL1	
GK32 T103/75 KL1		GK32 T203/75 KL1		GK32 T303 KL1		GK32 T304 KL1	
GK41 T103/75 KL1		GK41 T203/75 KL1		GK41 T303 KL1		GK41 T304 KL1	
GK64 T103/75 KL1		GK64 T203/75 KL1		GK64 T303 KL1		GK64 T304 KL1	
GK80 T103/75 KL1		GK80 T203/75 KL1		GK80 T303 KL1		GK80 T304 KL1	
GK100 T103/75 KL1		GK100 T203/75 KL1		GK100 T303 KL1		GK100 T304 KL1	
GK125 T103/76 ST		GK125 T203/76 ST		GK125 T303/59 ST		GK125 T304/60 ST	
GK160 T103/76 ST		GK160 T203/76 ST		GK160 T303/59 ST		GK160 T304/60 ST	
GK250 T103/36 ST		GK250 T203/36 ST		GK250 T303/61 ST		GK250 T304/61 ST	
GK315 T103/36 ST		GK315 T203/36 ST		GK315 T303/61 ST		GK315 T304/61 ST	

Fits to 45 mm mountplate-slot 3-pole ON-OFF switches with degree of protection IP 40					
Non padlockable load switch			Padlockable with max. 2 pcs padlock		
GK20A T303	VE2		GK20A T303/58	VE2	
GK32A T303	VE2		GK32A T303/58	VE2	
GK41 T303	VE2		GK41 T303/58	VE2	
GK64 T303	VE2		GK64 T303/58	VE2	
GK80 T303	VE2		GK80 T303/58	VE2	
GK100 T303	VE2		GK100 T303/58	VE2	

Dimensions (switch-disconnector, emergency-stop switch, load switch)

Front mounting

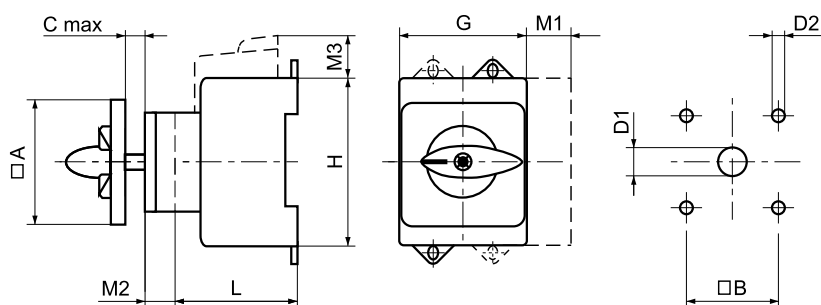


Increase of dimensions

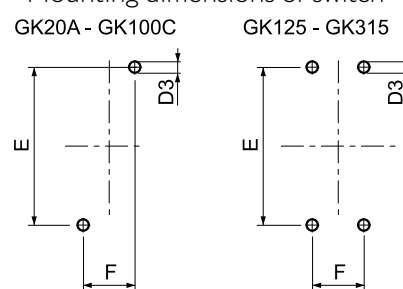
- M1: in case of four main contacts
or PE terminal
or neutral wire-terminal
- M2: at use auxiliary contact
- M3: terminal with cover

	A	B	C	D1	D2	F	G	H	L	M1	M2	M3
GK20A, GK32A	48	36	4	10	4,5	48	42	54	53,8	13,5	9	20
GK20B, GK32B	64	48	4	10	4,5	64	42	54	53,8	13,5	9	20
GK41, GK64	48	36	4	10	4,5	64	50	64	60,5	16	-	16
GK41 B, GK64B	64	48	4	10	4,5	64	50	64	60,5	16	12,5	16
GK80, GK100	64	48	4	10	4,5	88	70	80	70,6	22	10	25
GK80C, GK100C	88	68	4	10	6	88	70	80	70,6	22	10	25
GK125, GK160	88	68	5,5	13	6	-	112	108	96	38	21	22
GK250, GK315	88	68	5,5	13	6	-	145	126	103	52,5	21	24,5x2

Rear mounting

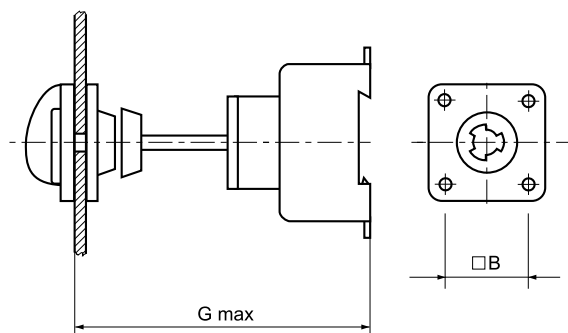


Mounting dimensions of switch



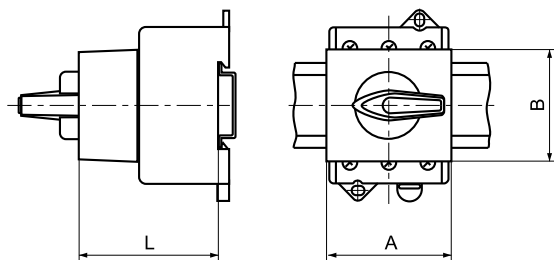
	A	B	C	D1	D2	D3	E	F	G	H	L	M1	M2	M3
GK20A, GK32A	48	36	12	8	4,5	4,5	60	22	42	54	50	13,5	9	20
GK20B, GK32B	64	48	13,5	10	4,5	4,5	60	22	42	54	50	13,5	-	20
GK41, GK64	48	36	12	10	4,5	4,5	70	25	50	64	61	16	10	16
GK41 B, GK64B	64	48	13,5	10	4,5	4,5	70	25	50	64	61	16	10	16
GK80, GK100	64	48	13,5	10	4,5	6	90	25	70	80	68	22	10	25
GK80C, GK100C	88	68	13,5	10	6	6	90	25	70	80	68	22	10	25
GK125, GK160	88	68	16	13	6	7	120	36	112	108	91	38	0	22
GK250, GK315	88	68	16	13	6	7	142	44	145	126	98	52,5	0	24,5x2

Switches with door coupling



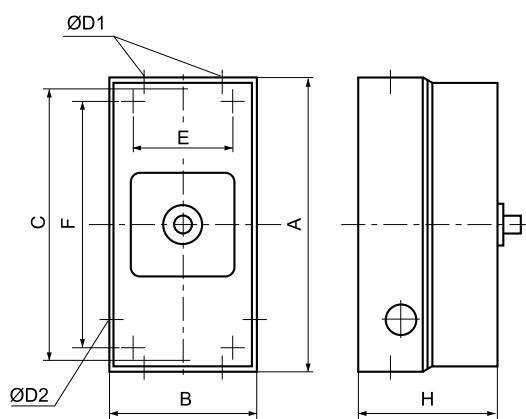
	Gmax	□ B
GK20B, GK32B, GK41B	190	48
GK64	330	
GK80	380	
GK100	450	68
GK125, GK160		
GK250, GK315	550	

Design fitting to 45 mm mountplate-slot



	A	B	L
GK20A, GK32A	43,7	45,4	52
GK41, GK64	52,4	45,4	59
GK80, GK100	70	45	65

Plastic enclosed switches



	A	B	C	D1	D2	E	F	H
GK20, GK32	160	85	150	2x23	19	-	-	78
GK41, GK64	190	100	178	2x29	23	-	-	91
GK80, GK100	250	145	-	2x37,5	23	124	229	100
GK125, GK160	300	200	-	2x48/1x23	-	172	272	170
GK250, GK315	380	280	-	2x61	-	254	354	180

Range of GK switches (3 poles)

Number referring current											
	20	32	41	64	80	100	125	160	250	315	
3 poles											
Load switch				Switch-disconnector				Emergency-stop switch			
- black or gray handle - non padlockable				- black or gray handle - padlockable				- red handle - yellow background - padlockable			
front mounting				front mounting				front mounting			
rear mounting short shaft				rear mounting				rear mounting			
rear mounting long shaft				plastic enclosed				plastic enclosed			
plastic enclosed				fits to 45 mm mountplate-slot							
fits to 45 mm mountplate-slot											

Range of GK switches (4 poles)

Number referring current											
	20	32	41	64	80	100	125	160	250	315	
4 poles											
Load switch				Switch-disconnector				Emergency-stop switch			
- black handle - non padlockable				- black handle - padlockable				- red handle - yellow background - padlockable			
front mounting				front mounting				front mounting			
rear mounting short shaft				rear mounting				rear mounting			
rear mounting long shaft											
plastic enclosed											

Structure of type-sign of the KK0, KK1, KK2 rotary switches

Size		KK0-20	KK1-32	KK2-40	KK2-63	KK2-80	KK2-115
P _e [kW]		5,5	11	15	22	25	37
I _e [A]		20	32	40	63	80	115
Open	front mounting	KK0-20	KK1-32	KK2-40	KK2-63	KK2-80	KK2-115
	rear mounting	KK0-20...H	KK1-32...H	KK2-40...H	KK2-63...H	KK2-80...H	KK2-115...H
Enclosed plastic IP 65		KKM0-20	KKM1-32	KKM2-40	KKM2-63	KKM2-80	KKM2-115
Front plate IP 65		KKE0-20	KKE1-32	KKE2-40	KKE2-63	KKE2-80	KKE2-115
Lockable		KKZ0-20	KKZ1-32	-	-	-	-
Padlockable		KKL0-20	KKL1-32	KKL2-40	KKL2-63	KKL2-80	KKL2-115
Switch-disconnector		KKS0-20	KKS1-32	KKS2-40	KKS2-63	KKS2-80	KKS2-115
Emergency-stop switch		KKV0-20	KKV1-32	KKV2-40	KKV2-63	KKV2-80	KKV2-115
Door coupling Degree of protection of front plate	IP 40	-	-	-	-	-	-
	IP 54	-	-	KK2-40...T	KK2-63...T	KK2-80...T	KK2-115...T
	IP 65	-	-	-	-	-	-

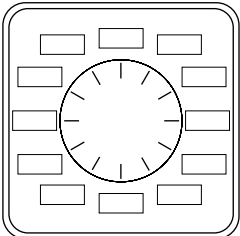
Structure of type-sign of the KK3, KK4, KK5 rotary switches

Size		KK3-115	KK4-150	KK5-315
P _e [kW]		30	37	55
I _e [A]		115	150	315
Open	front mounting	KK3-115...E	KK4-150...E	KK5-315...E
	rear mounting	KK3-115...VE	KK4-150...VE	KK5-315...VE
Enclosed plastic IP 65		KKM3-100	KKM4-150	KKM5-250
Front plate IP 65		KK3-115...EF	KK4-150...EF	KK5-315...EF
Lockable		-	-	-
Padlockable		-	-	-
Switch-disconnector		-	-	-
Emergency-stop switch		-	-	-
Door coupling Degree of protection of front plate	IP 40	KK3... M280D...	KK4...M280D...	KK5...M280D...
	IP 54	-	-	-
	IP 65	KK3... M280D...EF	KK4...M280D...EF	KK5...M280D...EF

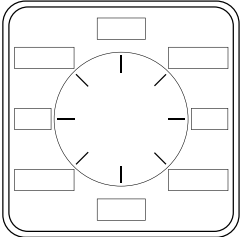
ORDER FORM

for the planning of special switching programs for KK type rotary switches

Típus		Version		Switching angle		Mounting		Front plate	
	KK0-20-...		Normal		30°		Front		30°/60°
	KK1-32-...		Plastic enclosure		45°		Rear		45°/90°
	KK2-40-...		Lockable		60°		Front with 2 pcs screws		
	KK2-63-...		Padlockable		90°		Front and rear		
	KK2-80-...		Switch-disconnector						
	KK2-115-...		Emergency-stop switch						
	KK3-115-...		Rotating						
	KK4-150-...		Returning control						
	KK5-315-...		Door coupling						



30°/60°



45°/90°

Contact-chamber No	Terminal position	Contact position: open: ☐ closed: ☒ returning control: 												Links	Terminal indication	Links
		Handle positions:														
		30°	45°	60°	90°											
		1	2	3	4	5	6	7	8	9	10	11	12			
1	1 2													☐	1—2	☐
	3 4													☐	3—4	☐
2	5 6													☐	5—6	☐
	7 8													☐	7—8	☐
3	9 10													☐	9—10	☐
	11 12													☐	11—12	☐
4	13 14													☐	13—14	☐
	15 16													☐	15—16	☐
5	17 18													☐	17—18	☐
	19 20													☐	19—20	☐
6	21 22													☐	21—22	☐
	23 24													☐	23—24	☐
7	25 26													☐	25—26	☐
	27 28													☐	27—28	☐
8	29 30													☐	29—30	☐
	31 32													☐	31—32	☐
9	33 34													☐	33—34	☐
	35 36													☐	35—36	☐
10	37 38													☐	37—38	☐
	39 40													☐	39—40	☐
11	41 42													☐	41—42	☐
	43 44													☐	43—44	☐
12	45 46													☐	45—46	☐
	47 48													☐	47—48	☐

TYPES OF ROTARY SWITCHES



KK3-115-6002E



KK5-315-6002E



KKM2-40



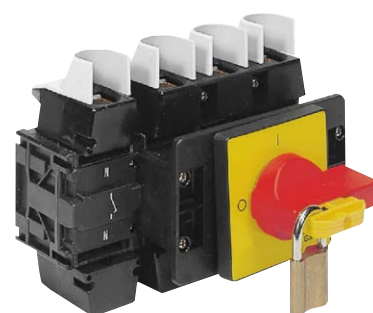
GK32A T303/57 VE



GK32A T303/58 VE



GK250 T203/65 VE



GK315 T204/05E



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