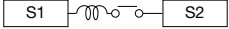
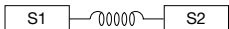


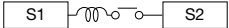
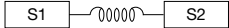
Internal Accessories

Shunt Trip

(1) Factory installed Shunt Trip for SA100 to 800A frame

Code	Operating voltage	Breaker type	SA102BAUL, SA103BAUL SA102RAUL, SA103RAUL SA202BAUL, SA203BAUL SA202RAUL, SA203RAUL		SA402BUL, SA403BUL SA402RUL, SA403RUL SA603RUL, SA803RUL		Time rating (ms)	Terminal No. and Internal circuit
			Input (VA)	Internal circuit	Input (VA)	Internal circuit		
F8	24VAC		30	Continuous	-	Internal circuit	100A frame: 7 to 16 225A frame: 13 to 21 400-800A frame: 80 to 100	Continuous with burnout Prevention contact 
FV	24 to 48VAC		-	with burnout	2.0	Continuous		
F7	48VAC		30	prevention	-			
FT	100 to 125VAC		30	contact	-			
FW	100 to 240VAC		-		3.0			
FU	200 to 240VAC		30		-			
FF	380-550VAC		-		4.0			
FM	24VDC		35		-			
FR	24 to 48VDC		-		2.0			
FN	48VDC		35		-			
FL	100 to 110VDC		35		-			
FX	100 to 220VDC		-		3.0			
FZ	200 to 220VDC		35		-			
								Continuous 

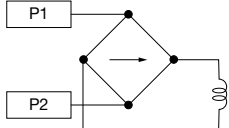
(2) Field installable Shunt Trip for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL

Applicable Breaker	Operating voltage	Input (VA, W)	Part number		Internal circuit	Time rating (ms)	Terminal No. and Internal circuit		
			Lead wire	with Terminal block					
SA52RCUL	24VAC, 24VDC	150	BZ6FR10CU	BZ6FR10CAU	Continuous with burnout prevention contact	7 to 13	Continuous with burnout Prevention contact 		
SA53RCUL	100 to 120VAC, 100 to 110VDC	150	BZ6FA10CU *2	BZ6FA10CAU *2					
EA102CUL EA103CUL	200 to 240VAC 380 to 450VAC	150 200	BZ6FK10CU BZ6FP10CU	BZ6FK10CAU BZ6FP10CAU					
SG53RCUL	100VAC 50Hz, 100 to 110VAC 60Hz	16	-	BZ6F210CAU	Continuous	7 to 13	Continuous 		
EG102CUL EG103CUL	110VAC 50Hz, 110 to 127VAC 60Hz	22	-	BZ6F110CAU *2					
	200VAC 50Hz, 200 to 220VAC 60Hz	16	-	BZ6F710CAU					
	220VAC 50Hz, 220 to 240VAC 60Hz	22	-	BZ6F410CAU *2					
	230VAC 50Hz, 230 to 240VAC 60Hz	22	-	BZ6F510CAU *2					
	240VAC 50Hz	22	-	BZ6FB10CAU *2					
	380VAC 50Hz, 380 to 415VAC 60Hz	22	-	BZ6F010CAU *2					
	400VAC 50Hz, 400 to 440VAC 60Hz	22	-	BZ6F810CAU					
	24VDC	36	-	△ *1 *2				Continuous with burnout prevention contact	7 to 13
	100 to 110VDC	24	-	△ *1 *2					

Notes: *1: ΔFactory-installed accessory. When ordering, specify the rated voltage *2: Under UL application

Undervoltage trip

(1) Factory installed Undervoltage Trip for SA100 to 800A frame

Code	Operating voltage	Breaker type	SA102BAUL, SA103BAUL SA102RAUL, SA103RAUL SA202BAUL, SA203BAUL SA202RAUL, SA203RAUL		SA402BUL, SA403BUL SA402RUL, SA403RUL SA603RUL, SA803RUL		Operating voltage		Terminal No.
			Make/hold (VA)	Make/hold (VA)	Tripping voltage	Make enabling voltage			
R8	24VAC		0.76	2.0	60% to 35% of rated voltage	75% or more of rated voltage			
R7	48VAC		1.5	2.0					
RK	100 to 110VAC		3.5	3.0					
RY	200 to 220VAC		2.0	-					
RU	200 to 240VAC		-	3.0					
R2	240VAC		2.5	-					
RE	380 to 480VAC		-	4.0					
RM	24VDC		0.76	2.0					
RN	48VDC		1.5	2.0					
RL	100 to 110VDC		3.5	3.0					
RZ	200 to 220VDC		2.0	3.0					

Internal Accessories

(2) Field installable Undervoltage Trip for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL

Applicable Breaker	Operating voltage	Input (VA, W)	Part number with Terminal block	Operating voltage		Terminal No.
				Tripping voltage	Make enabling voltage	
SA52RCUL	100VAC 50Hz,	25	BZ6R210CAU	70% to 20% of rated voltage	85% or more of rated voltage	
SA53RCUL	100 to 110VAC 60Hz					
EA102CUL	110VAC 50Hz,	34	BZ6R110CAU *			
EA103CUL	110 to 127VAC 60Hz					
SG53RCUL	200VAC 50Hz,	23	BZ6RW10CAU			
EG102CUL	200 to 220VAC 60Hz					
EG103CUL	220VAC 50Hz,	33	BZ6R410CAU *			
	220 to 240VAC 60Hz					
	230VAC 50Hz,	27	BZ6R510CAU *			
	230 to 240VAC 60Hz					
	240VAC 50Hz	22	BZ6R810CAU *			
	380VAC 50Hz,	33	BZ6R010CAU *			
	380 to 415VAC 60Hz					
	400VAC 50Hz,	27	BZ6R910CAU			
	400 to 440VAC 60Hz					
	24VDC	15	BZ6RF10CAU *			
	100 to 110VDC	15	BZ6RT10CAU *			

Note: *Under UL application

Auxiliary Switches and Alarm Switches

Rating

(1) Standard: W, K

Breaker type	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL	SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL SG103BAUL, SG203BAUL	SA402BUL, SA403BUL, SA402RUL, SA403RUL SA603RUL, SA803RUL	Minimum load
Operating voltage	Rated current (A)	Rated current (A)	Rated current (A)	W, K: 5V DC 160mA 30V DC 30mA
120V AC	3.6	3	3	
240V AC	1.8	3	3	
125V DC	0.55	0.2 *	0.2	
250V DC	0.27	0.2 *	0.2	

Note: * Manufacturer's self certification

(2) For small current: WD, KD

Breaker type	SA52RCUL, SA53RCUL, EA102CUL, EA103CUL SG53RCUL, EG102CUL, EG103CUL	SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL SG103BAUL, SG203BAUL	SA402BUL, SA403BUL, SA402RUL, SA403RUL SA603RUL, SA803RUL	Minimum load
Operating voltage	Rated current (A)	Rated current (A)	Rated current (A)	WD, KD: 5V DC 1mA 30V DC 1mA
30V DC	0.1	0.1	0.1	

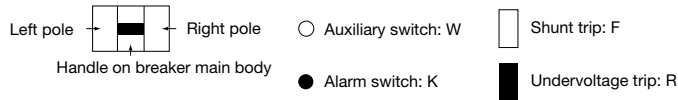
(3) Operation

Type of switch	Condition of MCCB		
	ON	OFF	TRIP
Auxiliary switch (W)			
Alarm switch (K)			

(4) Part number of field installable device (for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL)

Accessory		Part number			
		Lead wire type		With terminal block type	
		Left side	Right side	Left side	Right side
Aux	W	BZ6WL10CU	BZ6WR10CU	BZ6WL10CAU	BZ6WR10CAU
	WD	BZ6WDL10CU	BZ6WDR10CU	BZ6WDL10CAU	BZ6WDR10CAU
Alarm	K	BZ6KL10CU	BZ6KR10CU	BZ6KL10CAU	BZ6KR10CAU
	KD	BZ6KDL10CU	BZ6KDR10CU	BZ6KDL10CAU	BZ6KDR10CAU
Aux, Alarm	WK	BZ6WKL10CU	BZ6WKR10CU	BZ6WKL10CAU	BZ6WKR10CAU
	WDKD	BZ6WDKDL10CU	BZ6WDKDR10CU	BZ6WDKDL10CAU	BZ6WDKDR10CAU

■ Internal Accessory Combinations for ELCB



Breaker type	SG53RCUL EG102CUL, EG103CUL *1	SG103BAUL SG203BAUL
Poles	2,3	3
Accessories		
Auxiliary switch (W)		
Alarm switch (K)		
Shunt trip (F)		N/A
Undervoltage trip (R)		N/A
W2		N/A
W+K		
W2+K		N/A
K2		N/A
W+K2		N/A
W2+K2		N/A
W+F		N/A
W+R		N/A
W2+R	N/A	N/A
K+F		N/A
K+R		N/A
K2+R	N/A	N/A
W+K+F		N/A
W+K+R		N/A
W2+K+R	N/A	N/A
W+K2+R	N/A	N/A
W2+K2+R	N/A	N/A

Note: *1 Internal accessories can be installed in the field. (see page 17, 18 for part number)

*2 When ordered shunt trip or undervoltage trip for SG53RCUL, EG102/103CUL, terminal block style will be supplied as a standard.