

MOLDED CASE CIRCUIT BREAKER

EARTH LEAKAGE CIRCUIT BREAKER



 **MIRDC**
ISO 9001
4A6Y010-10





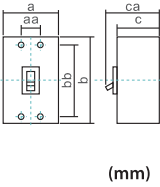
 **MIRDC**
ISO 14001
4A6E003-10











BMA Series Frame Size Selection Table

Frame Size	Rated Breaking Capacity (kA)				Pole	Ir Adjustable	Rated Current In(A)	Accessory	
	Type	IEC60947-2						Blank	No Acc.
		220V(240V)	380V(415V)	690V					
125	STA	85	25	8	3, 4	0.8-0.9-1.0	15, 16, 20, 25, 30, 32, 40, 50, 60, 63, 75, 80, 100, 125	Blank	No Acc.
	LTA	85	36	8				AX	Auxiliary Switch
	HTA	100	50	10				AL	Alarm Switch
160	STA	85	25	8	3, 4	0.8-0.9-1.0	40, 50, 60, 63, 70, 75, 80, 100, 125, 140, 150, 160	SHT	Shunt Trip
	LTA	85	36	8				UVT	Under Voltage Trip
	HTA	100	50	10					
250	STA	85	25	8	3, 4	0.8-0.9-1.0	175, 200, 225, 250		
	LTA	85	36	8					
	HTA	100	50	10					
400	LTA	70	36	8	3, 4	0.8-0.9-1.0	250, 300, 350, 400		
	HTA	85	50	10					
	RTA	100	70	15					
630s	STD	36	25	10	3, 4	N/A	400, 500, 600, 630		
	LTD	65	36	10					
	HTD	85	50	10					
	RTD	100	70	15					
630	HTD	85	50	10	3, 4	N/A	500, 600, 630		
	RTD	100	70	15					
	HTA	85	50	10					
	RTA	100	70	15					
	HED	85	50	10					
	RED	100	70	15					
800	HTD	85	50	10	3, 4	N/A	700, 800		
	RTD	100	70	15					
	HTA	85	50	10					
	RTA	100	70	15					
	HED	85	50	10					
	RED	100	70	15					
1250	HED	-	50	35	3, 4	0.4-0.48-0.56-0.64-0.72-0.8-0.9-1.0	1250		
	RED	-	70	45					
1600	HED	-	50	35	3, 4	0.4-0.45-0.5-0.6-0.63-0.7-0.8-0.9-1	1600		
	RED	-	70	45					

Molded Case Circuit Breaker (BMA Series)

Frame size (AF) (Inm)		125			160			250			400			
Model		BMA 125-STA	BMA 125-LTA	BMA 125-HTA	BMA 160-STA	BMA 160-LTA	BMA 160-HTA	BMA 250-STA	BMA 250-LTA	BMA 250-HTA	BMA 400-LTA	BMA 400-HTA	BMA 400-RTA	
Appearance														
Rated current In (A) at ambient temp. 40°C		15,16,20,25,30,32,40,50,60,63,75,80,100,125A			40,50,60,63,70,75,80,100,125,140,150,160A			175,200,225,250A			250, 300, 350, 400A			
Number of poles (P)		3		4		3		4		3		4		
Rated insulation voltage Ui (V)		AC		800		800		800		800		800		
Rated operational voltage Ue(V AC)		690		690		690		690		690		690		
Uimp(kV)		8		8		8		8		8		8		
Dimensions		a	90	120	105	140	105	140	140	185				
		b	155	155	165	165	165	165	257	257				
		c	68	68	68	68	68	68	103	103				
		ca	92	92	92	92	92	92	155	155				
		bb	132	132	126	126	126	126	194	194				
		aa	30	30	35	35	35	35	44	44				
		Weight (kg)	0.7	0.9	1.5	1.9	1.5	1.9	5.7	7.5				
Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 Icu AC	690V	8 kA	8 kA	10 kA	8 kA	8 kA	10 kA	8 kA	8 kA	10 kA	8 kA	10 kA	15 kA
		415V	25 kA	36 kA	50 kA	25 kA	36 kA	50 kA	25 kA	36 kA	50 kA	36 kA	50 kA	70 kA
		380V	25 kA	36 kA	50 kA	25 kA	36 kA	50 kA	25 kA	36 kA	50 kA	36 kA	50 kA	70 kA
		220V(240V)	85 kA	85 kA	100 kA	85 kA	85 kA	100 kA	85 kA	85 kA	100 kA	70 kA	85 kA	100 kA
Connection		Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Clamp terminal	Busbar	Busbar	Busbar	
Optional accessories	Alarm switch (AL)	●	●	●	●	●	●	●	●	●	●	●	●	
	Auxiliary switch (AX)	●	●	●	●	●	●	●	●	●	●	●	●	
	Shunt trip (SHT)	●	●	●	●	●	●	●	●	●	●	●	●	
	Under-voltage trip (UVT)	●	●	●	●	●	●	●	●	●	●	●	●	
	Rotary handle (EH)	●	●	●	●	●	●	●	●	●	●	●	●	
	Terminal cover (TC)	●	●	●	●	●	●	●	●	●	●	●	●	
Trip Unit		Adjustable Thermal Fixed Magnetic			Adjustable Thermal Fixed Magnetic			Adjustable Thermal Fixed Magnetic			Adjustable Thermal Fixed Magnetic			
Tripping button		Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	

Note 1. Ics=100%Icu

BMA630s-STD		BMA630s-LTD		BMA630s-HTD		BMA630s-RTD		BMA630s-STA		BMA630s-LTA		BMA630s-HTA		BMA630s-RTA			
																	
400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A		400, 500, 600, 630A			
3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4		
1000		1000		1000		1000		1000		1000		1000		1000			
690		690		690		690		690		690		690		690			
8		8		8		8		8		8		8		8			
140	185	140	185	140	185	140	185	140	185	140	185	140	185	140	185	140	185
257		257		257		257		257		257		257		257			
103		103		103		103		103		103		103		103			
155		155		155		155		155		155		155		155			
194		194		194		194		194		194		194		194			
44		44		44		44		44		44		44		44			
5.7	7	5.7	7	5.7	7	5.7	7	5.7	7	5.7	7	5.7	7	5.7	7		
10 kA		10 kA		10 kA		15 kA		10 kA		10 kA		10 kA		15 kA			
25 kA		36 kA		50 kA		70 kA		25 kA		36 kA		50 kA		70 kA			
25 kA		36 kA		50 kA		70 kA		25 kA		36 kA		50 kA		70 kA			
36 kA		65 kA		85 kA		100 kA		36 kA		65 kA		85 kA		100 kA			
Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal		Clamp terminal			
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
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●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Thermal magnetic	Thermal magnetic	Thermal magnetic	Thermal magnetic	Adjustable Thermal Fixed magnetic	Adjustable Thermal Fixed magnetic	Adjustable Thermal Fixed magnetic	Adjustable Thermal Fixed magnetic	Adjustable Thermal Fixed magnetic	Adjustable Thermal Fixed magnetic								
Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped								

BM

Series

BL

Series

ACC.

DIM.

Curve.

Other

Molded Case Circuit Breaker (BMA Series)

Frame size (AF) (Inm)		630				630				630				800				800				800								
Model		BMA 630-HTD		BMA 630-RTD		BMA 630-HTA		BMA 630-RTA		BMA 630-HED		BMA 630-RED		BMA 800-HTD		BMA 800-RTD		BMA 800-HTA		BMA 800-RTA		BMA 800-HED		BMA 800-RED						
Appearance																														
Rated current In (A) at ambient temp. 40°C		500, 600, 630A				500, 600, 630A				630A				700, 800A				700, 800A				800A								
Number of poles (P)		3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	
Rated insulation voltage Ui (V)		AC 1000				1000				1000				1000				1000				1000								
Rated operational voltage Ue(V AC)		690				690				690				690				690				690								
Uimp(kV)		8				8				8				8				8				8								
Dimensions		a	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280	210	280
		b	275				275				275				275				275				275							
		c	103				103				103				103				103				103							
		ca	155				155				155				155				155				155							
		bb	243				243				243				243				243				243							
		aa	70				70				70				70				70				70							
		(mm)																												
Weight (kg)		10	13	10	13	10	13	10	13	11.5	15.3	11.5	15.3	10	13	10	13	10	13	10	13	10	13	10	13	12	15.8	12	15.8	
Rated breaking capacity (KA)	IEC 60947-2 EN 60947-2 AC Icu	690V	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA	10kA	15kA				
		415V	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA				
		380V	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA	50kA	70kA				
		220V(240V)	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA	85kA	100kA				
Connection		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar		Busbar				
Optional accessories	Alarm switch (AL)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	Auxiliary switch (AX)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	Shunt trip (SHT)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	Under-voltage trip (UVT)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	Rotary handle (EH)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	Terminal cover (TC)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Trip Unit		Fixed Thermal Adjustable Magnetic		Adjustable Thermal Fixed magnetic		Electronic		Electronic		Fixed Thermal Adjustable Magnetic		Adjustable Thermal Fixed magnetic		Electronic		Electronic		Electronic		Electronic		Electronic		Electronic		Electronic				
Tripping button		Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped	Equipped			

Note 1. Ics=100%Icu

Frame size (AF) (Inm)	1000		1250		1600	
Model	BMA 1000-RED	BMA 1000-RED	BMA 1250-RED	BMA 1250-RED	BMA 1600-RED	BMA 1600-RED



Rated current In (A) at ambient temp. 40°C	1000A		1250A		1600A	
Number of poles (P)	3	4	3	4	3	4
Rated insulation voltage Ui (V)	AC 1000		1000		1000	
Rated operation voltage Ue(V AC)	690		690		690	
Uimp(kV)	8		8		8	

Dimensions	(mm)	1000		1250		1600	
		a	b	a	b	a	b
	a	210	280	210	280	210	280
	b	327		327		327	
	c	141		141		141	
	ca	205		205		205	
	bb	200		200		200	
	aa	199	339	199	339	199	339

Weight (kg)	13.3	17.2	13.3	17.2	13.3	17.2	13.3	17.2
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Rated breaking capacity (kA)	IEC 60947-2 EN 60947-2 AC Icu	690V		415V		380V		220V(240V)	
		35	45	35	45	35	45	—	—
		50	70	50	70	50	70	—	—
		50	70	50	70	50	70	—	—

Accessory	AL/AX/SHT/ Rotary handle	AL/AX/SHT/ Rotary handle	AL/AX/SHT/ Rotary handle
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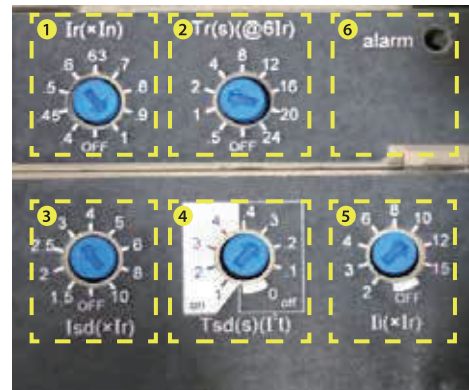
Condition:

1. Operation Temp.: -25°C ~ +70 °C
2. Storage Temp.: -40 °C ~ 85 °C
3. Altitude: ≤2000m
4. Pollution class: 3
5. Category: B
6. Relative humidity: ≤ 90%

Neutral Protection:



4P4D: 100% In 3D+N/2: 50% In 4P3D: No protection



1. Overload Setting Knob
(Ir=0.4/0.45/0.5/0.6/0.63/0.7/0.8/0.9/1/OFF)
2. Overload Tripping Time Setting Knob
(Tr=0.5/1/2/4/8/12/16/20/24/OFF)
3. (Isd=1.5/2/2.5/3/4/5/6/8/10/OFF)
4. (I2t on: Tsd=0.1/0.2/0.3/0.4; I2t off: Tsd=0/0.1/0.2/0.3/0.4)
5. Instantaneous Setting Knob
(Ii=2/3/4/6/8/10/12/15/OFF)
6. Alarm indicator: Overload (red light)

Protection

Long-time												
Current setting(A)	Ir=Inx	0.4	0.45	0.5	0.6	0.63	0.7	0.8	0.9	1	OFF	
	Tr (s)	0.5	1	2	4	8	12	16	20	24	OFF	
Time Delay (s) Accuracy: ±20%	1.5×Ir	8	16	32	64	128	192	256	320	384		
	6×Ir	0.5	1	2	4	8	12	16	20	24		
	7.2×Ir	0.35	0.7	1.39	2.78	5.56	8.3	11.1	13.9	16.7		
Short-time												
Current setting(A)	Accuracy: ±10%	Isd=Irx	1.5	2	2.5	3	4	5	6	8	10	OFF
	Time Delay Tsd(s)	I²t off	0	0.1	0.2	0.3	0.4					
I²t on			0.1	0.2	0.3	0.4						
Time Delay (ms) at 10×Ir (I2t off or on)	Tsd(Max. resettable time)	20	80	140	230	350						
	Tsd(Max. trip time)	80	140	200	320	500						
Instantaneous												
Current setting(A)	Accuracy: ±10%	Ii=Irx	2	3	4	6	8	10	12	15	OFF	
Tripping time		60 ±20 ms										