

# FGC1-D Series














## AC Contactor

### Technical data

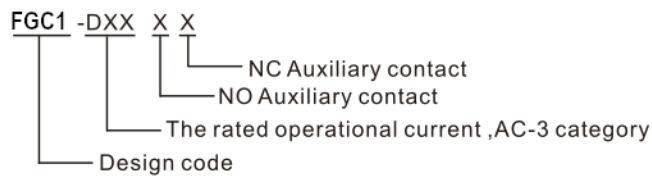
Standard	IEC60947-4-1	
Electric ratings	Up to 95A,690V	
Approvals	SEMKO, CE, CB, TUV	
Operation range	Pick-up voltage	(85%~110%) U <sub>c</sub>
	Drop-out voltage	(20%~75%) U <sub>c</sub>
Rated insulation voltage U <sub>i</sub> (V)	690	
Rated impulse withstand voltage U <sub>imp</sub> (kV)	6	
Rated frequency(Hz)	50/60	
Utilization category	AC-3, AC-4	
Degree of protection	IP20	
Ambient air temperature(°C)	-5 to +40, max.95%humidity	
Storage temperature(°C)	-40~+75	
Maximum operating altitude (meters)	≤2000	
Flame resistance	V1	



## 1. Selection and ordering data

	Rated Operational current in category AC-3 400V (A)	Number of poles		Instantaneous auxiliary contacts		Standard control circuit voltages (VAC)	Rated frequency (Hz)	Type	Model
									
	9	3	-	1	-	230	50/60	3NO+NO	FGC1-D0910
		3	-	-	1	230	50/60	3NO+NC	FGC1-D0901
		4	-	-	-	230	50/60	4NO	FGC1-D09004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D09008
	12	3	-	1	-	230	50/60	3NO+NO	FGC1-D1210
		3	-	-	1	230	50/60	3NO+NC	FGC1-D1201
		4	-	-	-	230	50/60	4NO	FGC1-D12004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D12008
	18	3	-	1	-	230	50/60	3NO+NO	FGC1-D1810
		3	-	-	1	230	50/60	3NO+NC	FGC1-D1801
		3	-	1	-	230	50/60	3NO+NO	FGC1-D2510
		3	-	-	1	230	50/60	3NO+NC	FGC1-D2501
	25	4	-	-	-	230	50/60	4NO	FGC1-D25004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D25008
		3	-	1	-	230	50/60	3NO+NO	FGC1-D3210
		3	-	-	1	230	50/60	3NO+NC	FGC1-D3201
	40	3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D4011
		4	-	-	-	230	50/60	4NO	FGC1-D40004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D40008
		3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D5011
	50	4	-	-	-	230	50/60	4NO	FGC1-D50004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D50008
		3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D6511
		4	-	-	-	230	50/60	4NO	FGC1-D65004
	65	2	2	-	-	230	50/60	2NO+2NC	FGC1-D65008
		3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D8011
		4	-	-	-	230	50/60	4NO	FGC1-D80004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D80008
	80	3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D9511
		4	-	-	-	230	50/60	4NO	FGC1-D95004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D95008
		3	-	1	1	230	50/60	3NO+NO+NC	FGC1-D9511
	95	4	-	-	-	230	50/60	4NO	FGC1-D95004
		2	2	-	-	230	50/60	2NO+2NC	FGC1-D95008

## 2. Model explanation:

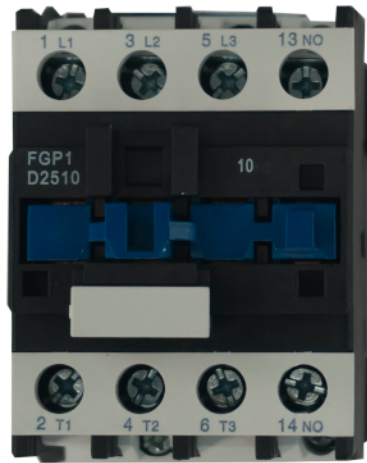


## 3. Refer to other coil voltage listed as followings:

Coil voltage(V)	24	36	48	110	127	220	230	240	380	415	440	480	500	600	660
50Hz	B5	C5	E5	F5	G5	M5	P5	U5	Q5	N5	R5	T5	S5	-	Y5
60Hz	B6	-	E6	F6	G6	M6	P6	U6	Q6	N6	R6	T6	-	S6	-
50/60Hz	B7	C7	E7	F7	G7	M7	P7	U7	Q7	N7	R7	T7	-	-	-

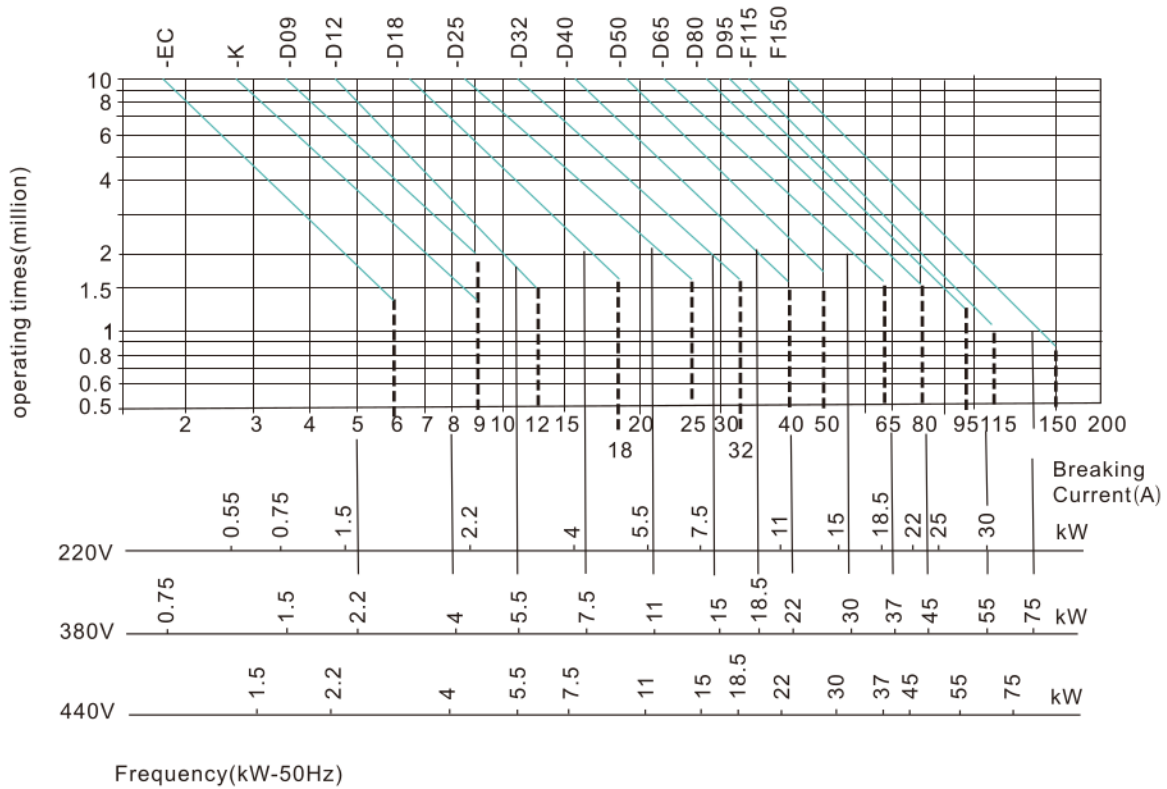
For technical data, see technical specifications for type **FGC1-D** Series

## Technical specifications for FGC1-D Series

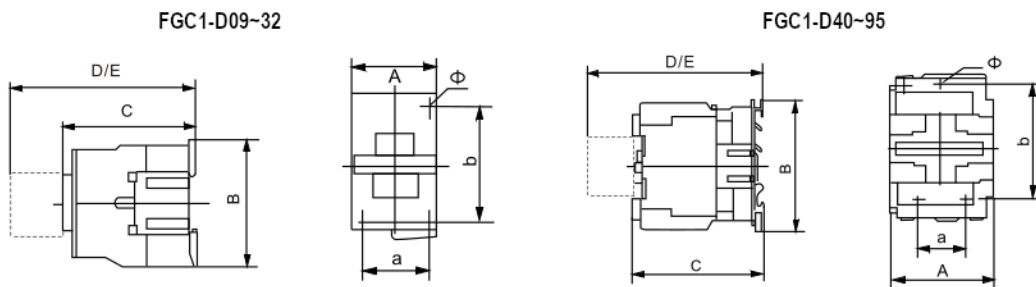


Type	FGC1-D											
	09	12	18	25	32	40	50	65	80	95		
Number of poles	3,4	3,4	3	3,4	3	3,4	3,4	3,4	3,4	3,4	3,4	
Rated operational current(A)	380V	In AC-3	9	12	18	25	32	40	50	65	80	95
		In AC-4	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	660V	In AC-3	6.6	8.9	12	18	21	34	39	42	49	55
		In AC-4	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
440V	In AC-1	20	25	32	40	50	60	80	80	110	125	
Rated conventional thermal current Ith(A)	20	25	32	40	50	60	80	80	125	125		
Rated making capacity(A)	400V	10 x Ie AC-3 or 12 x Ie AC-4										
Rated breaking capacity(A)	400V	8 x Ie AC-3 or 12 x Ie AC-4										
Rated operational power in category AC-3(kw)	220/230/240V	2.2	3	4	5.5	7.5	11	15	18.5	22	25	
	380/400V	4	5.5	7.5	11	15	18.5	22	30	37	45	
	415V	4	5.5	9	11	15	22	25	37	45	45	
	440V	4	5.5	9	11	15	22	30	37	45	45	
	660/690V	5.5	7.5	10	15	18.5	30	33	37	45	45	
Average impedance per pole(mΩ)	2.5	2.5	2.5	2	2	1.5	1.5	1.5	0.8	0.8		
Add-on auxiliary contact blocks	Front	FGA1-DN										
	Side	FGA8-DN										
	Front time delay	FGA2-DT/SGA3-DR										
	Front dust and damp protected	■										
Reversing contactor type	FGR2-D13					FGR1-D23		FGR2-D-33				
Associated thermal overload relays												
Operation cycles (times/hour)	Electrical AC-3	1200	1200	1200	1200	600	600	600	600	600	600	
	Electrical AC-4	300	300	300	300	300	300	300	300	300	300	
	Mechanical	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	
Elechanical life(X 10 <sup>3</sup> times)	AC-3	1000	1000	1000	1000	800	800	600	600	600	600	
	AC-4	200	200	200	200	200	150	150	150	100	100	
Mechanical life(X 10 <sup>6</sup> times)	10	10	10	10	8	8	8	8	6	6		
Matching fuse model	RT16-20	RT16-20	RT16-32	RT16-40	RT16-50	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125		
Tightening torque(N.m)	1.2	1.2	1.7	2.0	2.5	5	5	5	9	9		
Connection												

## 1. Electrical life curve for AC contactor FGC1-D

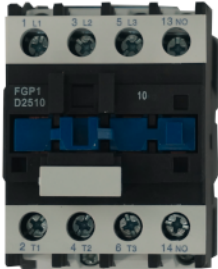


## 2. Overall and mounting dimensions (FGC1-D Series)



Type	A max	B max	C max	D max	E max	a	b	φ	
3P	FGC1-D09-12	47	76	82	113	133	34/35	50/60	2-φ4.5
	FGC1-D18	47	76	87	118	138	34/35	50/60	2-φ4.5
	FGC1-D25	57	86	95	126	146	40	48	2-φ4.5
	FGC1-D32	57	86	100	131	151	40	48	2-φ4.5
	FGC1-D40-65	77	129	116	145	165	40	100/110	3-φ6.5
4P	FGC1-D80-95	87	129	127	156	176	40	100/110	3-φ6.5
	FGC1-D09008-12008	47	76	82	113	133	34/35	50/60	2-φ4.5
	FGC1-D25008	57	86	95	126	146	40	48	2-φ4.5
	FGC1-D40008-65008	86	129	116/129	145	165	40	100/110	3-φ6.5
FGC1-D80008-95008	97	129	127/140	156	176	40	100/110	3-φ6.5	

## FGP1-D Series DC Operated AC Contactors



Model	Rated operating current 380V AC-3(A)	Conventional thermal current(A)	Standard power ratings of 3phase motors 50-60Hz AC-3			Auxiliary contact		Type
			220V/230V (kW)	380V/400V (kW)	660V/690V (kW)			
FGP1-D0910	9	20	2.2	4	5.5	1	-	3P+NO
FGP1-D0901						-	1	3P+NC
FGP1-D1210	12	20	3	5.5	7.5	1	-	3P+NO
FGP1-D1201						-	1	3P+NC
FGP1-D1810	18	32	4	7.5	9	1	-	3P+NO
FGP1-D1801						-	1	3P+NC
FGP1-D2510	25	40	5.5	11	15	1	-	3P+NO
FGP1-D2501						-	1	3P+NC
FGP1-D3210	32	50	7.5	15	18.5	1	-	3P+NO
FGP1-D3201						-	1	3P+NC
FGP1-D4011	40	60	11	18.5	30	1	1	3P+NO+NC
FGP1-D5011	50	80	15	22	33	1	1	3P+NO+NC
FGP1-D6511	65	80	18.5	30	37	1	1	3P+NO+NC
FGP1-D8011	80	125	22	37	45	1	1	3P+NO+NC
FGP1-D9511	95	125	25	45	45	1	1	3P+NO+NC

## F19 Series Contactor for Power Factor Contactors



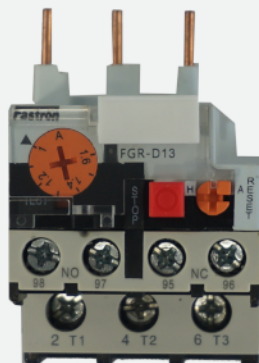
Model	Rated Conventional Thermal Current Ith	Controllable power			Auxiliary contact	
		220V/230V (Kvar)	380V/400V (Kvar)	660V/690V (Kvar)		
FG19-2511	25	6	12	12	1	1
FG19-2502					-	2
FG19-2520					2	-
FG19-3211	32	8.5	16	16	1	1
FG19-3202					-	2
FG19-3220					2	-
FG19-4311	43	10	20	20	1	1
FG19-4302					-	2
FG19-4320					2	-
FG19-5012	50	12	25	25	1	2
FG19-5021					2	1
FG19-6312	63	15	30	30	1	2
FG19-6321					2	1
FG19-8012	80	22	37	37	1	2
FG19-8021					2	1
FG19-9512	95	23	45	45	1	2
FG19-9521					2	1
FG19-12512	125	25	50	50	1	2
FG19-12521					2	1

# FGR2-D Series




## Thermal Relay

### Technical data


Type	FGR2-D13, FGR2-D23, FGR2-D33, FGR2-D150, FGR2-D200, FGR2-D400, FGR2-D630, FGR2-F53, FGR2-&73
Standard	IEC60947-4-1
Approvals	CE, CB, TUV
Tripping class	10A
Rated insulation voltage Ui(V)	690/1000
Rated impulse withstand voltage Uimp(kV)	6/8
Signalling	Trip indicator
Tightening torque(N.m)	0.8
Degree of protection	IP20
Ambient air temperature(°C)	-5 to+40.max.95%humidity
Storage temperature(°C)	-40~+75
Maximum operating altitude (meters)	2000
Flame resistance	V1
Mounting	Directly under the contactor




## Selection and ordering data FGR2-D thermal relay matched with contactor FGC1-D

	Rated frame current (A)	Rated working current of thermal relay	Rated current (A)	Current setting range (A)	Matched fuse type		Matched AC contactor	
					aM (A)	gG (A)		
	25	FGR2-D 1301	0.16	0.10~0.16	0.25	2	FGC1/FGP1	
		FGR2-D 1302	0.25	0.16~0.25	0.5	2	FGC1/FGP1	
		FGR2-D 1303	0.40	0.25~0.40	1	2	FGC1/FGP1	
		FGR2-D 1304	0.63	0.40~0.63	1	2	FGC1/FGP1	
		FGR2-D 1305	1.0	0.63~1.0	2	4	FGC1/FGP1	
		FGR2-D 1306	1.6	1.0~1.6	2	4	FGC1/FGP1	
		FGR2-D 1306X	2.0	1.25~2.0	4	6	FGC1/FGP1	
		FGR2-D 1307	2.5	1.6~2.5	4	6	FGC1/FGP1	
		FGR2-D 1308	4.0	2.5~4.0	6	10	FGC1/FGP1	
		FGR2-D 1310	6.0	4.0~6.0	8	16	FGC1/FGP1	
			FGR2-D 1312	8.0	5.5~8.0	12	20	FGC1/FGP1
			FGR2-D 1314	10	7~10	12	20	FGC1/FGP1
			FGR2-D 1316	13	9~13	16	25	FGC1/FGP1
			FGR2-D 1321	18	12~18	20	35	FGC1/FGP1
FGR2-D 1322	25		17~25	25	50	FGC1/FGP1		
36	FGR2-D 2353		32	23~32	40	63	FGC1/FGP1	
	FGR2-D 2355	40	30~40	40	80	FGC1/FGP1		
	93	FGR2-D 3353	32	23~32	40	63	FGC1/FGP1	
		FGR2-D 3355	40	30~40	40	100	FGC1/FGP1	
		FGR2-D 3357	50	37~50	63	100	FGC1/FGP1	
		FGR2-D 3359	65	48~65	63	100	FGC1/FGP1	
		FGR2-D 3361	70	55~70	80	125	FGC1/FGP1	
		FGR2-D 3363	80	63~80	80	125	FGC1/FGP1	
		FGR2-D 3365	93	80~93	100	160	FGC1/FGP1	
		FGR2-D 150	150	80~150	160	250	FGC1/FGP1	
		FGR2-D 200	200	80~200	200	315	FGC1/FGP1	
		FGR2-D 400	400	160~400	400	630	FGC1/FGP1	
		FGR2-D 630	630	315~630	630	800	FGC1/FGP1	

## FGR2-F thermal relay matched with contactor FGC1-F

	Type code	Current setting range	Matched fuse type		Matched AC contactor
			aM Type (A)	gG Type (A)	
	FGR2-F53/50	30-50	50	80	FGC1-F115-F185
	FGR2-F53/80	48-80	80	125	FGC1-F115-F185
	FGR2-F53/100	60-100	100	200	FGC1-F115-F185
	FGR2-F53/150	90-150	160	250	FGC1-F115-F185
	FGR2-F53/220	132-220	250	315	FGC1-F225-F265
	SGC1-F73/330	200-330	400	500	FGC1-F225-F500
	SGC1-F73/500	300-500	500	800	FGC1-F225-F500
	SGC1-F73/630	380-630	630	800	FGC1-F400-F630

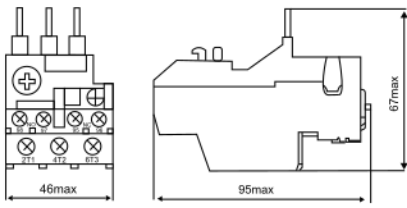
**Selection and ordering data**  
**MR28 thermal relay matched with contactor FGC1-K (miniature)**

	Rated frame current (A)	Rated working current of thermal relay	Rated current (A)	Current setting range (A)	Matched fuse type aM (A)	Matched fuse type gG (A)	Matched AC contactor
	12 Amp	FR28 0.10A-0.16A	0.16	0.10~0.16	0.25	2	FGC1-K12004(DC)
		FR28 0.16A-0.25A	0.25	0.16~0.25	0.5	2	FGC1-K12004(DC)
		FR28 0.25A-0.40A	0.40	0.25~0.40	1	2	FGC1-K12004(DC)
		FR28 0.40A-0.63A	0.63	0.40~0.63	1	2	FGC1-K12004(DC)
		FR28 0.63A-1A	1.0	0.63~1.0	2	4	FGC1-K12004(DC)
		FR28 1A-1.25A	1.25	1.0~1.25	2	4	FGC1-K12004(DC)
		FR28 1.25A-1.6A	1.6	1.25~1.6	4	6	FGC1-K12004(DC)
		FR28 2.5A-4.0A	4.0	4.0~1.25	4	6	FGC1-K12004(DC)
		FR28 4.0A-6.0A	6.0	4.0~6.0	6	10	FGC1-K12004(DC)
		FR28 5.5A-8A	8.0	5.5~8.0	8	16	FGC1-K12004(DC)
		FR28 9A-13A	13.0	9.0~13.0	12	20	FGC1-K12004(DC)

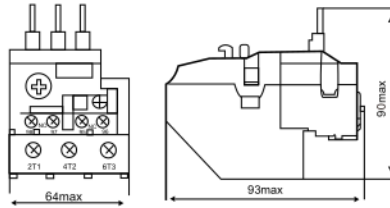




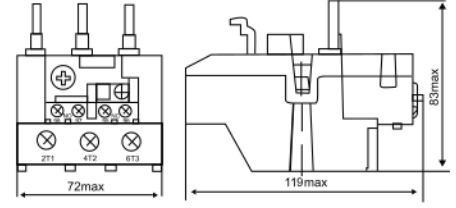
## 1. Overall and mounting dimensions( FGR21-D / FGR2-F Series )



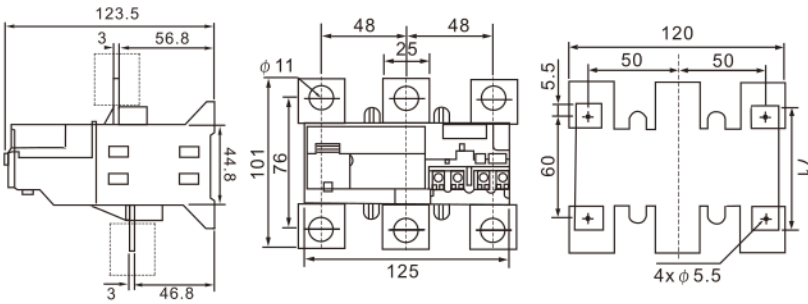
FGR2-D23



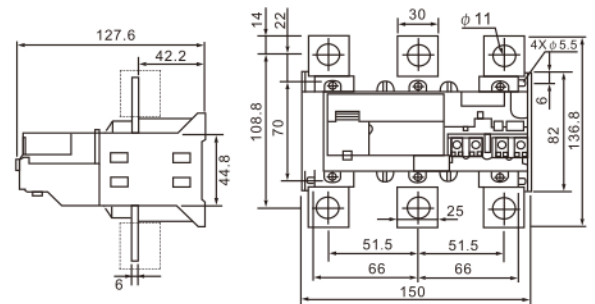
FGR2-D23



FGR2-D33



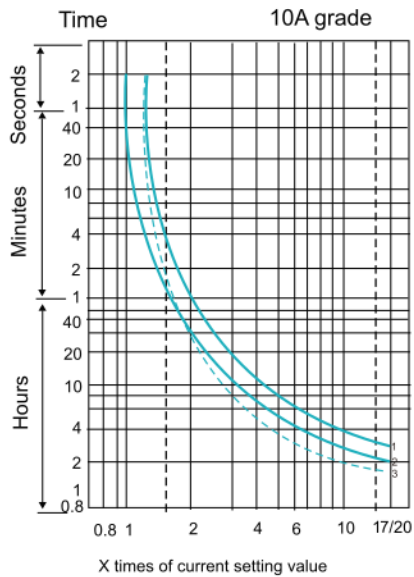
FGR2-F53/220



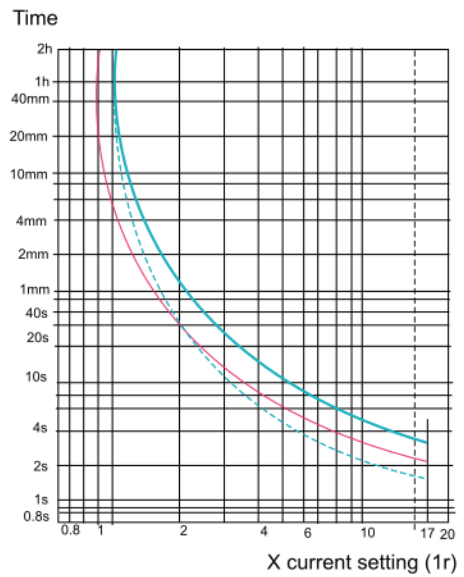
FGR2-F73/630

## 2. Tripping curve for thermal relay

FGR2-D



FGR2-F







1. Equilibrium running, 3phase, start form cold state
2. Equilibrium running, 2phase, start form cold state
3. Equilibrium running, 3phase, after long period of setting current(hot state)

## FGLW26 Series Rotary Switches Technical data


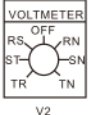
Standard	IEC60947-3/IEC60947-5-1
Approval	CE
Rated thermal current Ith(A)	10/20/25/32/40/63/125/160/250/315
Rated operational voltage Ue(V)	240/440
Rated insulation voltage Ui(V)	660/690
Rated frequency(Hz)	50/60
Number of poles(P)	1,2,3,4
Handle type	black thumb grip and light grey front plate padlockable handle
Degree of protection	IP20
Ambient air temperature(°C)	-25~+40 max.90% humidity
Storage temperature(°C)	-40~+75
Maximum operating altitude(meters)	2000




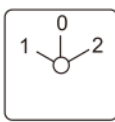
## Control switches with black thumb grip and light grey front plate

Picture	Function	Number of poles	In(A)	Type code
	0-1	1	10	FGLW26-1011010
			20	FGLW26-1011020
			25	FGLW26-1011025
			32	FGLW26-1011032
			40	FGLW26-1011040
			63	FGLW26-1011063
			125	FGLW26-1011125
			160	FGLW26-1011160
			250	FGLW26-1011250
			315	FGLW26-1011315
	0-1	2	10	FGLW26-1012010
			20	FGLW26-1012020
			25	FGLW26-1012025
			32	FGLW26-1012032
			40	FGLW26-1012040
			63	FGLW26-1012063
			125	FGLW26-1012125
			160	FGLW26-1012160
			250	FGLW26-1012250
			315	FGLW26-1012315
	0-1	3	10	FGLW26-1013010
			20	FGLW26-1013020
			25	FGLW26-10131025
			32	FGLW26-1013032
			40	FGLW26-1013040
			63	FGLW26-1013063
			125	FGLW26-1013125
			160	FGLW26-1013160
250	FGLW26-1013250			
	0-1	4	10	FGLW26-1014010
			20	FGLW26-10141020
			25	FGLW26-1014025
			32	FGLW26-1014032
			40	FGLW26-1014040
			63	FGLW26-1014063
			125	FGLW26-1014125
			160	FGLW26-1014160
250	FGLW26-1014250			


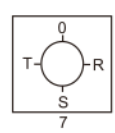
## Voltmeter switches with black thumb grip and light grey front plate

Picture	Function	Number of poles	In(A)	Type code
		3	20	FGLW26V


## Control switches with black thumb grip and light grey front plate

Picture	Function	Number of poles	In(A)	Type code			
	1-0-2	1	10	FGLW26-1021010			
			20	FGLW26-1021020			
			25	FGLW26-1021025			
			32	FGLW26-1021032			
			40	FGLW26-1021040			
			63	FGLW26-1021063			
			125	FGLW26-1021125			
			160	FGLW26-1021160			
			250	FGLW26-1021250			
			315	FGLW26-1021315			
				1-0-2	2	10	FGLW26-1022010
						20	FGLW26-1022020
25	FGLW26-1022025						
32	FGLW26-1022032						
40	FGLW26-1022040						
63	FGLW26-1022063						
125	FGLW26-1022125						
160	FGLW26-1022160						
250	FGLW26-1022250						
315	FGLW26-1022315						
<td rowspan="10">1-0-2</td> <td rowspan="10">3</td> <td>10</td> <td>FGLW26-1023010</td>	1-0-2	3				10	FGLW26-1023010
						20	FGLW26-1023020
			25	FGLW26-1023025			
			32	FGLW26-1023032			
			40	FGLW26-1023040			
			63	FGLW26-1023063			
			125	FGLW26-1023125			
			160	FGLW26-1023160			
			250	FGLW26-1023250			
			<td rowspan="10">1-0-2</td> <td rowspan="10">4</td> <td>10</td> <td>FGLW26-1024010</td>	1-0-2	4	10	FGLW26-1024010
20	FGLW26-1024020						
25	FGLW26-1024025						
32	FGLW26-1024032						
40	FGLW26-1024040						
63	FGLW26-1024063						
125	FGLW26-1024125						
160	FGLW26-1024160						
250	FGLW26-1024250						

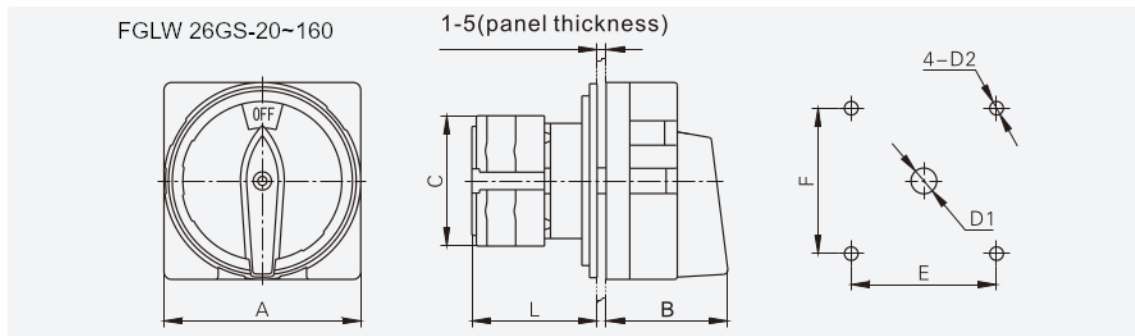
## Ammeter switches with black thumb grip and light grey front plate

Picture	Function	Number of poles	In(A)	Type code
		3	20	FGLW26A

## 1. Control switches with padlockable handle

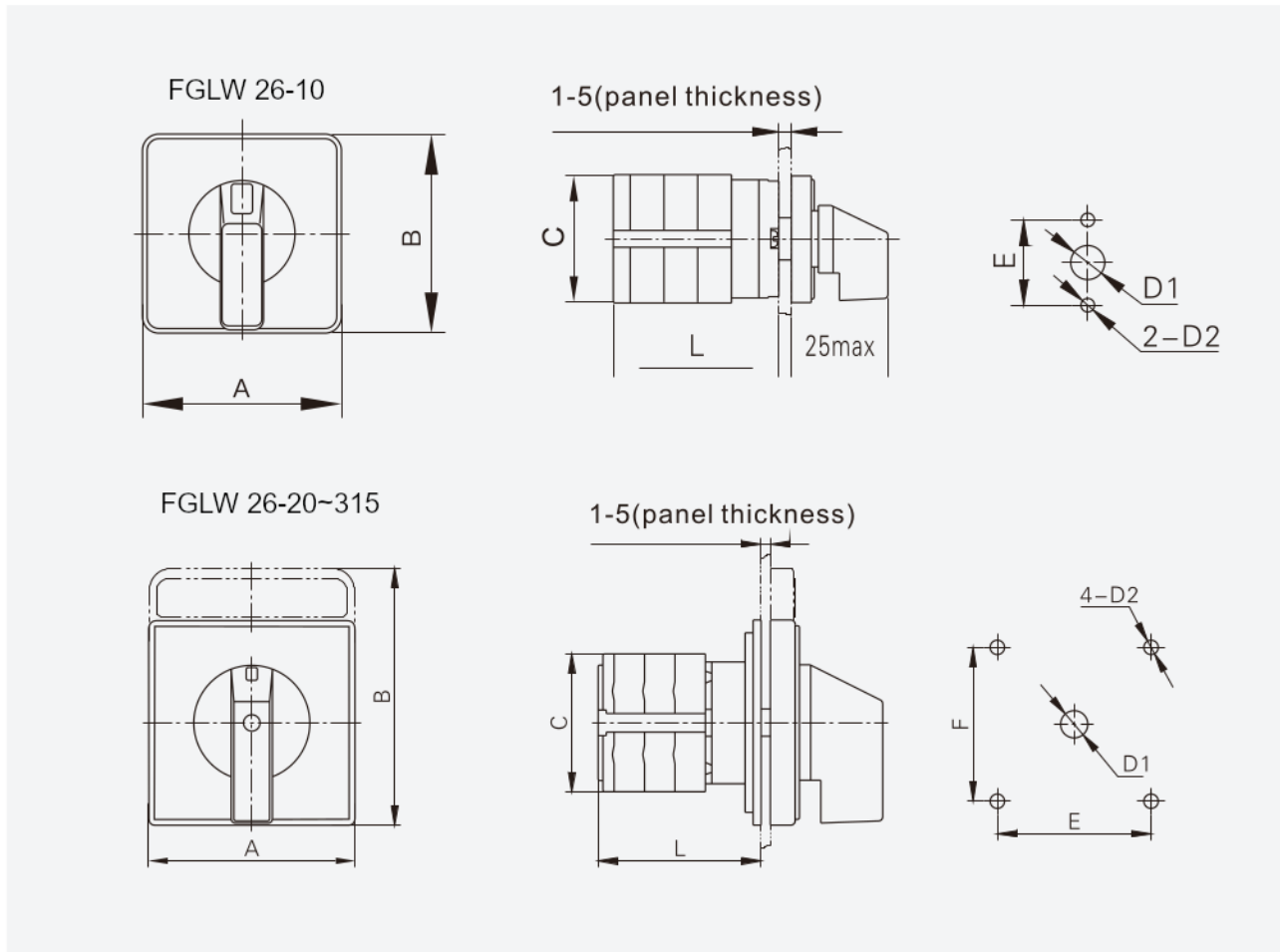
Picture	Function	Number of poles	In(A)	Type code
	ON-OFF	1	20	FGLW26GS-120
			25	FGLW26GS-125
			32	FGLW26GS-132
			63	FGLW26GS-163
			125	FGLW26GS-1125
			160	FGLW26GS-1160
	ON-OFF	2	20	FGLW26GS-220
			25	FGLW26GS-225
			32	FGLW26GS-232
			63	FGLW26GS-263
			125	FGLW26GS-2125
			160	FGLW26GS-2160
	ON-OFF	3	20	FGLW26GS-320
			25	FGLW26GS-325
			32	FGLW26GS-332
			63	FGLW26GS-363
125			FGLW26GS-3125	
160			FGLW26GS-3160	
ON-OFF	4	20	FGLW26GS-420	
		25	FGLW26GS-425	
		32	FGLW26GS-432	
		63	FGLW26GS-463	
		125	FGLW26GS-4125	
		160	FGLW26GS-4160	

## 2. Outline and installation dimensions



Type	Panel configuration	Dimension(mm)				Mounting Dimension (mm)			
		A	B	C	L	E	F	D1	D2
FGLW26GS-20	M1	48	43	42	33	36	36	φ8.5	φ4.5
FGLW26GS-20M2	M2	64	43	43	42	48	48	φ10	φ4.5
FGLW26GS-25	M1	48	45.2	50	33	36	36	φ8.5	φ4.5
FGLW26GS-25M2	M2	64	45.2	51	42	48	48	φ10	φ4.5
FGLW26GS-32	M2	64	58	55	42	48	48	φ10	φ4.5
FGLW26GS-32M3	M3	88	58	55	52	68	68	φ13	φ6
FGLW26GS-40	M2	64	58	55	42	48	48	φ10	φ4.5
FGLW26GS-40M3	M3	88	58	55	52	68	68	φ13	φ6
FGLW26GS-63	M2	64	58	55	42	48	48	φ10	φ4.5
FGLW26GS-63M3	M3	88	66	72.5	52	68	68	φ13	φ6
FGLW26GS-125	M3	88	84	88	52	68	68	φ13	φ6
FGLW26GS-160	M3	88	88	100	52	68	68	φ13	φ6

## 3.Outline and installation dimensions






Type	Panel configuration	Dimension(mm)				Mounting Dimension (mm)			
		A	B	C	L	E	F	D1	D2
FGLW26-10	M0	30	30	30.5	15.5+8n	20	-	φ8	φ3.2
FGLW26-20	M1	48	48	43	22+9.6n	20	36	φ8.5	φ4.5
FGLW26-20M2	M2	64	64	43	25+9.6n	48	48	φ10	φ4.5
FGLW26-25	M1	48	48	45.2	23+12.8n	36	36	φ8.5	φ4.5
FGLW26-25M2	M2	64	64	45.2	26.5+12.8n	48	48	φ10	φ4.5
FGLW26-32	M2	64	64	58	29.2+12.8n	48	48	φ10	φ4.5
FGLW26-32M3	M3	88	88	58	29.2+12.8n	68	68	φ13	φ6
FGLW26-40	M2	64	64	58	29.2+12.8n	48	48	φ10	φ4.5
FGLW26-40M3	M3	88	88	58	29.2+12.8n	68	68	φ13	φ6
FGLW26-63	M2	64	64	58	29.2+21.5n	48	48	φ10	φ4.5
FGLW26-63M3	M3	88	88	66	29.2+21.5n	68	68	φ13	φ6
FGLW26-125	M3	88	88	84	35+26.5n	68	68	φ13	φ6
FGLW26-160	M3	88	88	88	35+32.5n	68	68	φ13	φ6
FGLW26-250	M3	88	88	108	35.5+36n	68	68	φ13	φ6
FGLW26-315	M4	130	130	126	39.5+38.5n	104	104	φ16	φ7

## FGLW30 Series Rotary Switches

### Technical data

Standard	IEC60947-3/IEC60947-5-1
Approval	CE
Rated thermal current Ith(A)	20/25/32/40/63/80/100
Rated operational voltage Ue(V)	240/440
Rated insulation voltage Ui(V)	660
Rated frequency(Hz)	50
Number of poles(P)	3,4
Handle type	padlockable handle
Degree of protection	IP65 with box
Ambient air temperature(°C)	-25~+40 max.90% humidity
Storage temperature(°C)	-40~+75
Maximum operating altitude(meters)	2000



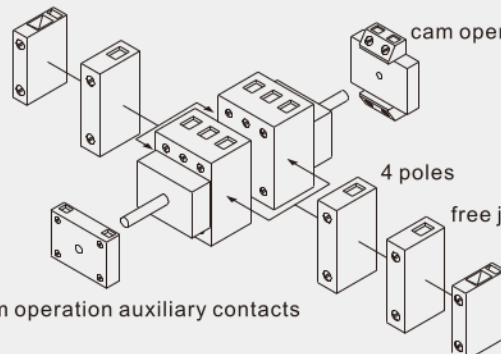
Picture	Function	Number of poles	In(A)	Type code
	ON/OFF	3	20	FGLW30-3D20
			25	FGLW30-3D25
			32	FGLW30-3D32
			40	FGLW30-3D40
			63	FGLW30-3D63
			80	FGLW30-3D80
	ON/OFF	4	20	FGLW30-4D20
			25	FGLW30-4D25
			32	FGLW30-4D32
			40	FGLW30-4D40
	ON/OFF	3	20	FGLW30-3R20
			25	FGLW30-3R25
			32	FGLW30-3R32
			40	FGLW30-3R40
			63	FGLW30-3R63
			80	FGLW30-3R80
	ON/OFF	4	20	FGLW30-4R20
			25	FGLW30-4R25
			32	FGLW30-4R32
			40	FGLW30-4R40
	ON/OFF	3	20	FGLW30-3B20
			25	FGLW30-3B25
			32	FGLW30-3B32
			40	FGLW30-3B40
			63	FGLW30-3B63
			80	FGLW30-3B80
	ON/OFF	4	20	FGLW30-4B20
			25	FGLW30-4B25
			32	FGLW30-4B32
			40	FGLW30-4B40
			63	FGLW30-4B63
			80	FGLW30-4B80
			100	FGLW30-4B100

## Auxiliary contacts



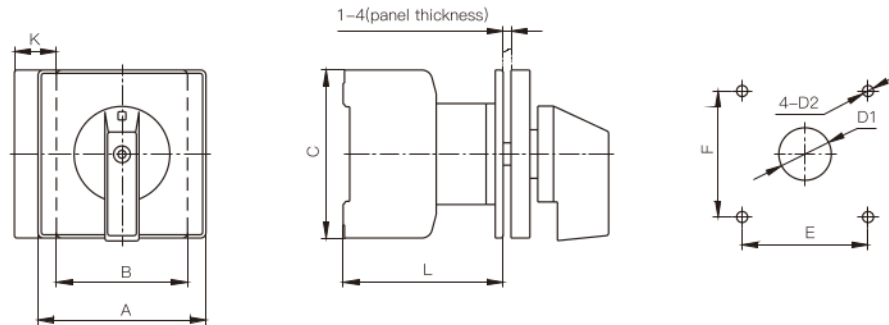
AC15 220~240V 6A/380~440V 4A

grounding or auxiliary contacts



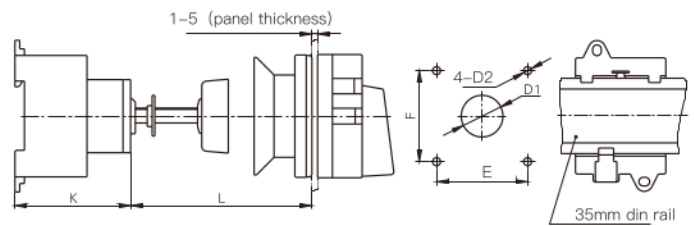


## Outline and installation dimensions

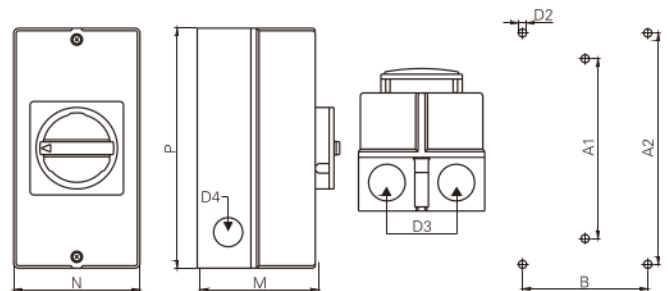


Type	Dimension(mm)					Mounting Dimension (mm)			
	A	B	C	K	L	E	F	D1	D2
FGLW30-D20	64	42	54	13.5	61	48	48	φ10	φ4.2
FGLW30-D25	64	42	54	13.5	61	48	48	φ10	φ4.2
FGLW30-D32	64	42	54	13.5	61	48	48	φ10	φ4.2
FGLW30-D40	64	50	64	16	67	48	48	φ10	φ4.2
FGLW30-D63	64	50	64	16	67	48	48	φ10	φ4.2
FGLW30-D80	64	70	80	22.5	82	48	48	φ10	φ4.2
FGLW30-D100	64	70	80	22.5	82	48	48	φ10	φ4.2

Type	Dimension(mm)			Mounting Dimension (mm)			
	K	Lmin	Lmax	E	F	D1	D2
FGLW30-R20	50	32	150	48	48	φ22	φ4.2
FGLW30-R25	50	32	150	48	48	φ22	φ4.2
FGLW30-R32	50	32	150	48	48	φ22	φ4.2
FGLW30-R40	50	32	150	48	48	φ22	φ4.2
FGLW30-R63	50	32	150	48	48	φ22	φ4.2
FGLW30-R80	50	32	150	48	48	φ22	φ4.2
FGLW30-R100	50	32	150	48	48	φ22	φ4.2



Type	Dimension(mm)					Mounting Dimension (mm)			
	D3	D4	M	N	P	A1	A2	B	D2
FGLW30-B20	φ23	φ19	85	83	160	150	—	—	φ4.2
FGLW30-B25	φ23	φ19	85	83	160	150	—	—	φ4.2
FGLW30-B32	φ23	φ19	85	83	160	150	—	—	φ4.2
FGLW30-B40	φ29	φ23	100	95	190	178	—	—	φ4.2
FGLW30-B63	φ29	φ23	100	95	190	178	—	—	φ4.2
FGLW30-B80	φ37.5	φ23	144	145	250	—	229	124	φ4.2
FGLW30-B100	φ37.5	φ23	144	145	250	—	229	124	φ4.2



## TR Series Push Button & LED Indicators

### Technical data

Standard	IEC 60947-5-1
Rated Insulation voltage $U_i$ (V)	400 V
Rated Frequency(Hz)	50/60Hz
Impulse voltage wear resistance	6000V
Rated current	6A(230V AC);0.3A(230V DC)
Short circuit protection	safety device 10A gG outside in the circuit
Mechanical wear resistance	1x10 <sup>6</sup> commutation cycles
Power of mechanical compression at closing	20N
Power of mechanical compression at opening	8N
Operating temperature (°C)	-20 ~ +65
Humidity	35-85%RH
Tightening moment of the joining conductors	0.15Nm
Section of the conductor	1x0.5; 1x0.75; 1x1; 1x1.5;1x2.5mm <sup>2</sup>
To a flat metal or plastic surface with thickness	max 4mm
Opening with size	Ø 22.5mm



# Push Buttons

Picture	Outline	Color	Type of contacts	Plastic/Metal
		○	1NO	TRB-22D-W
		●	1NO	TRB-22D-BK
		●	1NO	TRB-22D-G
		●	1NO	TRB-22D-Y
		●	1NO	TRB-22D-B
		○	1NO	TRB-22D-W-C
		●	1NO	TRB-22D-BK-C
		●	1NO	TRB-22D-G-C
		●	1NO	TRB-22D-Y-C
		●	1NO	TRB-22D-B-C
		○	1NO	TRB-22D-W-M
		●	1NO	TRB-22D-BK-M
		●	1NO	TRB-22D-G-M
		●	1NO	TRB-22D-Y-M
		●	1NO	TRB-22D-B-M
		○	1NO	TRB-22D-W-MO
		●	1NO	TRB-22D-BK-MO
		●	1NO	TRB-22D-G-MO
		●	1NO	TRB-22D-Y-MO
		●	1NO	TRB-22D-B-MO
		●	1NC	TRB-22D-R-MO

Picture	Outline	N° of position	Type of contacts	Plastic/Metal	
		2°	∇	1NO	TRB-ED21
			∇	1NO+1NC	TRB-ED25
			∇	1NO	TRB-ED41
			∇	1NO+1NC	TRB-ED45
		3°	∇	2NO	TRB-ED33
∇	2NO		TRB-ED53		
∇	2NO		TRB-ED73		
∇	2NO		TRB-ED83		
		2°	∇	1NO	TRB-EG21
			∇	1NO+1NC	TRB-EG25
			∇	1NO	TRB-EG41
			∇	1NO+1NC	TRB-EG45
		3°	∇	2NO	TRB-EG33
		2°	∇	1NO	TRB-BD21
			∇	1NO+1NC	TRB-BD25
			∇	1NO	TRB-BD41
			∇	1NO+1NC	TRB-BD45
		3°	∇	2NO	TRB-BD33
∇	2NO		TRB-BD53		
∇	2NO		TRB-BD73		
∇	2NO		TRB-BD83		
		2°	∇	1NO	TRB-BG21
			∇	1NO+1NC	TRB-BG25
			∇	1NO	TRB-BG41
			∇	1NO+1NC	TRB-BG45
		3°	∇	2NO	TRB-BG33
		∇	2NO	TRB-BG53	

# Start-Stop Buttons

Picture	Outline	Description	Type of contacts	Plastic/Metal
		Red spring reverse "Mushroom" type	1NC	TGB2-ES442G TGB2-ES542G TGB2-ES642G
		Green&Red double button	1NO+1NC	TGB2-EL8325 TGB2-EL9325
		White color Green color Yellow color Blue color Red color	1NO	TRIB-22D-R-240 TRIB-22D-G-240 TRIB-22D-Y-240 TRIB-22D-B-240 TRIB-22D-R-240
		Red color	1NC	TRIB-22D-R-240-NC
		Red spring reverse "Mushroom" type	1NC	TGB2-BS442G TGB2-BS542G TGB2-BS642G
		Green&Red double button	1NO+1NC	TGB2-BL8325 TGB2-BL-9325
		White color Green color Yellow color Blue color	1NO	TGB2-BW3161 TGB2-BW3361 TGB2-BW3561 TGB2-BW3661
		Red color	1NC	TGB2-BW3462

## Toggle Switch with LED Indicator


Picture	Outline	Color	N° of position & Type of contacts	Plastic/Metal
		<ul style="list-style-type: none"> <li>○</li> <li>●</li> <li>●</li> <li>●</li> <li>●</li> </ul>	2 <sup>o</sup> position 1NO+1NC	SGB2-EK2765 SGB2-EK2365 SGB2-EK2565 SGB2-EK2665 SGB2-EK2465
		<ul style="list-style-type: none"> <li>○</li> <li>●</li> <li>●</li> <li>●</li> <li>●</li> </ul>	3 <sup>o</sup> position 1NO+1NC	SGB2-EK3765 SGB2-EK3365 SGB2-EK3565 SGB2-EK3665 SGB2-EK3465
		<ul style="list-style-type: none"> <li>○</li> <li>●</li> <li>●</li> <li>●</li> <li>●</li> </ul>	2 <sup>o</sup> position 1NO+1NC	SGB2-BK2765 SGB2-BK2365 SGB2-BK2565 SGB2-BK2665 SGB2-BK2465
		<ul style="list-style-type: none"> <li>○</li> <li>●</li> <li>●</li> <li>●</li> <li>●</li> </ul>	3 <sup>o</sup> position 1NO+1NC	SGB2-BK3765 SGB2-BK3365 SGB2-BK3565 SGB2-BK3665 SGB2-BK3465


# Panel Indicators


Picture	Outline	Color	Description	Reference
		○	LED 220/240VAC 50/60Hz	TRI-22-W
		●		TRI-22-G
		●		TRI-22-Y
		●		TRI-22-B
		●		TRI-22-R












Picture	Outline	Color	Description	Reference
		LED White	12VAC/DC	TGD22-22D-W-12
			24VAC/DC	TGD22-22D-W-24
			48VAC/DC	TGD22-22D-W-48
			110VAC/DC	TGD22-22D-W-110
			230VAC	TGD22-22D-W-230
400VAC	TGD22-22D-W-400			
		LED Green	12VAC/DC	TGD22-22D-G-12
			24VAC/DC	TGD22-22D-G-24
			48VAC/DC	TGD22-22D-G-48
			110VAC/DC	TGD22-22D-G-110
			230VAC/DC	TGD22-22D-G-230
400VAC/DC	TGD22-22D-G-400			
		LED Yellow	12VAC/DC	TGD22-22D-Y-12
			24VAC/DC	TGD22-22D-Y-24
			48VAC/DC	TGD22-22D-Y-48
			110VAC/DC	TGD22-22D-Y-110
			230VAC	TGD22-22D-Y-230
400VAC	TGD22-22D-Y-400			
		LED Blue	12VAC/DC	TGD22-22D-B-12
			24VAC/DC	TGD22-22D-B-24
			48VAC/DC	TGD22-22D-B-48
			110VAC/DC	TGD22-22D-B-110
			230VAC	TGD22-22D-B-230
400VAC	TGD22-22D-B-400			
		LED Red	12VAC/DC	TGD22-22D-W-12
			24VAC/DC	TGD22-22D-W-24
			48VAC/DC	TGD22-22D-W-48
			110VAC/DC	TGD22-22D-W-110
			230VAC	TGD22-22D-W-230
400VAC	TGD22-22D-W-400			
With audible alarm		LED Red	12VAC/DC	TGD22-22D-R-12
			24VAC/DC	TGD22-22D-R-24
			48VAC/DC	TGD22-22D-R-48
			110VAC/DC	TGD22-22D-R-110
			230VAC	TGD22-22D-R-230
	400VAC	TGD22-22D-R-400		

## Accessories for Push button

Picture	Type of contacts	Description	Reference
	1NO	base for TGB2	TGB2-NO
	1NC	base for TGB2	TGB2-NC

Picture	Contact auxiliary	Description	Reference
	25X11	brand frame for TGB2	TA800E-P08
	25X18	brand frame for TGB2	TA800E-P12

Picture	Contact auxiliary	Description	Reference
	φ 60	alarm circle	TA800E-P16

Picture	Contact auxiliary	Description	Reference
Replacement LED Beads 	220/240VAC		TA800E-LW230
			TA800E-LG230
			TA800E-LY230
			TA800E-LB230
			TA800E-LR230
	24VAC/DC		TA800E-LW24
			TA800E-LG24
			TA800E-LY24
			TA800E-LB24
			TA800E-LR24