

# MOLDED CASE CIRCUIT BREAKER EARTH LEAKAGE CIRCUIT BREAKER



**MCCB Frame Size Selection Table**

Frame Size	Type	Rated Breaking Capacity (kA)				Pole	Rated Current In(A)	Accessory		
		IEC60947-2						Blank	No Acc.	
		220V	380V	440V	500V					
30	CN	2.5	1.5	-	-	2, 3	3, 5, 10, 15, 20, 30.	Blank	No Acc.	
	SN	5	2.5	2.5	1.5	3		AX	Auxiliary Switch	
50	CN	5	2.5	2.5	1.5	2, 3	10, 15, 20, 30, 40, 50.	AL	Alarm Switch	
	SN	10	7.5	7.5	5	2, 3, 4		SHT	Shunt Trip	
60	HN	25	15	10	5	2, 3, 4	10, 15, 20, 25, 30, 40, 50, 60.	UVT	Under Voltage Trip	
	HBN	50	30	25	15	3		10, 15, 20, 30, 40, 50, 60.		
	MN	15	10	7.5	5	2, 3				
100	SN	25	15	10	5	2, 3	10, 15, 20, 30, 40, 50, 60, 75, 100.			
	HN	50	30	25	15	2, 3, 4				
	HBN	85	36	32	20	3, 4		40, 50, 63, 80, 100.		
	H	85	50	42	25	3		15, 20, 30, 40, 50, 60, 75, 100.		
	HC	100	70	55	42	3, 4		40, 50, 63, 80, 100.		
125	HS	125	85	70	50	3, 4	15, 20, 30, 40, 50, 60, 75, 100, 125.			
	SN	7.5	15	22	30	2, 3, 4				
	HN	15	25	30	50	2, 3, 4				
	SN	50	30	25	15	3, 4				
160	HN	85	36	32	20	3, 4	125, 140, 160.			
	HBN	85	50	42	25	3, 4				
	HC	100	70	55	42	3, 4				
250	HS	125	85	70	50	3, 4	175, 200, 225, 250.			
	SN	50	30	25	15	3, 4		175, 200, 225, 250.		
	HN	85	36	32	20	3, 4		125, 150, 175, 200, 225, 250.		
	HBN	85	50	42	25	3, 4		175, 200, 225, 250.		
	HC	100	70	55	42	3, 4		175, 200, 225, 250.		
400	HS	125	85	70	50	3, 4	250, 300, 350, 400.			
	SN	50	35	30	20	3, 4				
	HN	85	50	42	25	3, 4				
	RN	100	70	55	42	3, 4				
630	UN	125	85	85	65	3, 4	500, 630.			
	SN	50	35	30	20	3, 4				
	HN	85	50	50	25	3, 4				
800	RN	100	70	70	42	3, 4	700, 800.			
	UN	125	100	85	65	3, 4				
	CN	50	35	30	20	3, 4				
	SN	85	50	50	25	3, 4				
1000	HN	100	70	70	42	3, 4	1000			
	RN	125	100	85	65	3, 4				
1200	HS	130	100	85	65	3	1200			
1600	HS	130	100	85	65	3	1400, 1600.			

Note 1. There is no SHT for 100H, 100HC, 100HS, 30A and below.  
 2. There is no UVT for 100H, 100HC, 100HS, 160HB, 160HC, 160HS, 250HB, 250HC, 250HS.






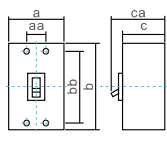
### ELCB Frame Size Selection Table

Frame Size	Type	Rated Breaking Capacity (kA)			Pole	Rated Current In(A)	Accessory	
		IEC60947-2					Blank	No Acc.
		220V	380V	440V				
50	SN	10	7.5	7.5	3, 4	15, 20, 30, 40, 50.	Blank	No Acc.
100	SN	25	15	10	3, 4	15, 20, 30, 40, 50, 60, 75, 100.	AX	Auxiliary Switch
	HN	50	30	25	3, 4		AL	Alarm Switch
160	SN	50	30	25	3, 4	125, 140, 160.	SHT	Shunt Trip
250	SN	50	30	25	3, 4	175, 200, 225, 250.	UVT	Under Voltage Trip
	SN	50	35	30	3, 4			
400	HN	85	50	42	3, 4	250, 300, 350, 400.		
	RN	100	70	55	3, 4			
	UN	125	85	85	3, 4			
630	HN	85	50	50	3, 4	500, 630.		
	RN	100	70	70	3, 4			
	UN	125	100	85	3, 4			
800	SN	85	50	50	3, 4	700, 800.		
	HN	100	70	70	3, 4			
	RN	125	100	85	3, 4			

### MCCB/ELCB Breaking Capacity Selection Table







Series	Rated Breaking Capacity (kA)	Frame Size/ Rated Current In (A)											
		IEC60947-2											
		30	50/60	100	125	160	250	400	630	800	1000	1200	1600
BM	100kA								630-UN	800-RN	1000-HS	1200-HS	1600-HS
	85kA			100-HS		160-HS	250-HS	400-UN					
	70kA			100-HC		160-HC	250-HC	400-RN	630-RN	800-HN			
	50kA			100-H		160-HBN	250-HBN	400-HN	630-HN	800-SN			
	35/36kA			100-HBN		160-HN	250-HN	400-SN	630-SN	800-CN			
	30kA		60-HBN	100-HN		160-SN	250-SN						
	25kA				125-HN								
	15kA		60-HN	100-SN	125-SN								
	10kA				100-MN								
	7.5kA		60-SN										
	2.5kA	30-SN	50-CN										
	1.5kA	30-CN											
	BL	100kA								630-UN	800-RN		
85kA								400-RN					
70kA								400-RN	630-RN	800-HN			
50kA								400-HN	630-HN	800-SN			
35kA								400-SN					
30kA				100-HN		160-SN	250-SN						
15kA				100-SN									
10kA													
7.5kA		50-SN											

## MCCB (Molded Case Circuit Breaker)

Frame size (AF) (Inm)		30				50		60					
Type		BM30-CN		BM30-SN		BM50-CN		BM60-SN			BM60-HN		
Photograph													
Rated current In (A) at ambient temp. 40°C		3, 5, 10, 15, 20, 30.		3, 5, 10, 15, 20, 30.		10, 15, 20, 30, 40, 50.		10, 15, 20, 25, 30, 40, 50, 60.			10, 15, 20, 25, 30, 40, 50, 60.		
Number of poles (P)		2	3	2	3	2	3	2	3	4	2	3	4
Rated insulation voltage Ui (V)		AC		690		690		690			690		
		DC		—		—		—			—		
Dimensions  (mm)	a	45	67.5	50	75	50	75	50	75	100	50	75	100
	b	96		130		130		130			130		
	c	52		68		68		68			68		
	ca	67		90		90		90			90		
	bb	84		111		111		111			111		
	aa	23.5		25		25		25			25		
Weight (kg)		0.3	0.4	0.45	0.65	0.45	0.65	0.45	0.65	0.85	0.45	0.65	0.85
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 AC	500V	—		1.5		1.5		5			5	
		440V	—		2.5		2.5		7.5			10	
		380V	1.5		2.5		2.5		7.5			15	
		220V(240V)	2.5		5		5		10			25	
	DC	250V	—		—		—		—			—	
		125V	—		—		—		—			—	
Connection		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal			Clamp terminal		
Optional accessories	Alarm switch (AL)	—		○		○		○			○		
	Auxiliary switch (AX)	—		○		○		○			○		
	Shunt trip (SHT)	—		○		○		○			○		
	Under-voltage trip (UVT)	—		○		○		○			○		
	External handle (EH)	—		●		●		●			●		
	Terminal cover (TC)	●		●		●		●			●		
Trip Unit		Hydraulic magnetic		Hydraulic magnetic		Hydraulic magnetic		Hydraulic magnetic			Hydraulic magnetic		
Tripping button		—		Equipped		Equipped		Equipped			Equipped		

Note 1. "●" which can be installed by client, "○" which have to be installed by manufacturer. "—" which is not available.  
 Above accessories table is for 3P breaker.  
 2. Ics= 50% Icu  
 3. Adjustable thermal: 80%~100% In.

80% ~ 100% Adj. (A)

60	100				
BM60-HBN	BM100-MN	BM100-SN	BM100-HN	BM100-HBN	BM100-H
					
10, 15, 20, 30, 40, 50, 60.	10, 15, 20, 30, 40, 50, 60, 75, 100.	10, 15, 20, 30, 40, 50, 60, 75, 100.	10, 15, 20, 30, 40, 50, 60, 75, 100.	40, 50, 63, 80, 100.	15, 20, 30, 40, 50, 60, 75, 100.
3	2   3	2   3	2   3   4	3   4	3
690	690	690	690	690	690
—	—	—	—	—	—
90	50   75	50   75	60   90   120	105   140	105
155	130	130	155	165	165
68	68	68	68	68	86
90	90	90	90	92	112
134	111	111	134	126	126
30	25	25	30	35	35
1.3	0.45   0.65	0.45   0.65	0.9   1.3   1.6	1.5   1.9	2.1
15	5	5	15	20	25
25	7.5	10	25	32	42
30	10	15	30	36	50
50	15	25	50	85	85
—	—	—	—	—	—
—	—	—	—	—	—
Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal
○	○	○	○	●	○
○	○	○	○	●	○
○	○	○	○	●	○
○	○	○	○	●	—
●	●	●	●	●	●
●	●	●	●	●	●
Hydraulic magnetic	Hydraulic magnetic	Hydraulic magnetic	Hydraulic magnetic	Adj. thermal Fixed magnetic	Thermal magnetic
Equipped	Equipped	Equipped	Equipped	Equipped	Equipped

BM

Series

BL

Series

BP

Series






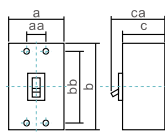
BL

Series

Others

## MCCB (Molded Case Circuit Breaker)







80% ~ 100% Adj. (A)

Frame size (AF) (Inm)		100				125			160					
Type		BM100-HC		BM100-HS		BM125-SN			BM125-HN			BM160-SN		
Photograph														
Rated current In (A) at ambient temp. 40°C		40, 50, 63, 80, 100.		40, 50, 63, 80, 100.		10, 15, 20, 30, 40, 50, 60, 75, 100, 125.			10, 15, 20, 30, 40, 50, 60, 75, 100, 125.			125, 140, 160.		
Number of poles (P)		3	4	3	4	2	3	4	2	3	4	3	4	
Rated insulation voltage Ui (V)		AC		690		690			690			690		
		DC		—		—			—			—		
Dimensions  (mm)	a	105	140	105	140	60	90	120	60	90	120	105	140	
	b	165		165		155			155			165		
	c	86		86		68			68			68		
	ca	112		112		90			90			92		
	bb	126		126		132			132			126		
	aa	35		35		30			30			35		
Weight (kg)		2.1	2.6	2.1	2.6	0	30	30	0	30	30	1.5	1.9	
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 AC Icu	500V	42		50		7.5			15			15	
		440V	55		70		15			25			25	
		380V	70		85		22			30			30	
		220V(240V)	100		125		30			50			50	
	DC	250V	—		—		—			—			—	
		125V	—		—		—			—			—	
Connection		Clamp terminal		Clamp terminal		Clamp terminal			Clamp terminal			Clamp terminal		
Optional accessories	Alarm switch (AL)	○		○		○			○			●		
	Auxiliary switch (AX)	○		○		○			○			●		
	Shunt trip (SHT)	○		○		○			○			●		
	Under-voltage trip (UVT)	—		—		—	○	○	—	○	○	●		
	External handle (EH)	●		●		●			●			●		
	Terminal cover (TC)	●		●		●			●			●		
Trip Unit		Thermal magnetic		Thermal magnetic		Hydraulic magnetic			Hydraulic magnetic			Adj. thermal Fixed magnetic		
Tripping button		Equipped		Equipped		Equipped			Equipped			Equipped		

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 Above accessories table is for 3P breaker.  
 2. Ics= 50% Icu  
 3. Adjustable thermal: 80%~100% In.



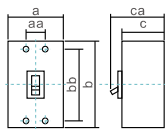
80% ~ 100% Adj. (A)

80% ~ 100% Adj. (A)

160				250								
BM160-HN		BM160-HB		BM160-HC		BM160-HS		BM250-CN			BM250-SN	
												
125, 140, 160.		125, 140, 160.		125, 140, 160.		125, 140, 160.		125, 150, 175, 200, 225, 250.			175, 200, 225, 250.	
3	4	3	4	3	4	3	4	2	3	4	3	4
690		690		690		690		690			690	
—		—		—		—		250	—	—	—	
105	140	105	140	105	140	105	140	105	105	140	105	140
165		165		165		165		165			165	
68		86		86		86		68			68	
92		112		112		112		92			92	
126		126		126		126		126			126	
35		35		35		35		35			35	
1.5	1.9	2.1	2.6	2.1	2.6	2.1	2.6	1.3	1.5	1.9	1.5	1.9
20		25		42		50		7.5			15	
32		42		55		70		15			25	
36		50		70		85		22			30	
85		85		100		125		30			50	
—		—		—		—		10	—	—	—	
—		—		—		—		15	—	—	—	
Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal			Clamp terminal	
●	○	○	○	○	○	○	○	●	●	●	●	●
●	○	○	○	○	○	○	○	●	●	●	●	●
●	○	○	○	○	○	○	○	●	●	●	●	●
●	—	—	—	—	—	—	—	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●
Adj. thermal Fixed magnetic	Thermal magnetic		Thermal magnetic		Thermal magnetic		Adj. thermal Fixed magnetic			Adj. thermal Fixed magnetic		
Equipped	Equipped		Equipped		Equipped		Equipped			Equipped		

## MCCB (Molded Case Circuit Breaker)

80% ~ 100% Adj. (A)

Frame size (AF) (Inm)		250								400			
Type		BM250-HN		BM250-HB		BM250-HC		BM250-HS		BM400-CN			
Photograph													
Rated current In (A) at ambient temp. 40°C		175, 200, 225, 250.		125, 150, 175, 200, 225, 250.		175, 200, 225, 250.		175, 200, 225, 250.		250, 300, 350, 400.			
Number of poles (P)		3	4	3	4	3	4	3	4	2	3	4	
Rated insulation voltage Ui (V)		AC		690		690		690		690			
		DC		—		—		—		250	—	—	
Dimensions 	a	105	140	105	140	105	140	105	140	140	140	185	
	b	165		165		165		165		257			
	c	68		86		86		86		103			
	ca	92		112		112		112		155			
	bb	126		126		126		126		194			
	aa	35		35		35		35		44			
Weight (kg)		1.5	1.9	2.1	2.6	2.1	2.6	2.1	2.6	5.0	5.7	7.5	
Rated breaking capacity (kA)	AC IEC 60947-2 EN 60947-2 Icu	500V	20		25		42		50		14		
		440V	32		42		55		70		22		
		380V	36		50		70		85		25		
		220V(240V)	85		85		100		125		35		
	DC	250V	—		—		—		—		10	—	—
		125V	—		—		—		—		15	—	—
Connection		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Busbar			
Optional accessories	Alarm switch (AL)	●		○		○		○		●			
	Auxiliary switch (AX)	●		○		○		○		●			
	Shunt trip (SHT)	●		○		○		○		●			
	Under-voltage trip (UVT)	●		—		—		—		●			
	External handle (EH)	●		●		●		●		●			
	Terminal cover (TC)	●		●		●		●		●			
Trip Unit		Adj. thermal Fixed magnetic		Thermal magnetic		Thermal magnetic		Thermal magnetic		Thermal magnetic			
Tripping button		Equipped		Equipped		Equipped		Equipped		Equipped			

Note 1. "●" which can be installed by client, "○" which have to be installed by manufacturer. "—" which is not available.  
 Above accessories table is for 3P breaker.  
 2. Ics= 50% Icu  
 3. Adjustable thermal: 80%~100% In.



BM

Series

BL

Series



BP

Series






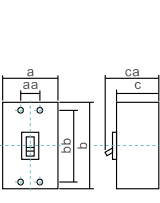
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Series






Others

400				630	
BM400-SN	BM400-HN	BM400-RN	BM400-UN	BM630-CN	BM630-SN
					
250, 300, 350, 400.		250, 300, 350, 400.		500, 600, 630.	
3	4	3	4	3	3
690		690		690	
—		—		250	
140	185	140	185	210	210
257		257		275	
103		103		103	
155		155		155	
194		194		243	
44		44		70	
5.7	7.5	5.7	7.5	10	10
20		25		14	
30		42		22	
35		50		25	
50		85		35	
—		—		10	
—		—		20	
—		—		—	
Busbar		Busbar		Busbar	
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
Thermal magnetic	Thermal magnetic	Thermal magnetic	Thermal magnetic	Fixed thermal Adj. magnetic	Fixed thermal Adj. magnetic
Equipped	Equipped	Equipped	Equipped	Equipped	Equipped




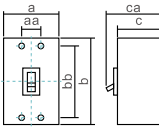
## MCCB (Molded Case Circuit Breaker)

Frame size (AF) (Inm)		630						800				
Type		BM630-HN		BM630-RN		BM630-UN		BM800-CN		BM800-SN		
Photograph												
Rated current In (A) at ambient temp. 40°C		500, 630.		500, 630.		500, 630.		700, 800.		700, 800.		
Number of poles (P)		3	4	3	4	3	4	3	4	3	4	
Rated insulation voltage Ui (V)		AC		690		690		690		690		
		DC		250	—	—	—	—	—	250	—	250
Dimensions  (mm)	a	210	280	210	280	210	280	210	280	210	280	
	b	275		275		275		275		275		
	c	103		103		103		103		103		
	ca	155		155		155		155		155		
	bb	243		243		243		243		243		
	aa	70		70		70		70		70		
Weight (kg)		10	13	10	13	10	13	10.5	13.5	10.5	13.5	
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 AC	500V	25		42		65		20		25	
		440V	50		70		85		30		50	
		380V	50		70		100		35		50	
		220V(240V)	85		100		125		50		85	
	DC	250V	40	—	—	—	—	—	20	—	40	—
		125V	—		—		—		—		—	
Connection		Busbar		Busbar		Busbar		Busbar		Busbar		
Optional accessories	Alarm switch (AL)	●		●		●		●		●		
	Auxiliary switch (AX)	●		●		●		●		●		
	Shunt trip (SHT)	●		●		●		●		●		
	Under-voltage trip (UVT)	●		●		●		●		●		
	External handle (EH)	●		●		●		●		●		
	Terminal cover (TC)	●		●		●		●		●		
Trip Unit		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		
Tripping button		Equipped		Equipped		Equipped		Equipped		Equipped		

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 2. Ics= 50% Icu






800		1000		1200		1600			
BM800-HN		BM800-RN		BM1000-HS		BM1200-HS		BM1600-HS	
									
700, 800.		700, 800.		1000		1200		1400, 1600.	
3	4	3	4	3	3	3	3		
690		690		690		690		690	
—		—		—		—		—	
210	280	210	280	210	210	210	210		
275		275		406		406		406	
103		103		140		140		140	
155		155		190		190		190	
243		243		375		375		375	
70		70		70		70		70	
10.5	13.5	10.5	13.5	23	23	23	23		
42		65		65		65		65	
70		85		85		85		85	
70		100		100		100		100	
100		125		130		130		130	
—		—		—		—		—	
—		—		—		—		—	
Busbar		Busbar		Busbar		Busbar		Busbar	
●		●		○	○	○	○		
●		●		○	○	○	○		
●		●		○	○	○	○		
●		●		○	○	○	○		
●		●		—	—	—	—		
●		●		—	—	—	—		
Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic	
Equipped		Equipped		Equipped		Equipped		Equipped	

## ELCB (Earth Leakage Circuit Breaker)

Frame size (AF) (Inm)		50		100				
Type		BL50-SN		BL100-SN				
Type		BL100-SN		BL100-HN				
Photograph								
Rated current In (A) at ambient temp. 40°C		15, 20, 30, 40, 50.		15, 20, 30, 40, 50, 60, 75, 100.		15, 20, 30, 40, 50, 60, 75, 100.		
Phase & wire (P)		1φ2W, 3φ3W.	3φ4W	1φ2W, 3φ3W.	3φ4W	1φ2W, 3φ3W.	3φ4W	
Number of poles (P)		3	4	3	4	3	4	
Rated voltage (VAC)		230, 400.		230, 400.		230, 400.		
High speed	Rated current sensitivity IΔn (mA)	30, 100, 300, 500 (Note 2)		30, 100, 300, 500 (Note 2)		30, 100, 300, 500 (Note 2)		
	5IΔn operating time (S)	0.04		0.04		0.04		
Delay	Rated current sensitivity IΔn (mA)	100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable		
	2IΔn operating time (S)	0.1- 0.4- 0.8- 2.0 adjustable		0.1- 0.4- 0.8- 2.0 adjustable		0.1- 0.4- 0.8- 2.0 adjustable		
	2IΔn max. non-operating time (S)	0, 0.2, 0.4, 1.0		0, 0.2, 0.4, 1.0		0, 0.2, 0.4, 1.0		
Leakage detection mode		Mechanical push-button		Mechanical push-button		Mechanical push-button		
Dimensions	 (mm)	a	75	100	90	120	90	120
		b	130		155		155	
		c	68		68		68	
		ca	90		90		90	
		bb	111		132		132	
		aa	25		30		30	
Weight (kg)		0.7	0.9	1.5	1.8	1.5	1.8	
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 CNS 14816-2 AC	440V	7.5	10	25	25	25	
		380V	7.5	15	30	30	30	
		Icu 220V	10	25	50	50	50	
Connection		Clamp terminal		Clamp terminal		Clamp terminal		
Optional accessories	Alarm switch (AL)	○		○		○		
	Auxiliary switch (AX)	○		○		○		
	Shunt trip (SHT)	○		○		○		
	Under-voltage trip (UVT)	—		○		○		
	External handle (EH)	●		●		●		
	Terminal cover (TC)	●		●		●		
	Leakage alarm module (AM)	—		○		○		
Trip Unit		Hydraulic magnetic		Hydraulic magnetic		Hydraulic magnetic		
Tripping button		Equipped		Equipped		Equipped		

- Note 1. "●" which can be installed by client, "○" which have to be installed by manufacturer. "—" which is not available.  
 2. Specify rated current sensitivity when place the order.  
 3. Ics= 50% Icu  
 4. Adjustable thermal: 80%~100% In.  
 5. Specify, when order delay type rated current sensitivity 30-100-500mA.

80% ~ 100% Adj. (A)

160		250		400					
BL160-SN		BL250-SN		BL400-SN		BL400-HN		BL400-RN	
									
125, 140, 160.		175, 200, 225, 250.		250, 300, 350, 400.		250, 300, 350, 400.		250, 300, 350, 400.	
1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W
3	4	3	4	3	4	3	4	3	4
230, 400.		230, 400.		230, 400.		230, 400.		230, 400.	
30, 100-300-500 Adj.		30- 100- 500 adjustable		30- 100- 500 adjustable		30- 100- 500 adjustable		30- 100- 500 adjustable	
0.04		0.04		0.04		0.04		0.04	
100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable	
0.1- 0.4- 0.8- 2.0 adjustable		0.1- 0.4- 0.8- 2.0 adjustable		0.1- 0.4- 0.8- 2.0 adjustable		0.1- 0.4- 0.8- 2.0 adjustable		0.45- 1.0- 2.0 adjustable	
0, 0.2, 0.4, 1.0		0, 0.2, 0.4, 1.0		0, 0.2, 0.4, 1.0		0, 0.2, 0.4, 1.0		0.1, 0.5, 1.0	
Mechanical push-button		Mechanical push-button		Mechanical push-button		Mechanical push-button		Mechanical push-button	
105	140	105	140	140	185	140	185	140	185
165		165		257		257		257	
68		68		103		103		103	
92		92		155		155		155	
126		126		194		194		194	
35		35		44		44		44	
1.7	2.3	1.7	2.3	6.6	8.4	6.6	8.4	5.7	7.5
25		25		30		42		55	
30		30		35		50		70	
50		50		50		85		100	
Clamp terminal		Clamp terminal		Busbar		Busbar		Busbar	
●		●		●		●		●	
●		●		●		●		●	
●		●		●		●		●	
●		●		●		●		●	
●		●		●		●		●	
●		●		●		●		●	
○		○		○		○		○	
Adj. thermal Fixed magnetic		Adj. thermal Fixed magnetic		Thermal magnetic		Thermal magnetic		Thermal magnetic	
Equipped		Equipped		Equipped		Equipped		Equipped	

BM

Series

BL

Series

BP




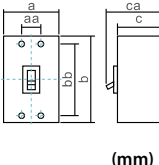
Series

BL





Series

Others

## ELCB (Earth Leakage Circuit Breaker)

Frame size (AF) (Inm)		400		630				
Type		BL400-UN		BL630-HN		BL630-RN		
Photograph								
Rated current In (A) at ambient temp. 40°C		250, 300, 350, 400.		500, 630.		500, 630.		
Phase & wire (P)		1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	
Number of poles (P)		3	4	3	4	3	4	
Rated voltage (VAC)		230, 400.		230, 400.		230, 400.		
High speed	Rated current sensitivity IΔn (mA)	30-100-500 adjustable		100-300-500 adjustable		100-300-500 adjustable		
	5IΔn operating time (S)	0.04		0.04		0.04		
Delay	Rated current sensitivity IΔn (mA)	100-300-500 adjustable		100-300-500 adjustable		100-300-500 adjustable		
	2IΔn operating time (S)	0.45-1.0-2.0 adjustable		0.45-1.0-2.0 adjustable		0.45-1.0-2.0 adjustable		
	2IΔn max. non-operating time (S)	0.1, 0.5, 1.0		0.1, 0.5, 1.0		0.1, 0.5, 1.0		
Leakage detection mode		Mechanical push-button		Mechanical push-button		Mechanical push-button		
Dimensions		a	140	185	210	280	210	280
		b	257		257		257	
		c	103		103		103	
		ca	155		155		155	
		bb	194		243		243	
		aa	44		70		70	
Weight (kg)		5.7	7.5	10.0	13.0	10.0	13.0	
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 CNS 14816-2 AC	440V	85	50	70	70	100	
		380V	85	50	70	100		
		220V	125	85	100	100		
Connection		Busbar		Busbar		Busbar		
Optional accessories	Alarm switch (AL)	●		●		●		
	Auxiliary switch (AX)	●		●		●		
	Shunt trip (SHT)	●		●		●		
	Under-voltage trip (UVT)	●		●		●		
	External handle (EH)	●		●		●		
	Terminal cover (TC)	●		●		●		
	Leakage alarm module (AM)	○		○		○		
Trip Unit		Thermal magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		
Tripping button		Equipped		Equipped		Equipped		

- Note
1. "●" which can be installed by client, "○" which have to be installed by manufacturer. "—" which is not available.
  2. Specify rated current sensitivity when place the order.
  3. Ics= 50% Icu
  4. Adjustable thermal: 80%~100% In.
  5. Specify, when order delay type rated current sensitivity 30-100-500mA.

630		800					
BL630-UN		BL800-SN		BL800-HN		BL800-RN	
							
500, 630.		700, 800.		700, 800.		700, 800.	
1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W	1ø2W, 3ø3W.	3ø4W
3	4	3	4	3	4	3	4
230, 400.		230, 400.		230, 400.		230, 400.	
100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable	
0.04		0.04		0.04		0.04	
100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable		100- 300- 500 adjustable	
0.45- 1.0- 2.0 adjustable		0.45- 1.0- 2.0 adjustable		0.45- 1.0- 2.0 adjustable		0.45- 1.0- 2.0 adjustable	
0.1, 0.5, 1.0		0.1, 0.5, 1.0		0.1, 0.5, 1.0		0.1, 0.5, 1.0	
Mechanical push-button		Mechanical push-button		Mechanical push-button		Mechanical push-button	
210	280	210	280	210	280	210	280
257		257		257		257	
103		103		103		103	
155		155		155		155	
243		243		243		243	
70		70		70		70	
10.0	13.0	10.5	13.5	10.5	13.5	10.5	13.5
85		50		70		85	
100		50		70		100	
125		85		100		125	
Busbar		Busbar		Busbar		Busbar	
●		●		●		●	
●		●		●		●	
●		●		●		●	
●		●		●		●	
●		●		●		●	
●		●		●		●	
○		○		○		○	
Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic		Fixed thermal Adj. magnetic	
Equipped		Equipped		Equipped		Equipped	

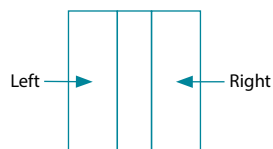
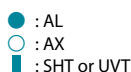
### Optional Accessories Installation Table

■ AL: Alarm Switch / AX: Auxiliary Switch / SHT: Shunt Trip / UVT: Under Voltage Trip

Model	Poles	AL	AX	SHT or UVT	AL+AX	AL+ SHT or UVT	AX+ SHT or UVT	AL+AX+ SHT or UVT
BM30-SN BM50-CN BM60-SN/HN BM100-SN/MN	3P							—
BL50-SN	3P 4P			 (#1.)	—	—	—	—
BM60-HBN BM100-HN BM125-SN/HN	3P 4P			 (3P) (4P)		 (3P) (4P)	 (3P) (4P)	—
BL100-SN BL100-HN	3P 4P			 No UVT for 3P	—	 (#2.)	 (#2.)	—
BM100-H/HC/HS BM160-HB/HC/HS BM250-HB/HC/HS	3P 4P			 (#1.)		 (#1.)	 (#1.)	—
BM100-HBN BM160-SN/HN BM250-SN/HN	3P 4P							
BL160-SN BL250-SN/ CN	3P 4P				—	—	—	—
BM400-SN/HN/CN/ RN/UN	3P 4P				 AX can be installed in AL position			
BL400-SN/HN/RN/UN	3P 4P				 AX can be installed in AL position			—
BM630-SN/HN/CN/ RN/UN BM800-CN/SN/ HN/RN	3P 4P				 AX can be installed in AL position			 AX can be installed in AL position
BL630-HN/RN/UN BL800-SN/HN/RN	3P 4P							
BM1000-HS BM1200-HS BM1600-HS	3P				—			—

**Note:**

- Standard: AL and AX are installed on left side, SHT and UVT are installed on right side.
- SHT is equipped with coil anti-burn switch.
- BL series can not do right side installation.
- UVT of BM30-SN~BM100-HN can not install on its left side.
- #1 means have no UVT.
- #2 means only can apply to 4P breakers.





## Optional Accessories | Application Table

### External Handle

TYPE	Poles	Model
EH-100N	3P、4P	BM30-SN, BM50-CN, BM60-SN/HN, BM100-SN/MN, BL50-SN
EH-125N	3P、4P	BM60-HBN, BM100-HN, BM125-SN/HN, BL100-SN/HN
EH-250N	3P、4P	BM100-HBN, BM160-SN/HN, BM250-SN/HN, BL160-SN, BL250-SN
EH-400N	3P、4P	BM400-SN/HN/RN/UN, BL400-SN/HN/RN/UN
EH-800N	3P、4P	BM630-SN/HN/RN/UN, BM800-CN/SN/HN/RN, BL630-HN/RN/UN, BL800-SN/HN/RN
EH-250H	3P、4P	BM100-H/HC/HS, BM160-HB/HC/HS, BM250-HB/HC/HS

### Manual Operation Device

TYPE	Poles	Model
MA-100N	3P、4P	BM30-SN, BM50-CN, BM60-SN/HN, BM100-SN/MN, BL50-SN
MA-125N	3P、4P	BM60-HBN, BM100-HN, BM125-SN/HN, BL100-SN/HN
MA-250N	3P、4P	BM100-HBN, BM160-SN/HN, BM250-SN/HN, BL160-SN, BL250-SN
MA-400N	3P、4P	BM400-SN/HN/RN/UN, BL400-SN/HN/RN/UN
MA-800N	3P、4P	BM630-SN/HN/RN/UN, BM800-CN/SN/HN/RN, BL630-HN/RN/UN, BL800-SN/HN/RN

### Motor Operation Device

TYPE	Poles	Model
MT-100N	3P、4P	BM30-SN, BM50-CN, BM60-SN/HN, BM100-SN/MN, BL50-SN
MT-125N	3P、4P	BM60-HBN, BM100-HN, BM125-SN/HN, BL100-SN/HN
MT-250N	3P、4P	BM100-HBN, BM160-SN/HN, BM250-SN/HN, BL160-SN, BL250-SN
MT-400N	3P、4P	BM400-SN/HN/RN/UN, BL400-SN/HN/RN/UN
MT-800N	3P、4P	BM630-SN/HN/RN/UN, BM800-CN/SN/HN/RN, BL630-HN/RN/UN, BL800-SN/HN/RN
MT-250E	3P、4P	BM100-H/HC/HS, BM160-HB/HC/HS, BM250-HB/HC/HS

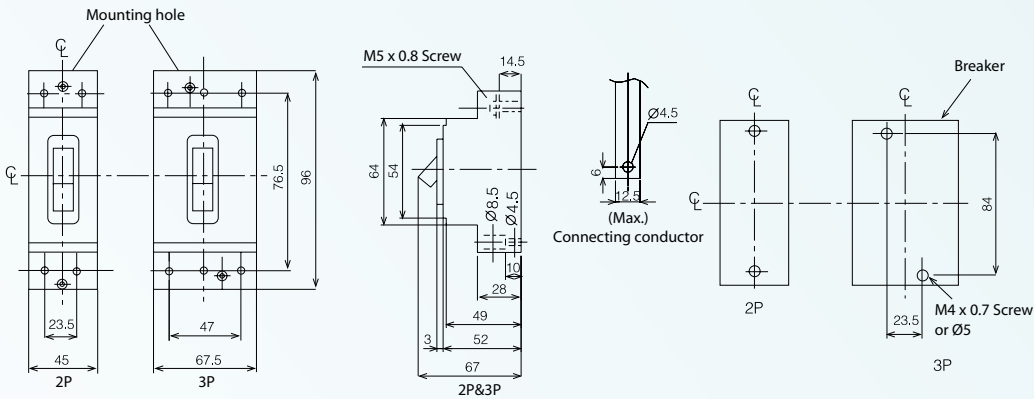
Note : Applicable voltage : ① DC 24V ② AC 110V/ DC 110V ③ AC 230V/ DC 220V

### Rear Connection

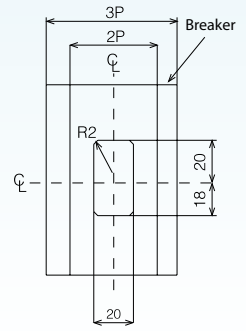
TYPE	Poles	Model
PGI-100N50	3P	BM30-SN, BM50-CN, BM60-SN/HN, BL50-SN (50A and below)
PGI-100N	3P	BM60-SN/HN, BM100-SN/MN (60A and below)
PGI-125N50	3P	BM60-HBN, BM100-HN, BM125-SN/HN, BL100-SN/HN (50A and below)
	4P	BM100-HN, BM125-SN, BL100-SN/HN (50A and below)
PGI-125N	3P	BM60-HBN, BM100-HN, BM125-SN, BL100-SN/HN (60A and above)
	4P	BM100-HN, BM125-SN, BL100-SN/HN (60A and above)
PGI-250N	3P、4P	BM100-HBN, BM160-SN/HN, BM250-SN/HN, BL160-SN, BL250-SN
PGI-400N	3P、4P	BM400-SN/HN/RN/UN, BL400-SN/HN/RN/UN
PGI-800N	3P、4P	BM630-SN/HN/RN/UN, BM800-CN/SN/HN/RN, BL630-HN/RN/UN, BL800-SN/HN/RN
PGI-BM250	3P	BM100-H/HC/HS, BM160-HB/HC/HS, BM250-HB/HC/HS

### Dimension of circuit breaker

#### BM30-CN



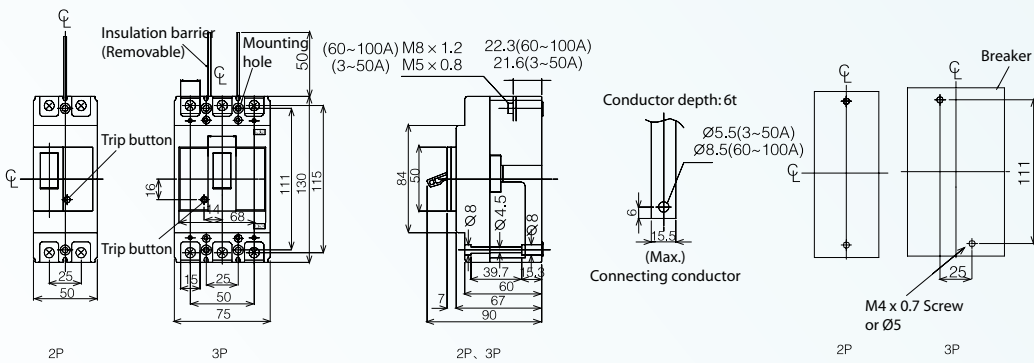
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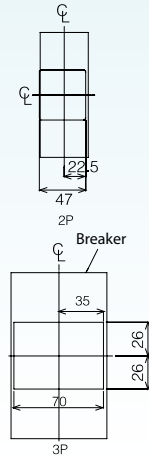
### BM

Series

#### BM30-SN, BM50-CN, 60-SN/HN, 100-SN



#### Panel cut



### BL

Series

### BP

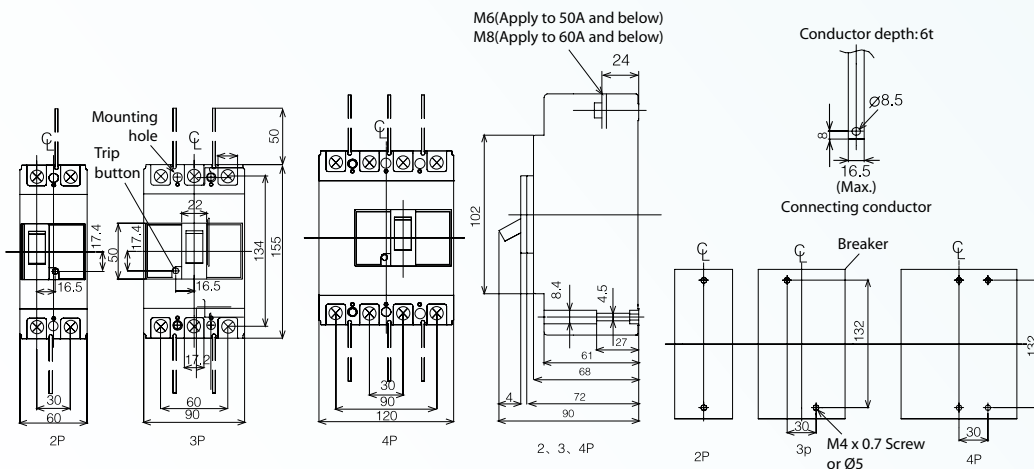
Series

### BL

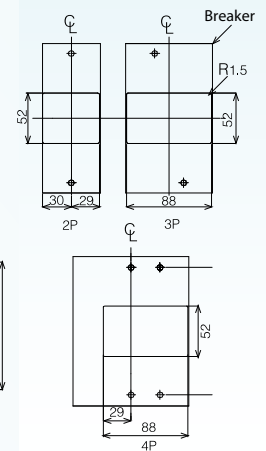
Series

### Others

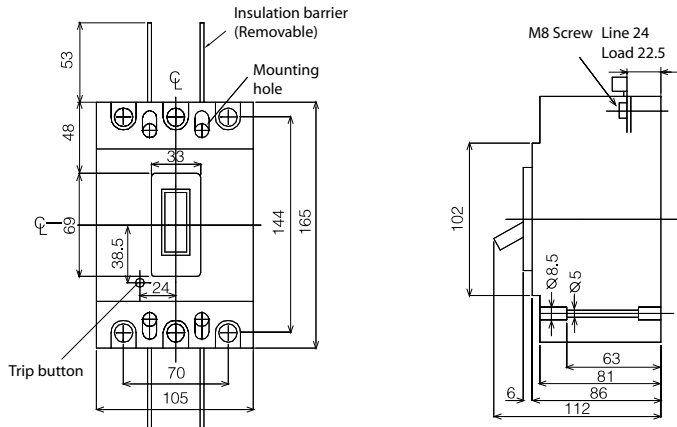
#### BM60-HBN, BM100-HN, BM125-SN/NH



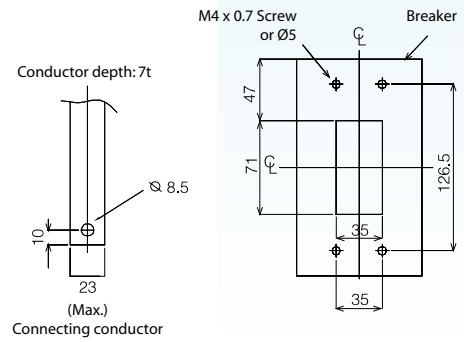
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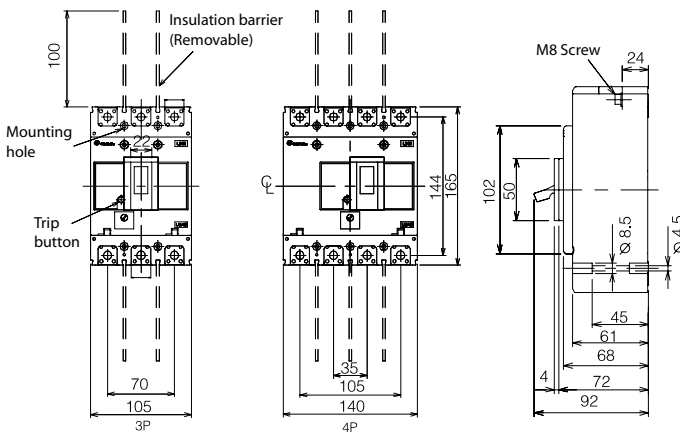
BM100-H/HC/HS, BM160HB/HC/HS, BM250-HB/HC/HS



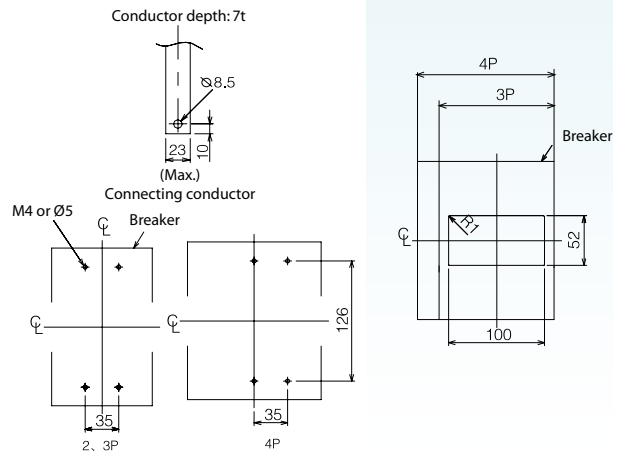
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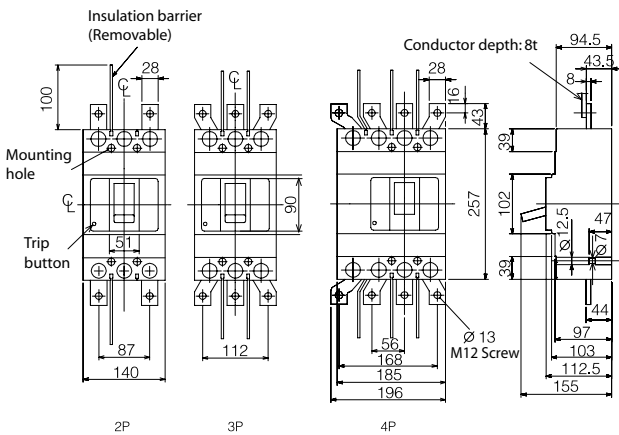
BM100-HBN, BM160-SN/HN, BM250-SN/HN



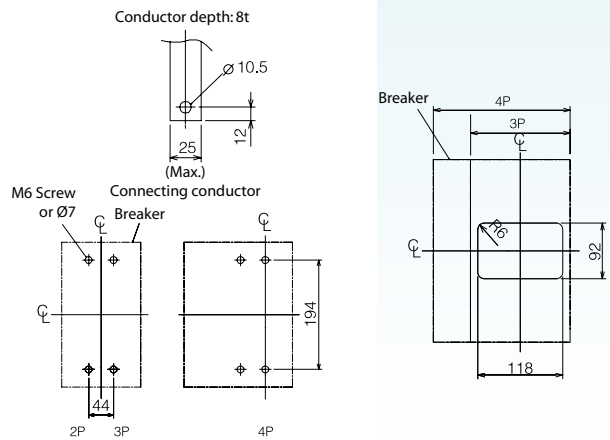
Panel cut



BM400-SN/HN/RN/UN

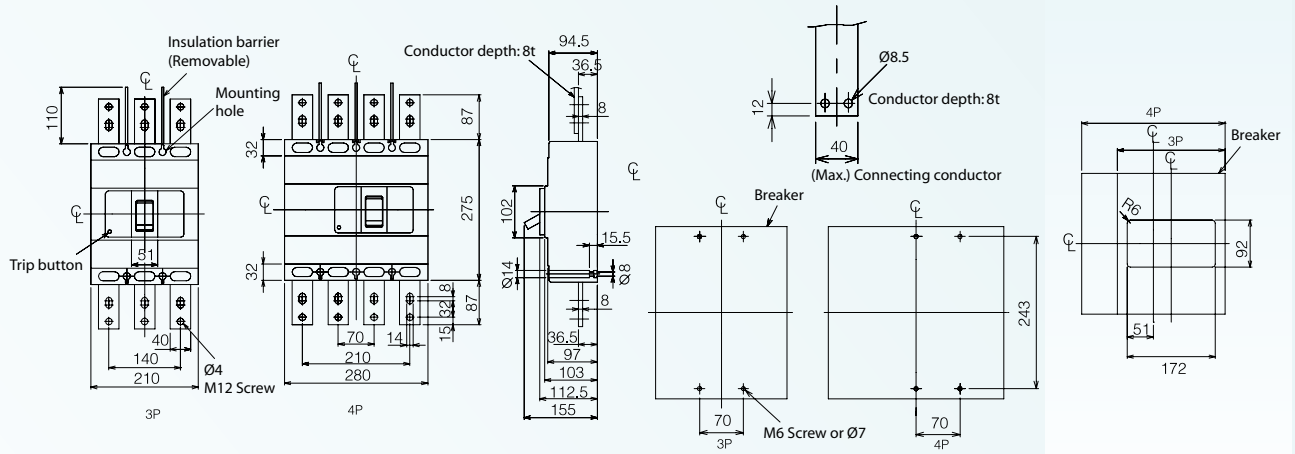


Panel cut



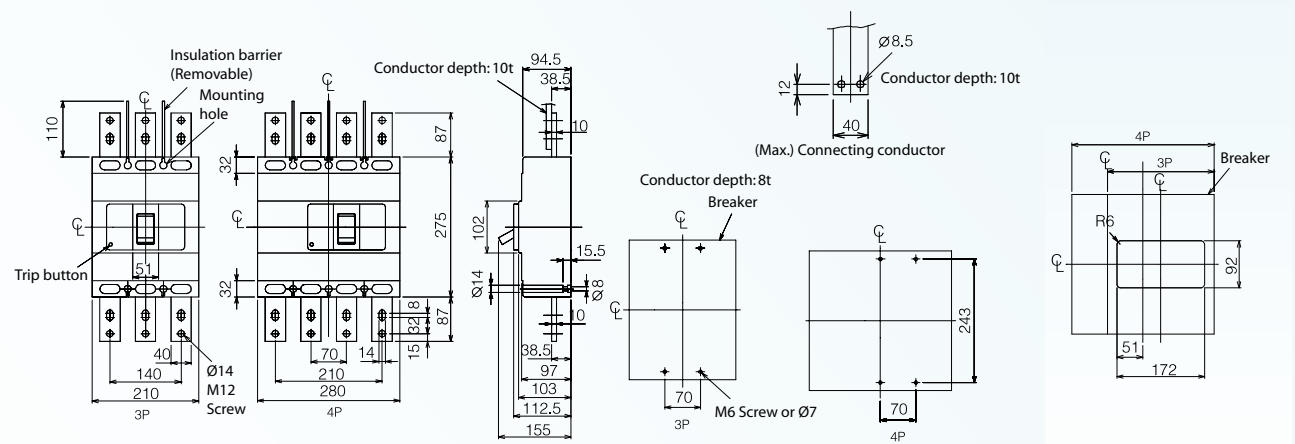
## Dimension of circuit breaker

BM630-SN/HN/RN/UN



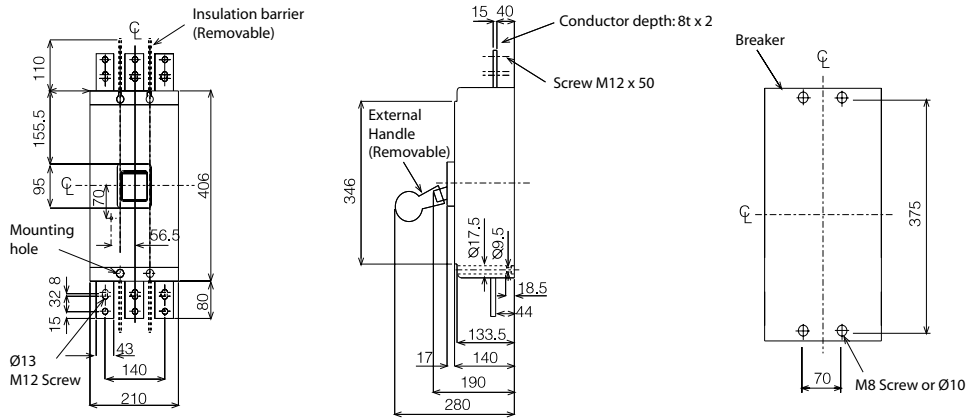
Panel cut

BM800-CN/SN/HN/RN



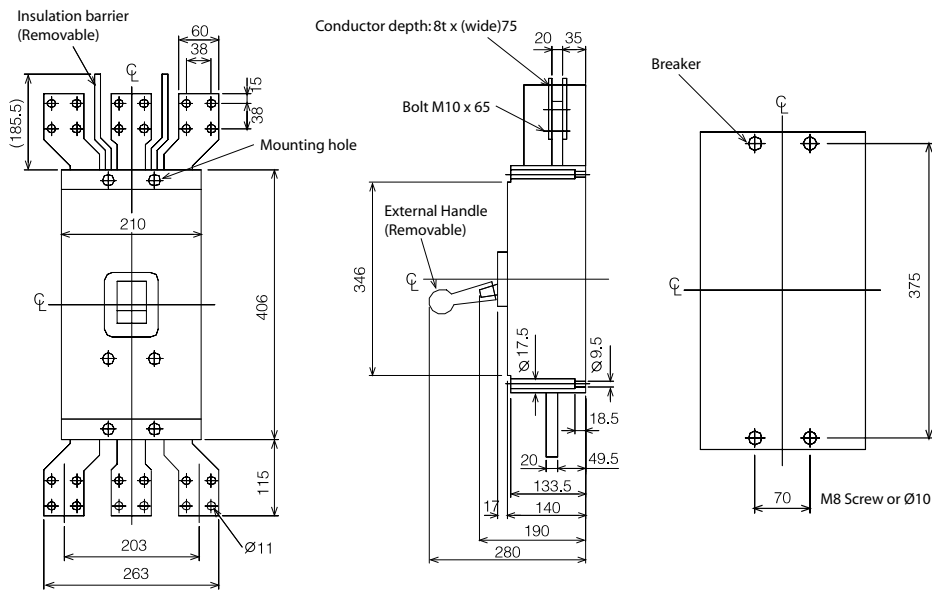
Panel cut

BM1000-HS, BM1200-HS



Panel cut

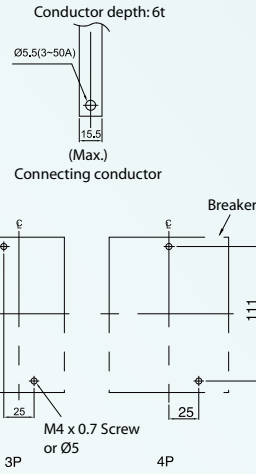
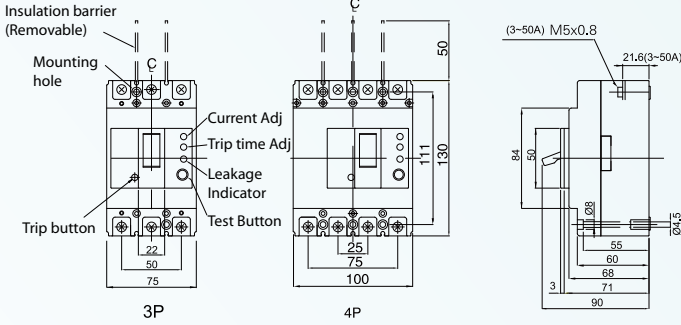
BM1600-HS



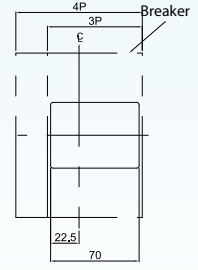
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# Dimension of circuit breaker

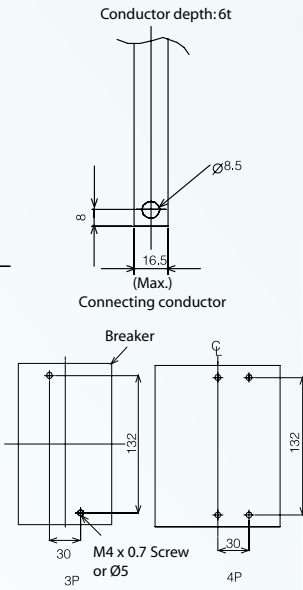
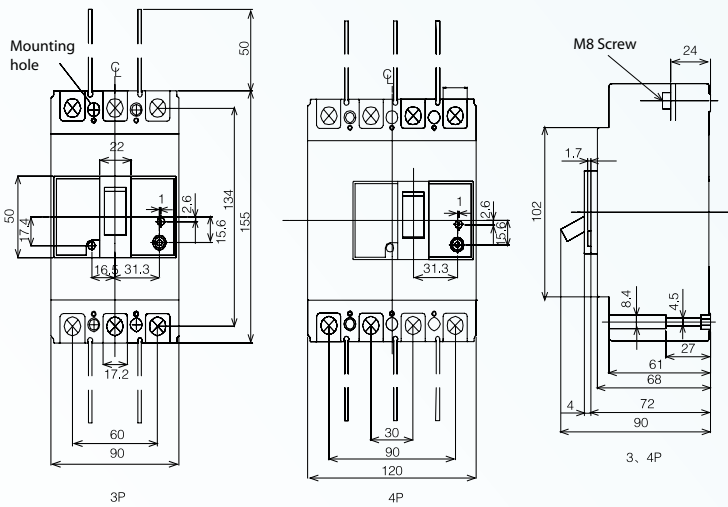
## BL50-SN



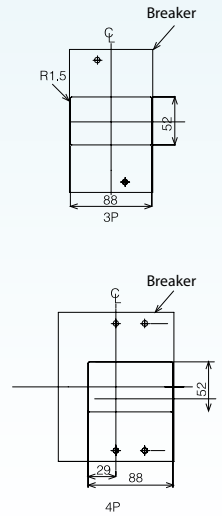
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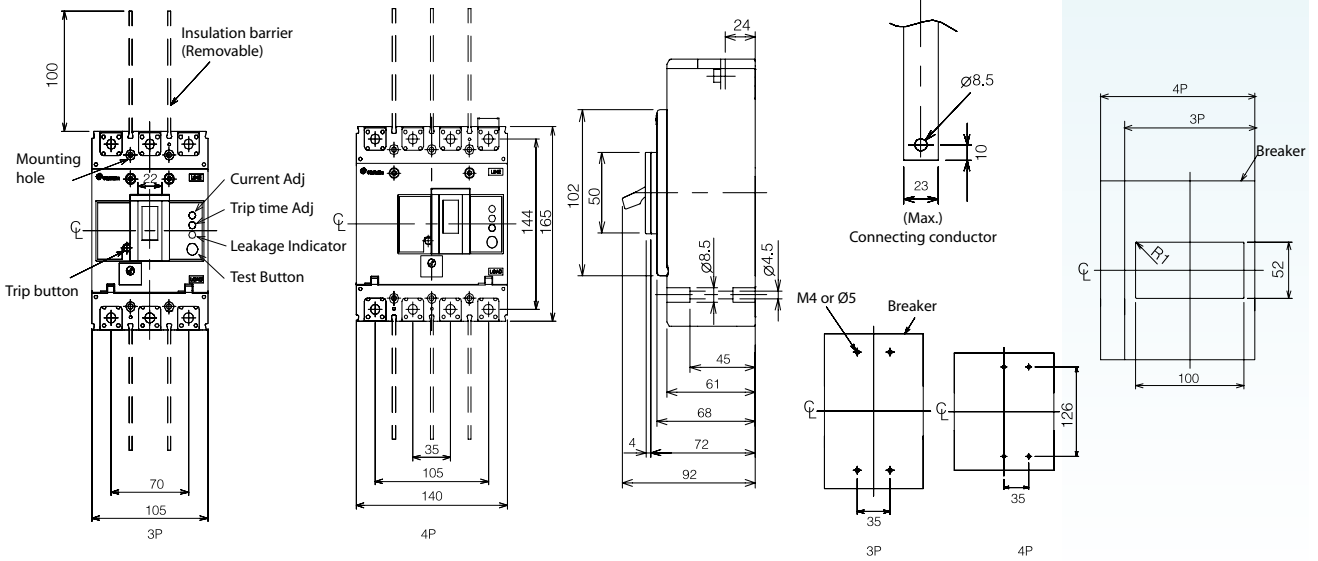
## BL100-SN/HN



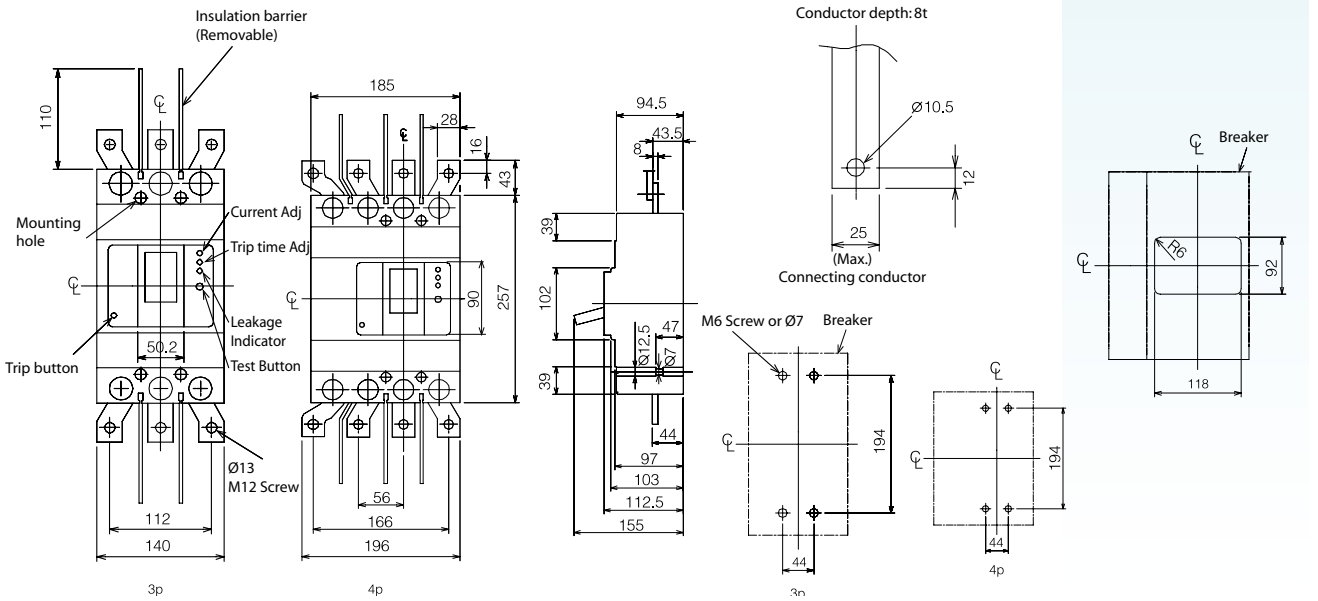
### Panel cut



BL160-SN, BL250-SN



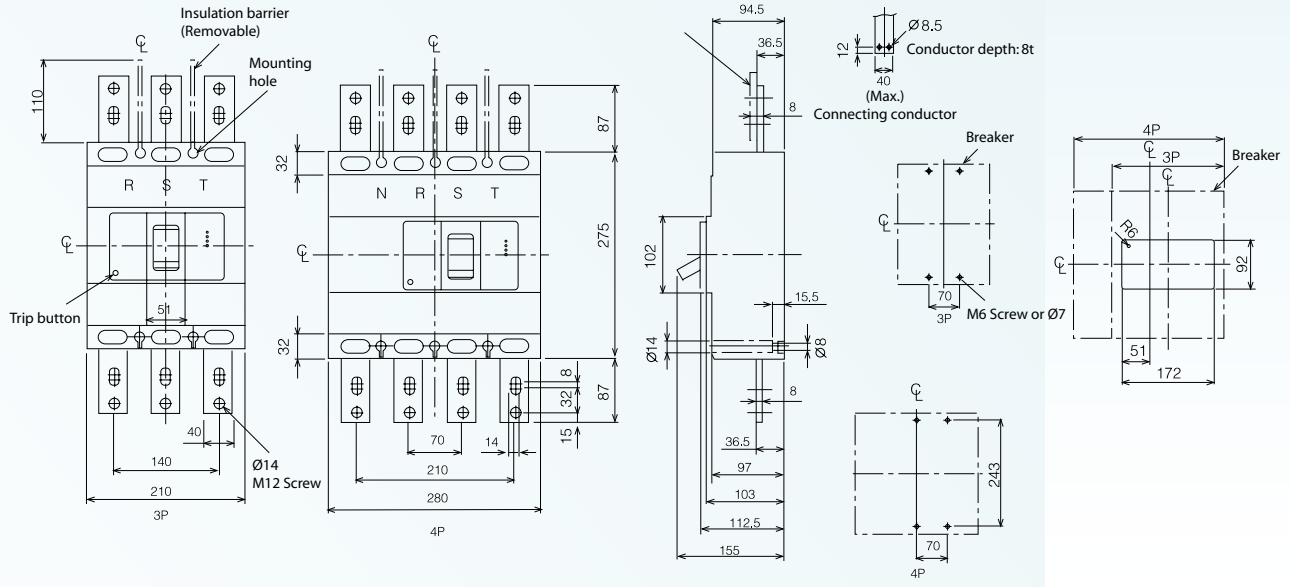
BL400-SN/HN/RN/UN



## Dimension of circuit breaker

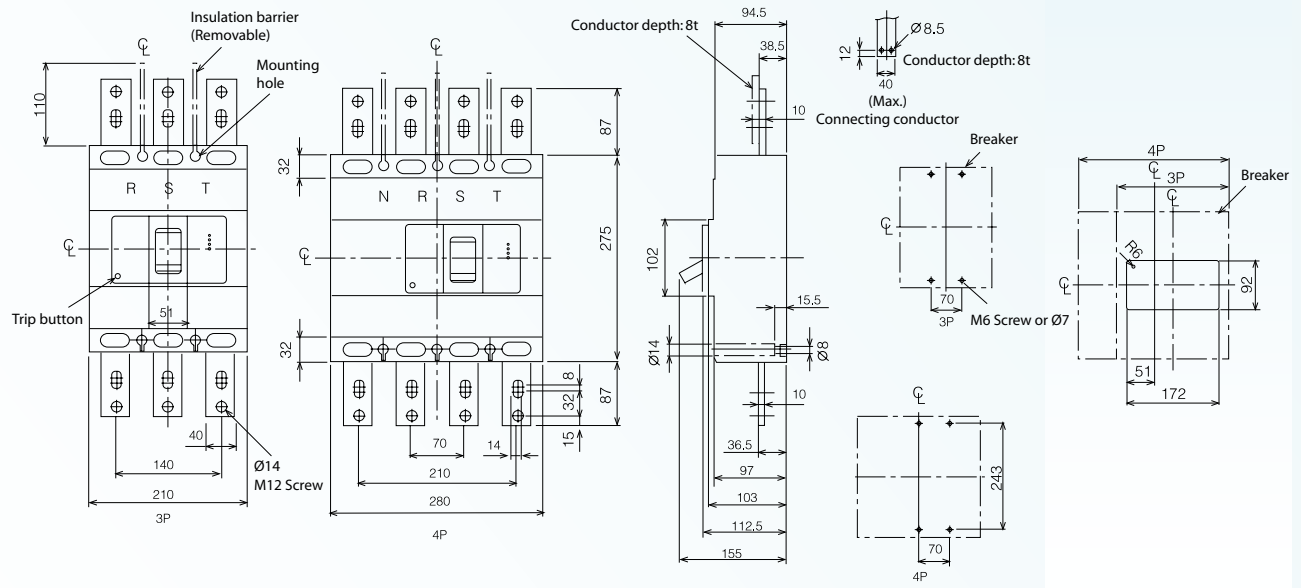
BL630-HN/RN/UN

Panel cut



BL800-SN/HN/RN

Panel cut





## Optional Accessories | Dimensions

### External Handle

Type	Poles	fig.1			fig.2			fig.3		
		A	B	C	D	E	F	G	H	J
EH-100N	3P, 4P	104	105	39	90	78	10	25	111	M4 screw or $\phi 5$
EH-125N	3P, 4P	104	105	39	90	78	10	30	132	
EH-250N	3P, 4P	104	105	39	90	78	10	35	126	
EH-400N	3P, 4P	150	183	53	108	112	10	44	194	
EH-800N	3P, 4P	150	183	53	108	112	10	70	243	
EH-250H	3P, 4P	104	125	39	90	78	10	35	126.5	

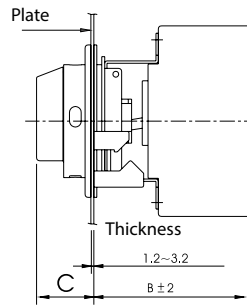
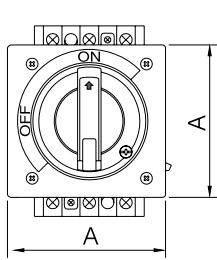
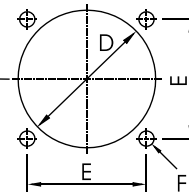


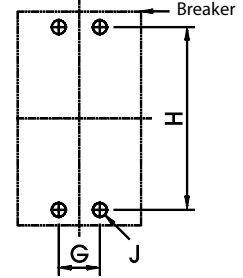
Fig. 1

Center of breaker and operation handle



Panel Dimension

Fig. 2



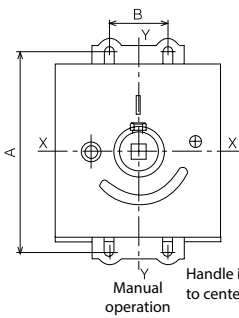
Breaker Dimension

Fig. 3

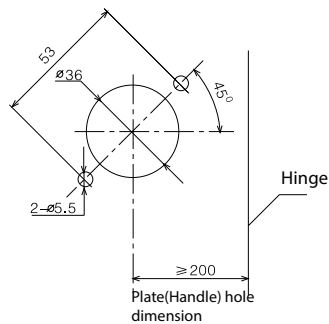
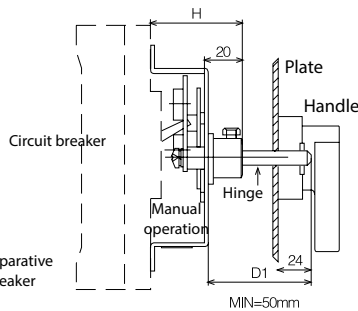
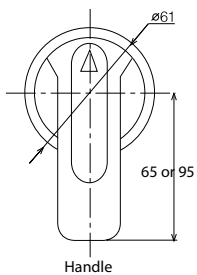
- Note: 1. Standard: White, optional: Black.  
 2. Optional for dust and water protection.  
 3. L: long type, EH100NL & EH125NL can not install to 2P.

### Manual Operation Device

Type	Dimensions (mm)			
	A	B	H	Y
MA-100N	111	25	53.5	+8
MA-125N	132	30	54	+8
MA-250N	146	35	56	0
MA-400N	221	45	85	+10
MA-800N	242	70	85	+10

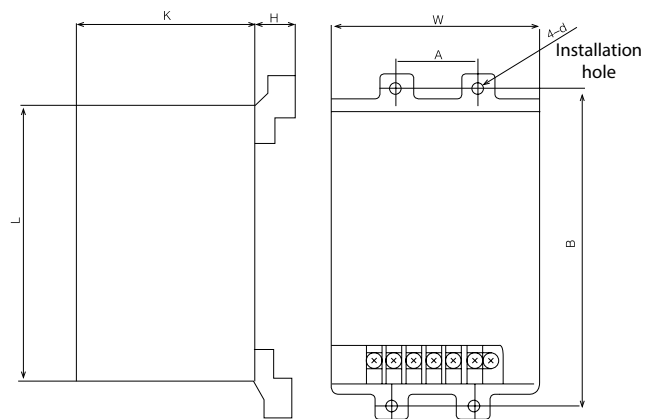


Handle is comparative to center of breaker



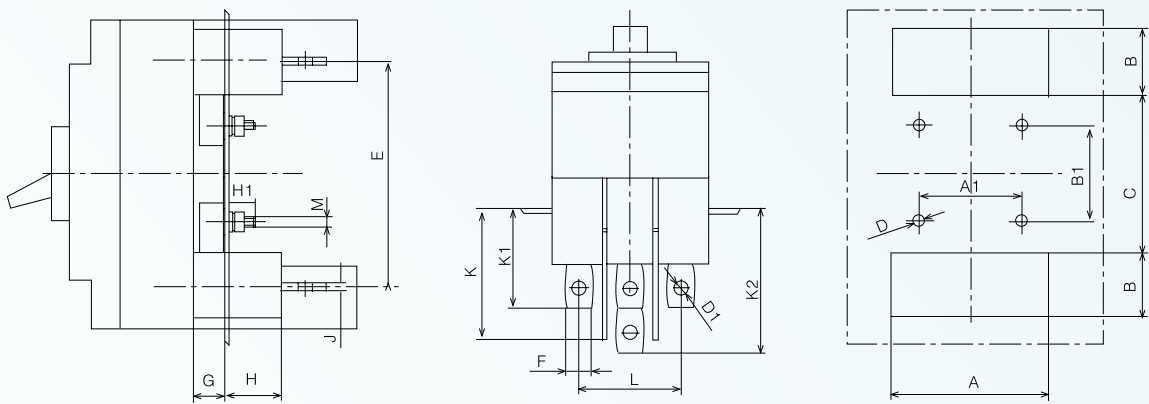
### Motor Operation Device

Type	Dimensions (mm)						
	A	B	d	H	K	L	W
MT-100N	25	111	$\phi 4.5$	16.5	79	102	74
MT-125N	30	132	$\phi 4.5$	15	77	116	90
MT-250N	30	126	$\phi 4.5$	15	77	116	90
MT-400N	44	194	$\phi 4.5$	36	115	176	130
MT-800N	70	234	$\phi 4.5$	36	115	176	130
MT-250E	30	126	$\phi 4.5$	15	77	116	90



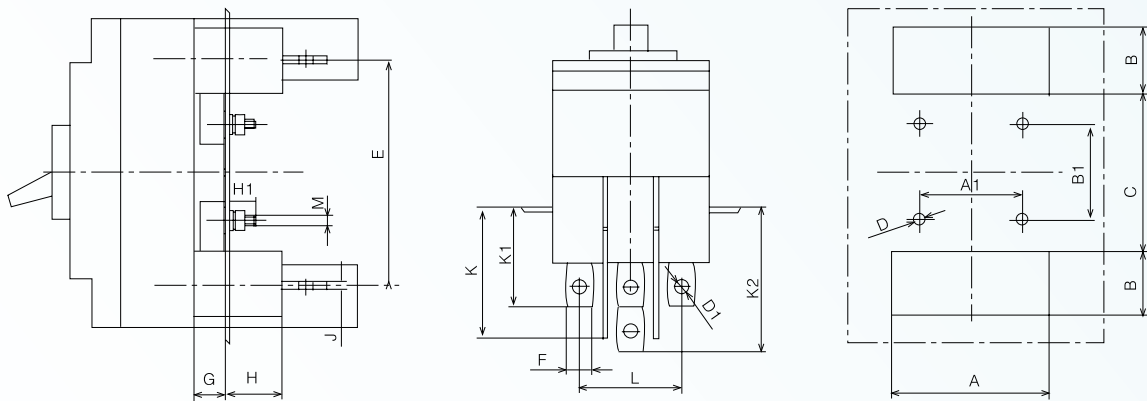
■ Rear Connection

Type	Poles	Dimensions (mm)																	Connect Direction		
		A	A1	B	B1	C	D	D1	E	F	G	H	H1	J	K	K1	K2	L	M	Horizontal	Vertical
PGI-100N	3	74	50	24	58	90	ø5	/	116	M10	9.5	28	12	M10	/	62	122	50	M4	⊙	⊙
	4	99	75															75			
PGI-125N	3	92	60	30	70	104	ø6	/	134	M10	13	26	16	M10	/	62	122	60	M5	⊙	⊙
	4	122	90															90			
PGI-250N	3	107	70	38	76	106	ø6	ø10	144	25	13	34	15	6	/	79	134	70	M5	⊙	⊙
	4	142	105															105			
PGI-400N	3	137	44	50	135	175	ø10	ø13	225	28	18	40	24	8	120	79	/	44	M8	⊙	⊙
	4	181	88															88			
PGI-800N	3	212	140	57	143	185	ø10	ø13	243	44	17	53	20	11	/	146	/	140	M8	⊙	⊙
	4	282	210															210			



■ Rear Connection

Type	Poles	Dimensions (mm)																	Connect Direction		
		A	A1	B	B1	C	D	D1	E	F	G	H	H1	J	K	K1	K2	L	M	Horizontal	Vertical
PGI-BM250	3	107	70	38	76	106	ø6	ø10	144	25	13	34	15	6	/	79	134	70	M5	⊙	⊙



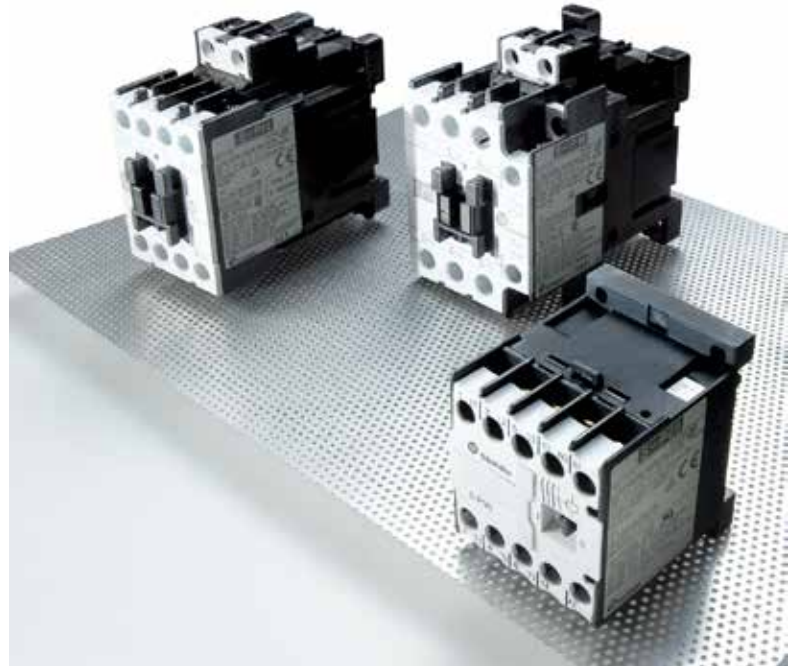


CIRCUIT BREAKER ( MCCB / ELCB / EMCCB / MCB )

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INVERTER



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