



Specifications and technical data are subject to change without notice.
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Ebasee
Smart Living Green Ebasee



CIRCUIT BREAKER



COMPANY PROFILE

As a leading supplier in the low voltage electrics industry, Shanghai Ebasee Electric Co., Ltd. products have been used for residential, commercial and industrial applications with its quality and service. EBASEE brand is recognized for its quality and reliability in an ever-increasing number of markets worldwide. So far EBASEE products have been approved by international labs including BV, TUV, Intertek, with KEMA, CB, SEMKO, RoHS, CE, and CCC etc.

With qualified raw materials and components supply, all products are manufactured by EBASEE's defined international specifications. We have 4 semi-auto production lines, up-to-date quality control facilities, well-trained and experienced workers. Moreover, with a technical R & D team and fully equipped in-house laboratory, EBASEE factory can carry out efficient new products development, daily production and QC.

EBASEE have a wide range of cooperations with world leading companies in new products development, OEM and ODM cooperation. Meanwhile, we process the idea of green and smart energy, working with universities such as Xi'an Jiao Tong University to get more intelligent and environmental electric solutions.

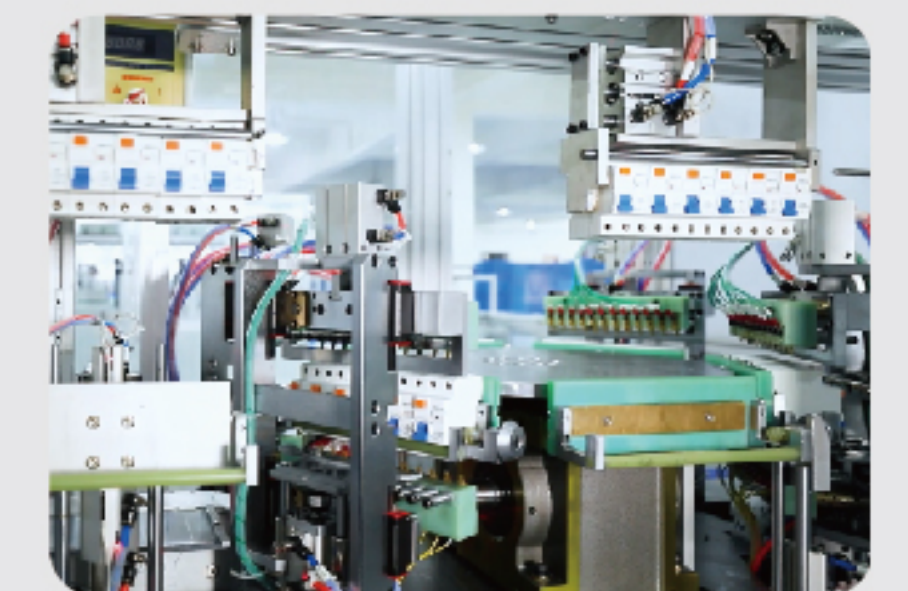
EBASEE focused on achieving growth through the success of worldwide partners. Guided by the philosophy of "market-oriented", powered by the idea of "Quick response and flexible supply", EBASEE support our worldwide partners to compete against established global players, to deliver the most systematic and cost-effective products and service in the market.

"Smart life, Green EBASEE"



Quality is our culture!

PRODUCTION LINE

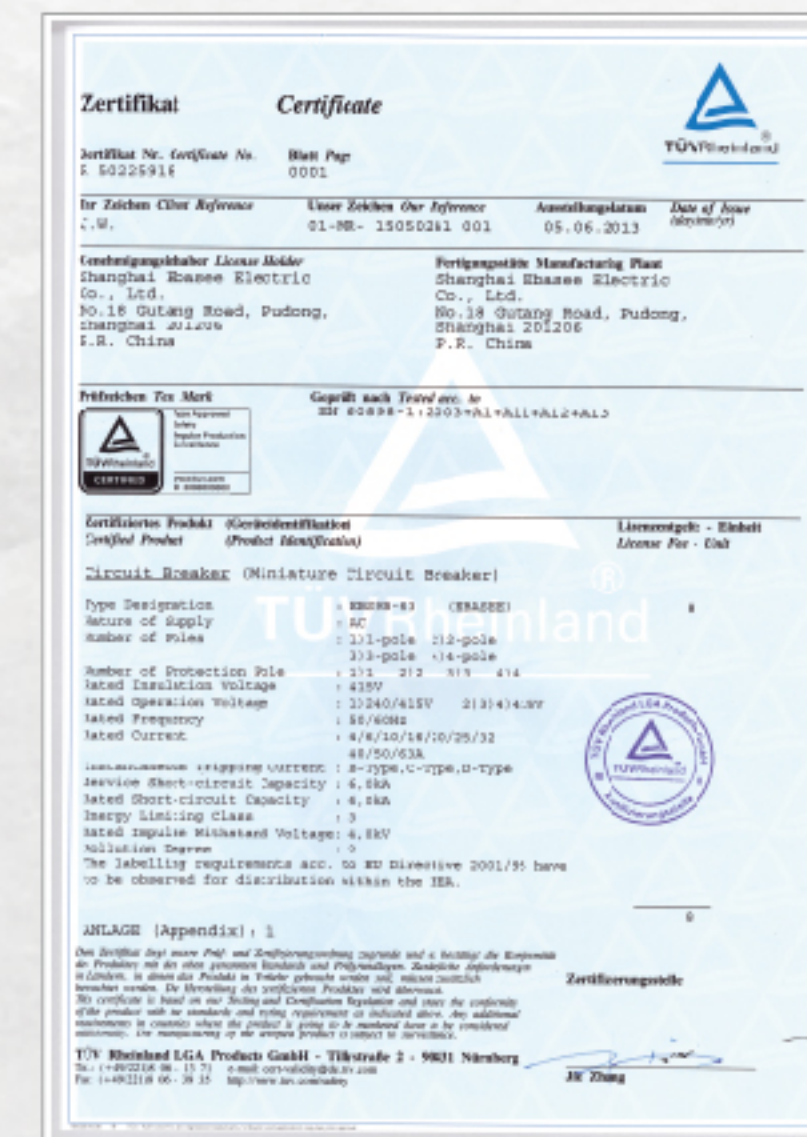
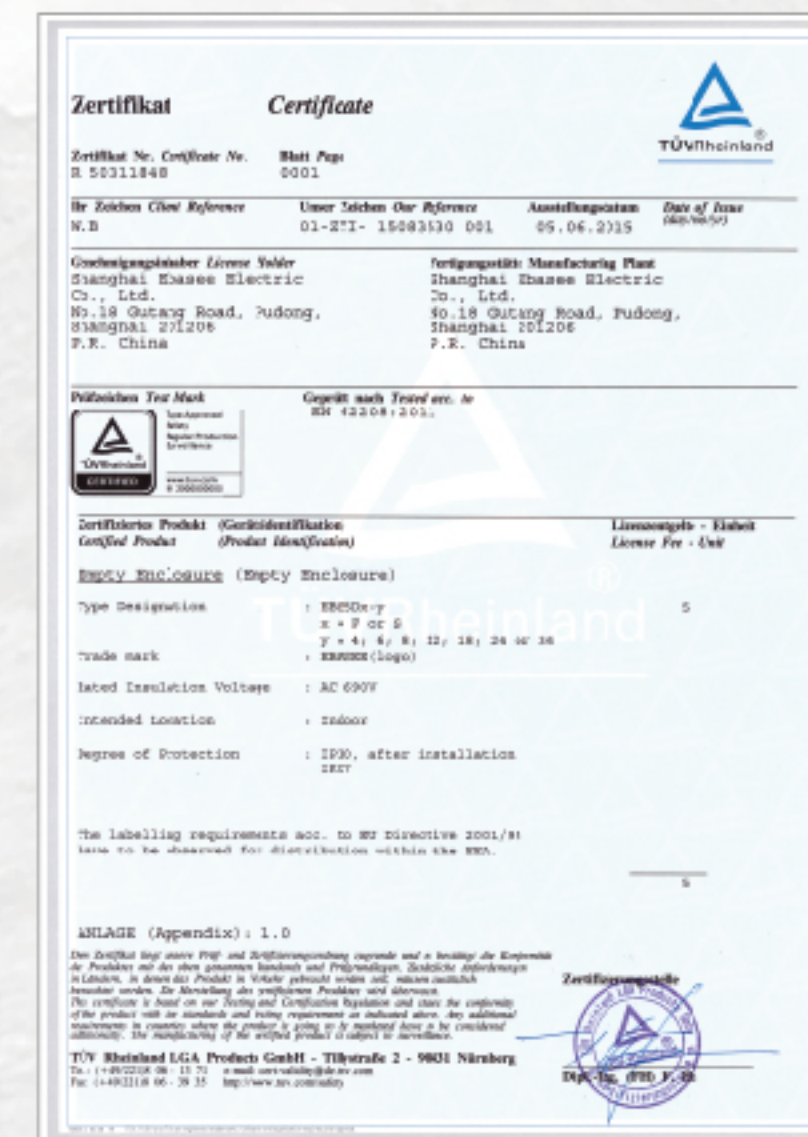
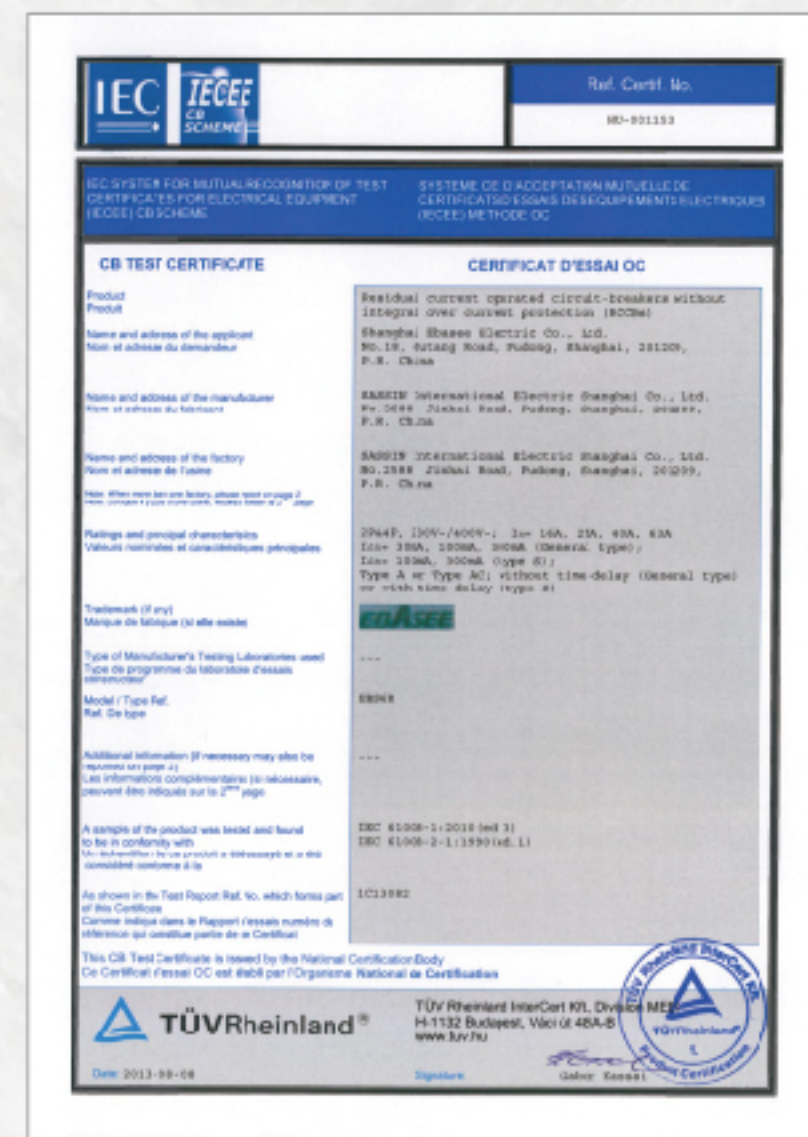
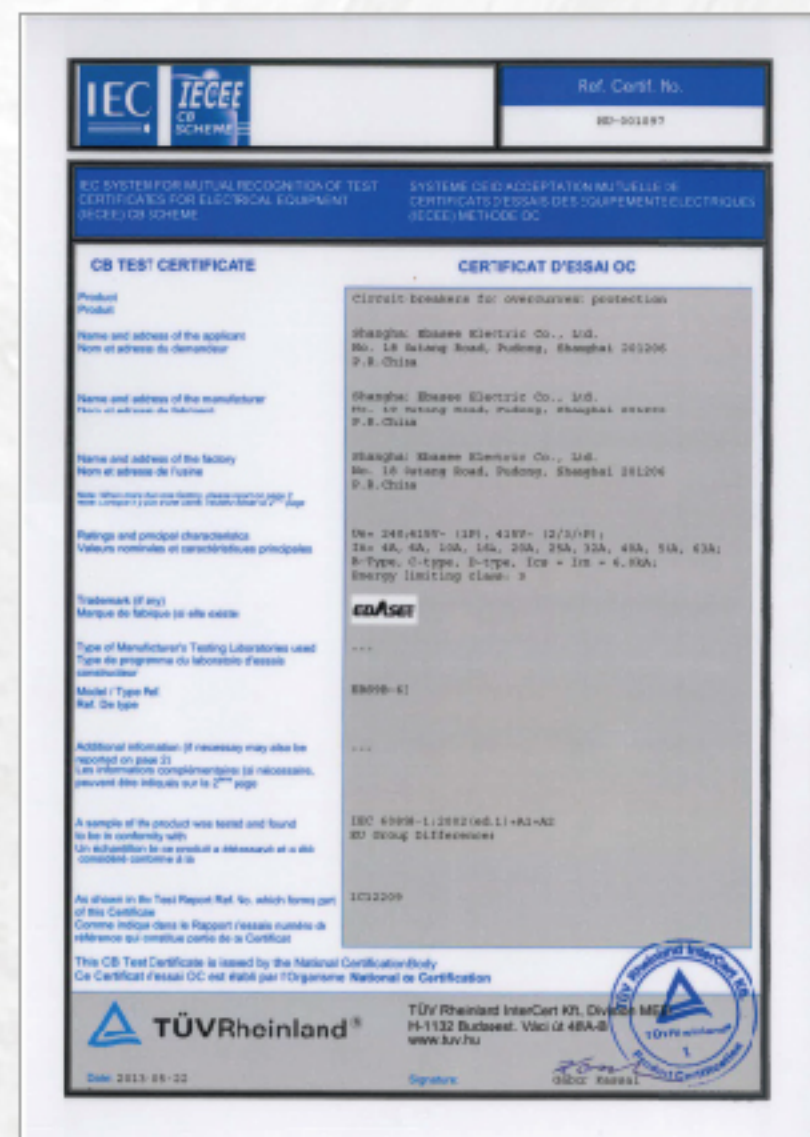
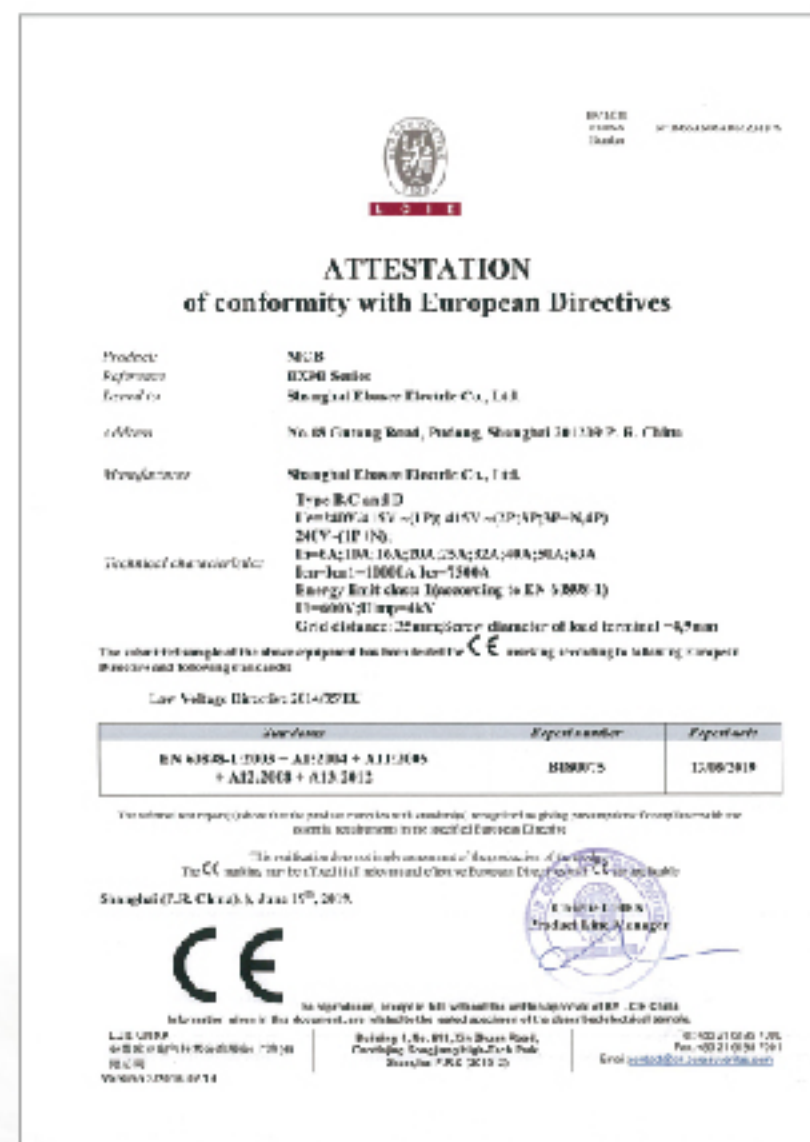


SMART LIVING GREEN EBASEE



INTERNATIONAL QUALITY CERTIFICATE

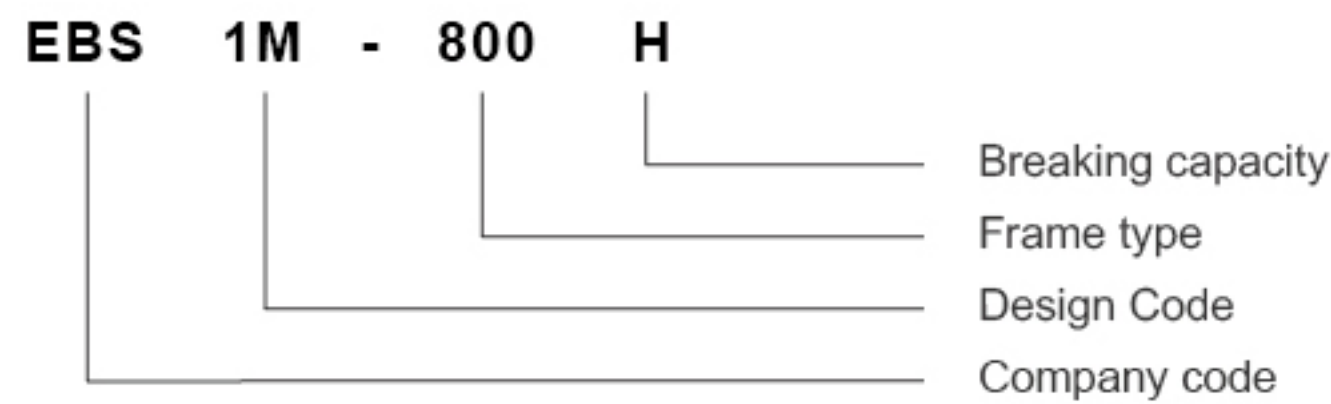
EBASEE products have been approved by international labs including BV, TUV, Intertek, with KEMA, CB, SEMKO, RoHS, CE, and CCC etc.



1.General

EBS1M series moulded case circuit breaker is one of products developed and manufactured by adopting international advanced technology. It is supplied with rated insulating voltage 550V and 800V andused for circuit of AC 50/60Hz, rated operating voltage AC 400V(or below), rated operating current up to 1600A for infrequent changing over and starting of the motors. The product conforms to IEC60947-2 standard.

2.Nomenclature



Note:

6A without thermal protection

The N-pole of four-poles breaker is sited at the right side of the product has four types:

Type A:without current trip-lease on N-pole which making all the time,not closing and opening with the other three poles.

Type B:without current trip-lease on N-pole which closing and opening with the other poles.

Type C:with current trip-lease which closing and opening with the other three poles.

Type D:with current trip-lease which making all not closing and opening with the other three poles.

3.Specifications

Type	Rated current(A)	Pole	Rated insulating voltage (V)	Rated operating voltage (V)	Arcingover distance (mm)	Ultimate short circuit breaking capacity(kA)	Servies short circuit breaking capacity(kA)	Operation performance		Utilizatin category
								Load	Unload	
EBS1M-63L	(6),10,16,	3,4	500V	400V	0	25	18	1500	8500	A
EBS1M-63M	20,25,32,40,50,63				0	50	35			
EBS1M-100L	(10),16,20,	2,3,4	0(≤50)		35	22				
EBS1M-100M	25,32,40,		3,4		0(≤50)	50	35			
EBS1M-100H	50, 63,80,100,125	0(≤50)			85	50	1000	7000		
EBS1M-225L	100,125,	2,3,4	≤50		35	22				
EBS1M-225M	160,180,200,225,		≤50		50	35				
EBS1M-225H	250	≤50	85		50	1000			4000	
EBS1M-400L	225,250,315,	3,4	≤50		50		35			
EBS1M-400M	350,400		≤100		65		42			
EBS1M-630L	400 500 630	3	800V		≤100		50	35		
EBS1M-630M					≤100	65	42			
EBS1M-630H					≤100	100	65			
EBS1M-800M	≤100				75	50				
EBS1M-800H	≤100				100	65	1000	4000		
EBS1M-1250M	≤100				100	65				
EBS1M-1250H	≤100				125	75				
EBS1M-1600M	≤100				150	80				

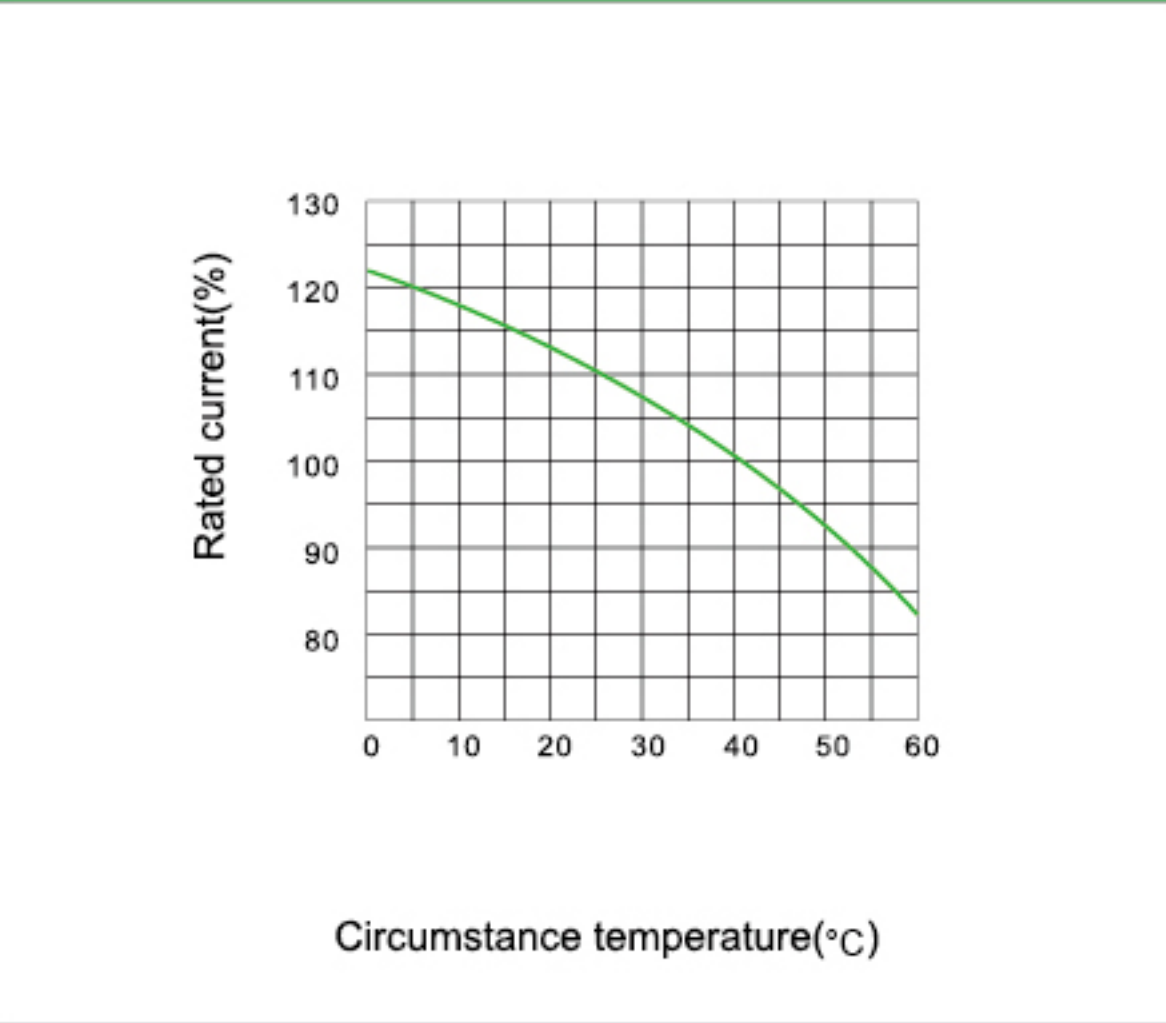
4.Protection Characteristic

The thermodynamic release of circuit breaker provides the feature of inverse time-delay,while the magnetic release is the instantaneous operation as shown on table 2(distribution circuit breaker)and table 3(motor protection circuit breaker).

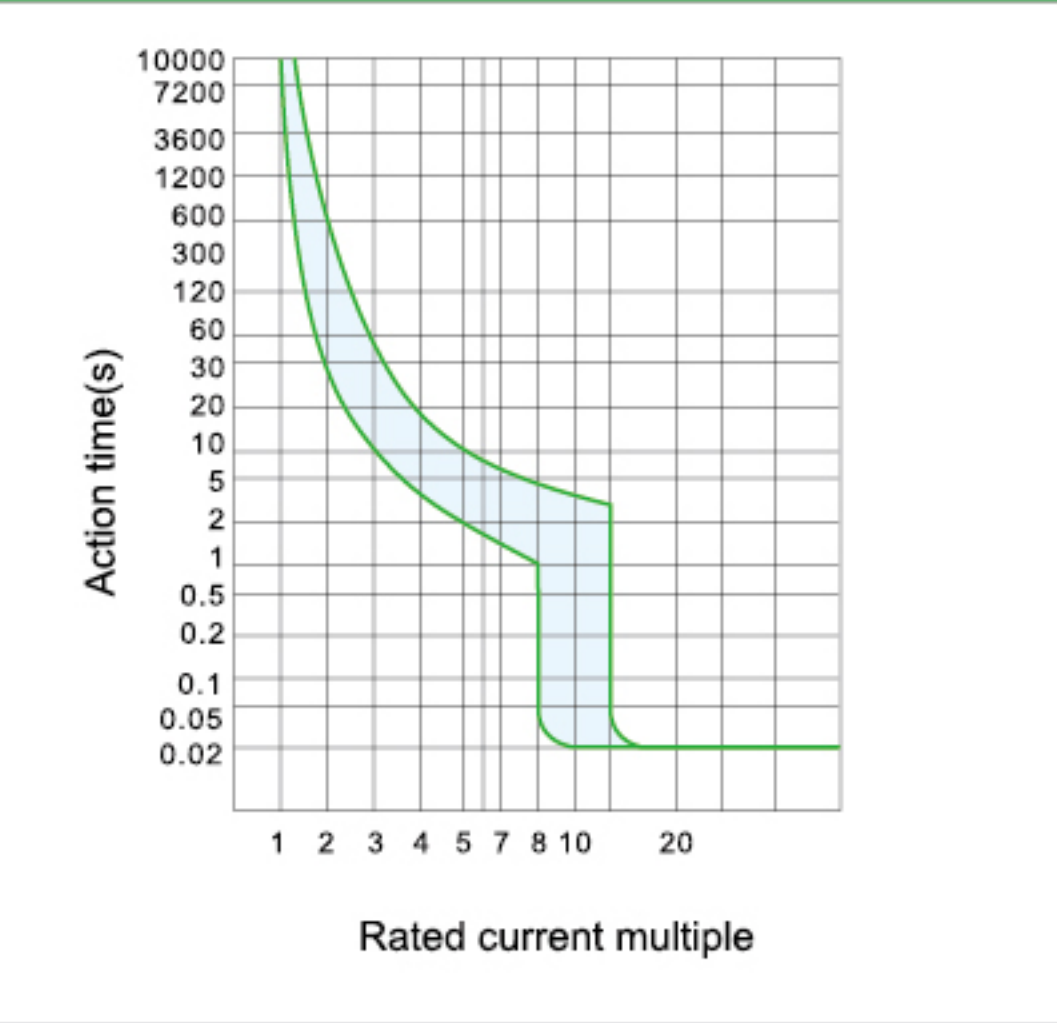
Rated current of release(A)	Thermodynamic release(ambient temperature Land+40℃ marine+45℃)		Operating current of magnetic release(A)
	1.05In(cold state) Inoperative time(h)	1.3In(heat state) Operative time(h)	
10≤In≤63	≥1	<1	10In±20%
63<In≤100	≥2	<2	
100<In≤800	≥2	<2	5In±20% 10In±20%

Rated current of release(A)	Thermodynamic release(ambient temperature Land+40℃ marine+45℃)		Operating current of magnetic release(A)
	1.05In(cold state) Inoperative time(h)	1.2In(heat state) Operative time(h)	
10≤In≤225	≥2	<2	12In±20%
225<In≤630			

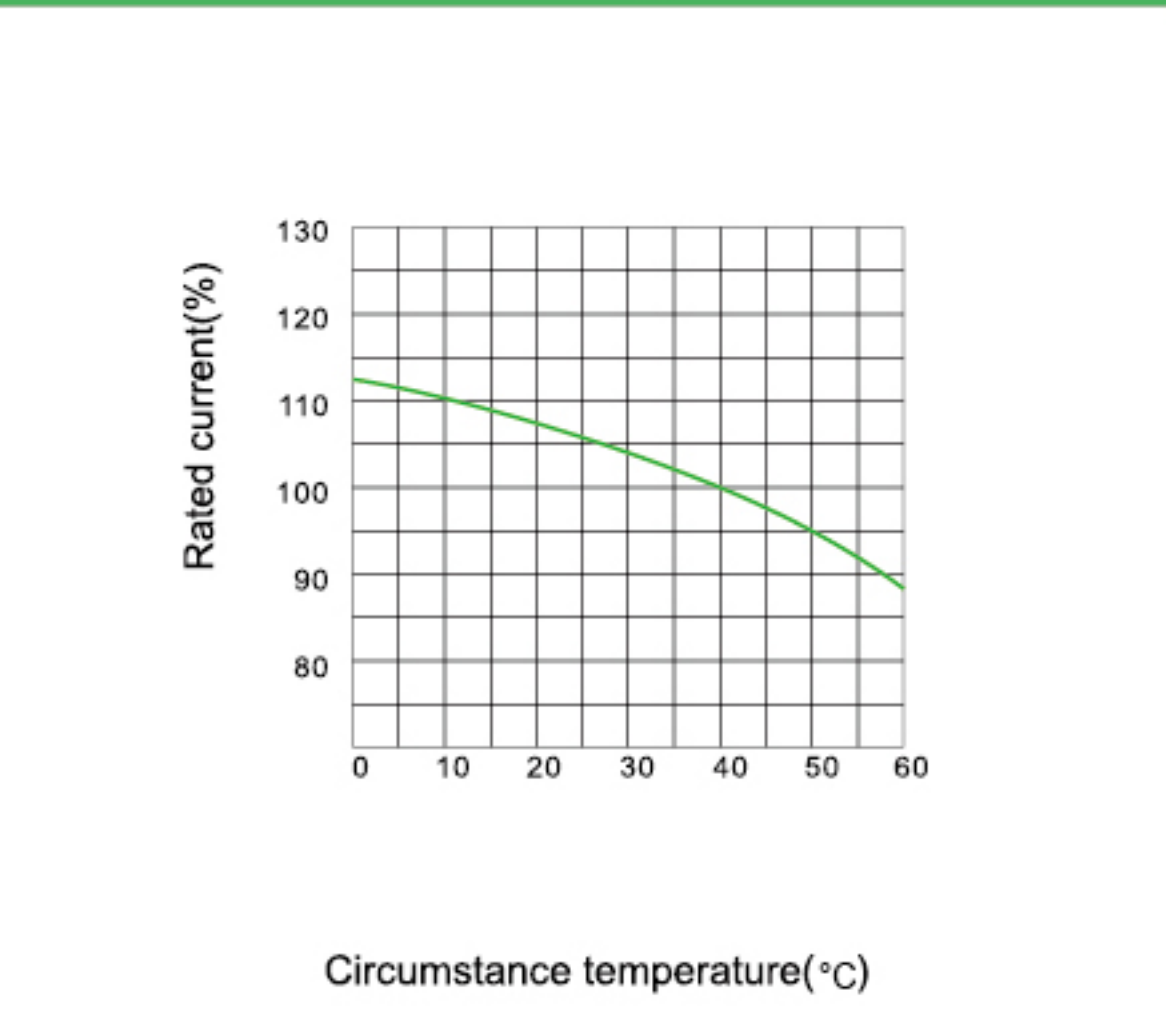
EBS1M-63、100（10～32）Temperature emendation curve



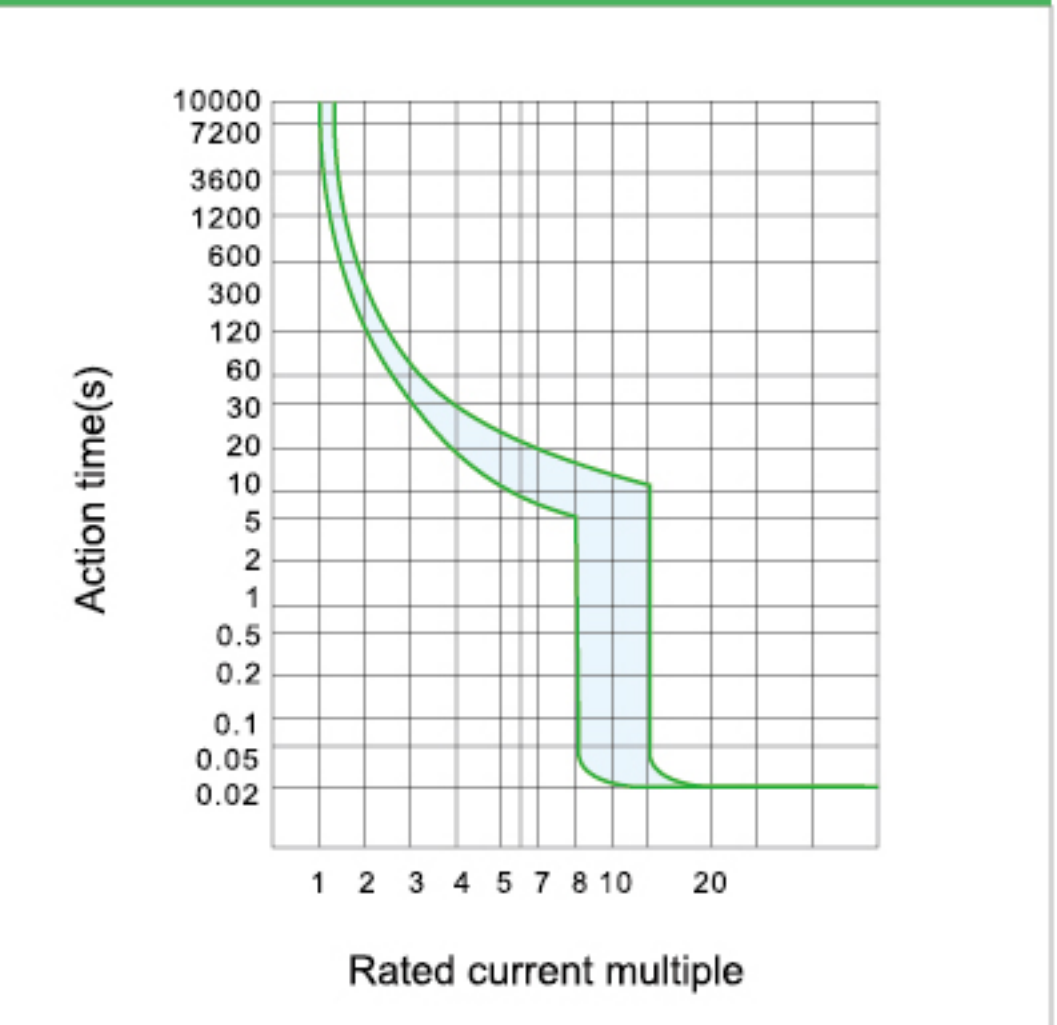
EBS1M-63、100（10～32）Characteristic curve



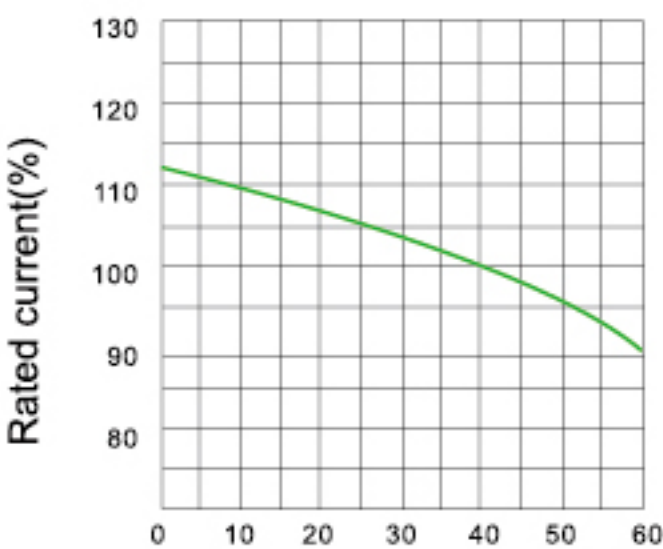
EBS1M-63、100（40～100）Temperature emendation curve



EBS1M-63、100（40～100）Characteristic curve

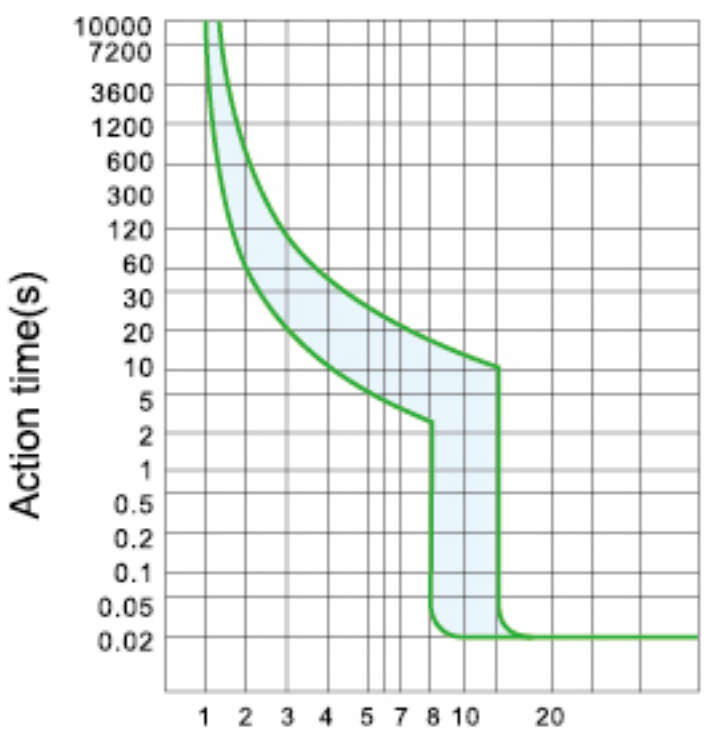


EBS1M-225 Temperature emendation curve



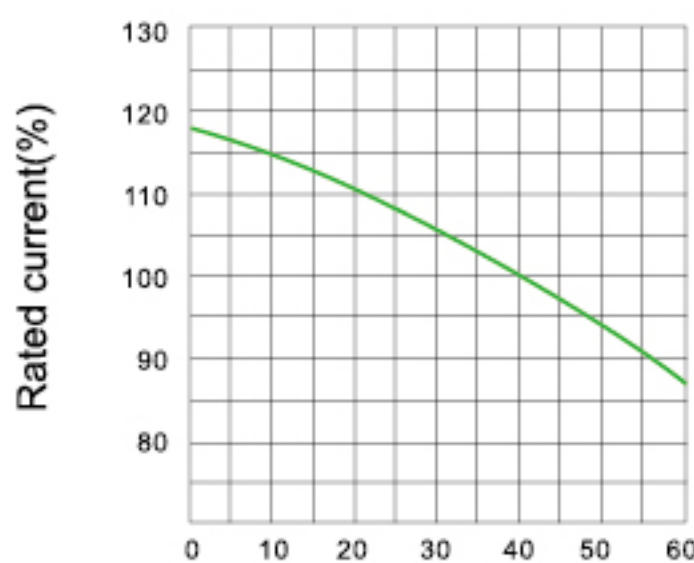
Circumstance temperature(°C)

EBS1M-225 Characteristic curve



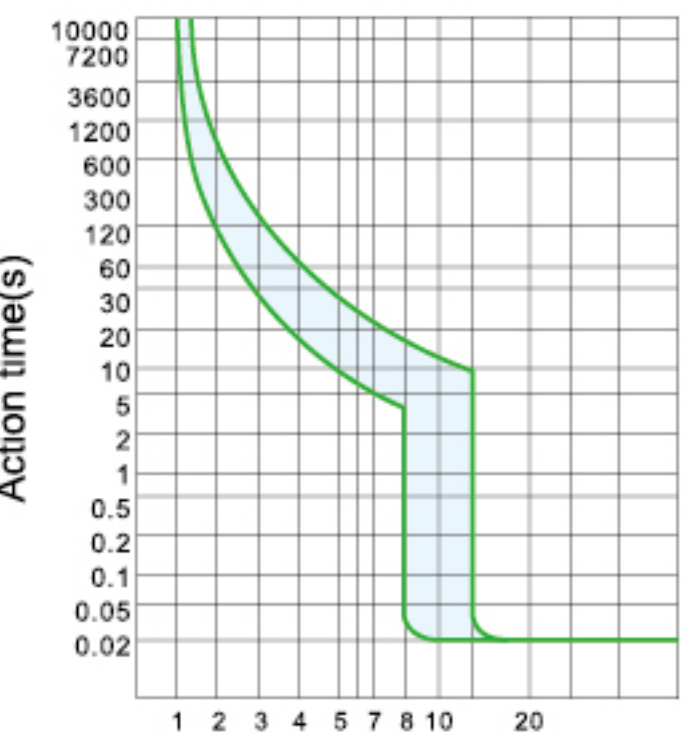
Rated current multiple

EBS1M-400 Temperature emendation curve



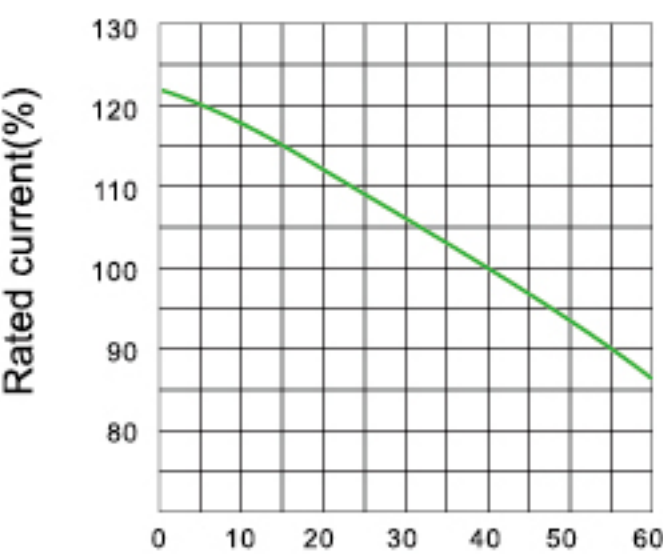
Circumstance temperature(°C)

EBS1M-400 Characteristic curve



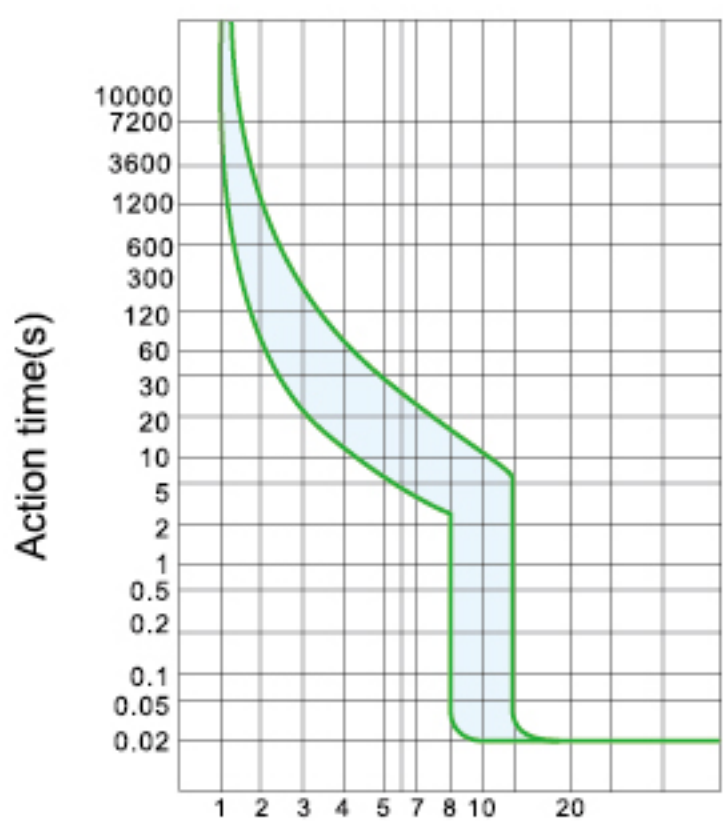
Rated current multiple

EBS1M-630、800 Temperature emendation curve



Circumstance temperature(°C)

EBS1M-630、800 Characteristic curve



Rated current multiple

5. Accessories of Circuit Breaker



Back panel connection

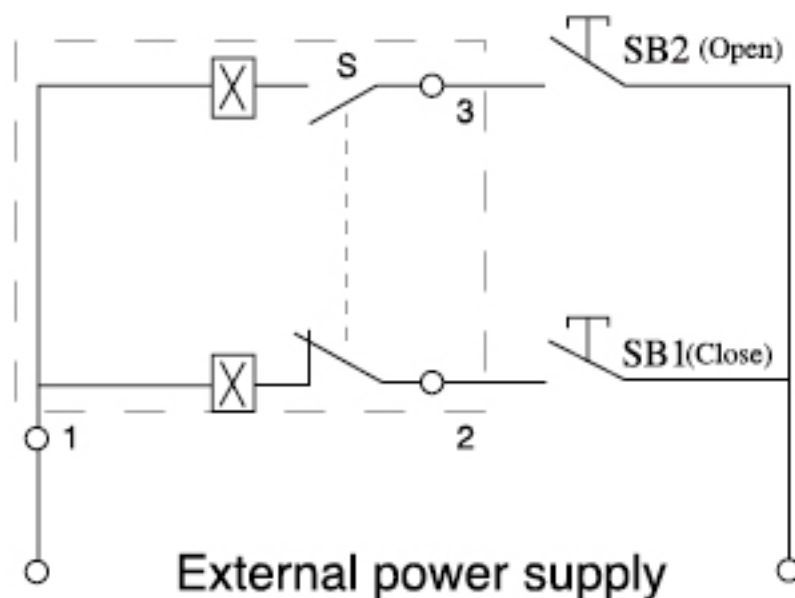


Plug-in

5.1 The external accessories of the breaker

Motor-driven operation device

(1)Wiring diagram of type CDM electromagnetic operation device(fitting EBS1M-63,100,225) see the following drawing(wiring diagram of the external accessories of the breaker in the dotted frame)

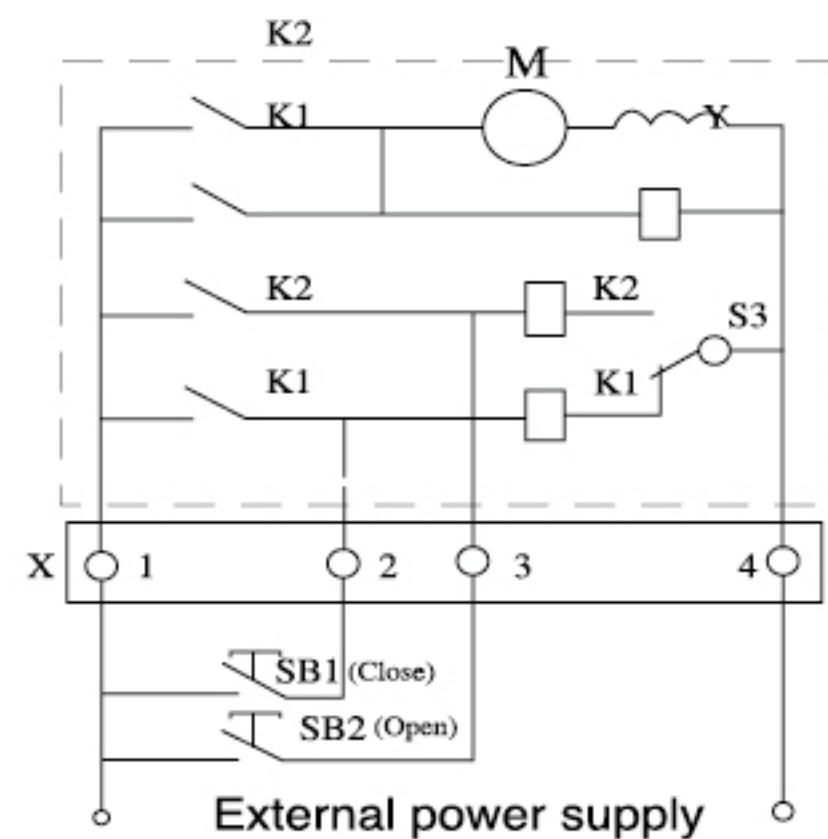


Electromagnetic operation device

Code description:

SB1,SB2 stand for push button(provided by users themselves) "X"stands for line connection terminals Motor-driven operation device
Voltage rating:AC50/60Hz 230V 400V,DC220V.

(2) Wiring diagram of type CD motor-driven operation device (fitting EBS1M-400,600,800) see belows(wiring diagram of the external accessories of the breaker in the dotted frame)



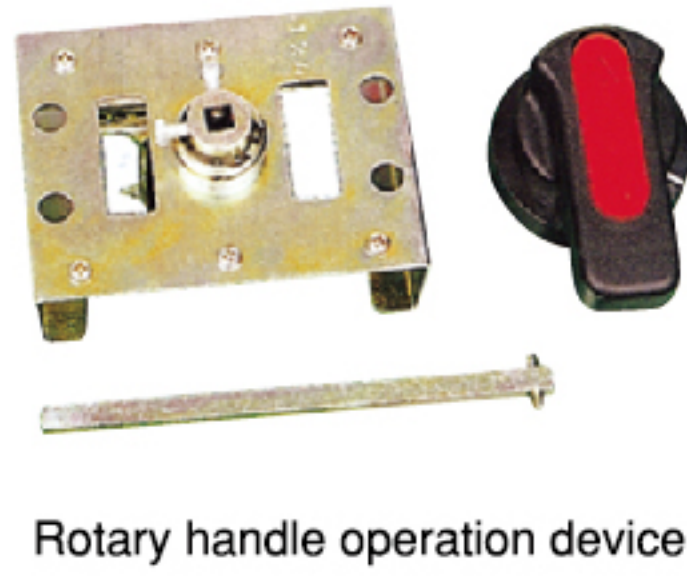
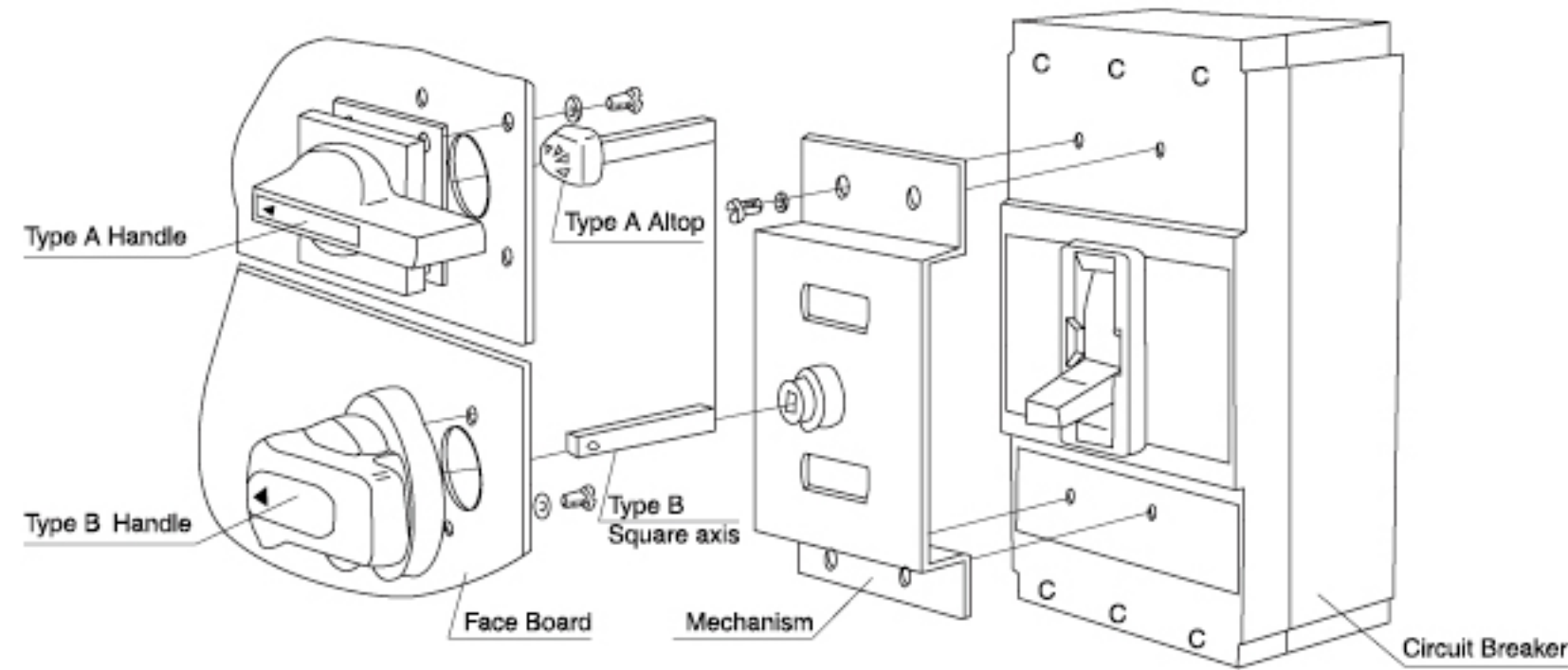
Motor-driven operation device

Code description:

SB1,SB2 stand for push button(provided by users themselves) "X"stands for line connection terminals
Voltage rating:AC50/60Hz 230V 400V,DC220V.

5.2.Rotary Handle Operation Device

The mechanism is used in moulded case circuit breaker to operate the draw-out panel, power distribution panel and supply box outside the panle by turning the handle, and to ensure the door of panle would not be opened when the breaker being on.The hand-drive mechanism can be equiped with two types of operation, one is“A”model square handle, the other is“B”model round handle.



Rotary handle operation device

5.3.Under Voltage Release

When voltage is 35%-70% of rated voltage, the under voltage release should make the breaker reliable operation.

When voltage is less than 35% of rated voltage, the under voltage release should prevent breaker from making

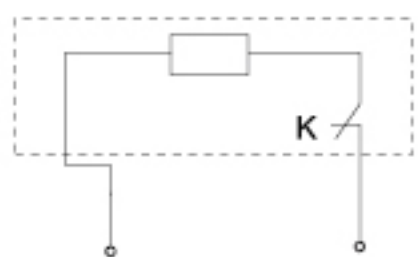
When the voltage is more than 85% of rated voltage, the under voltage release should make the breaker reliable operation.

WARNING: ONLY AFTER THE UNDER VOLTAGE IS ENERGIZED, CAN ENERGIZE AND MAKE THE BREAKER, OTHERWISE THE BREAKER WILL NOT BE SWITCHED ON.



Frame	A EBS1M-63	B EBS1M-100	C EBS1M-225	D EBS1M-400	E EBS1M-630	F EBS1M-800
Rated voltage	230V AC 400V AC	230V AC 400V AC	230V AC 400V AC	230V AC 400V AC	230V AC 400V AC	230V AC 400V AC
Type code	1MA UR230A 1MA UR230A	1MB UR230A 1MB UR230A	1MC UR230A 1MC UR230A	1MD UR230A 1MD UR230A	1ME UR230A 1ME UR230A	1MF UR230A 1MF UR230A

5.4.Shunt Release



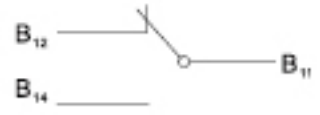
Shunt Release

In 70% ~ 110% of the rated voltage, the breaker can reliably operate.

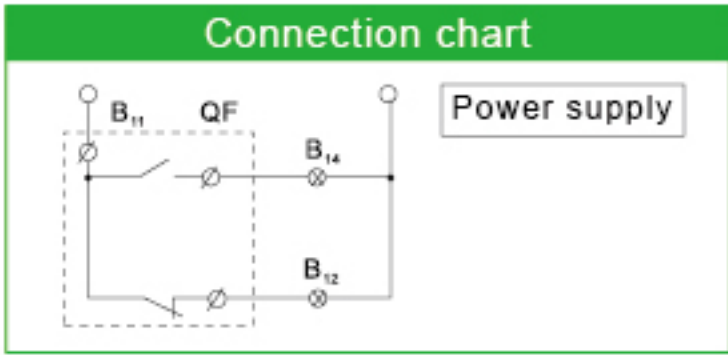
Frame	A EBS1M-63	B EBS1M-100	C EBS1M-225	D EBS1M-400	E EBS1M-630	F EBS1M-800
Rated voltage	230V AC 400V AC 110V DC 220V DC	230V AC 400V AC 110V DC 220V DC	230V AC 400V AC 110V DC 220V DC	230V AC 400V AC 110V DC 220V DC	230V AC 400V AC 110V DC 220V DC	230V AC 400V AC 110V DC 220V DC
Type code	1MA SR230A 1MA SR400A 1MA SR110D 1MA SR220D	1MB SR230A 1MB SR400A 1MB SR110D 1MB SR220D	1MC SR230A 1MC SR400A 1MC SR110D 1MC SR220D	1MD SR230A 1MD SR400A 1MD SR110D 1MD SR220D	1ME SR230A 1ME SR400A 1ME SR110D 1ME SR220D	1MF SR230A 1MF SR400A 1MF SR110D 1MF SR220D



when circuit breaker is at breaking/making status

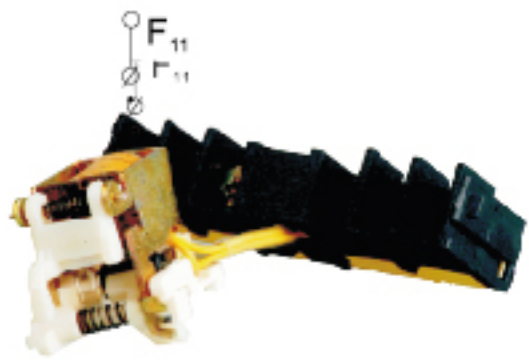


when circuit breaker is in “free release” (alarm)

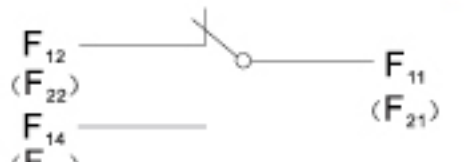


Indication of contacting status.Frame

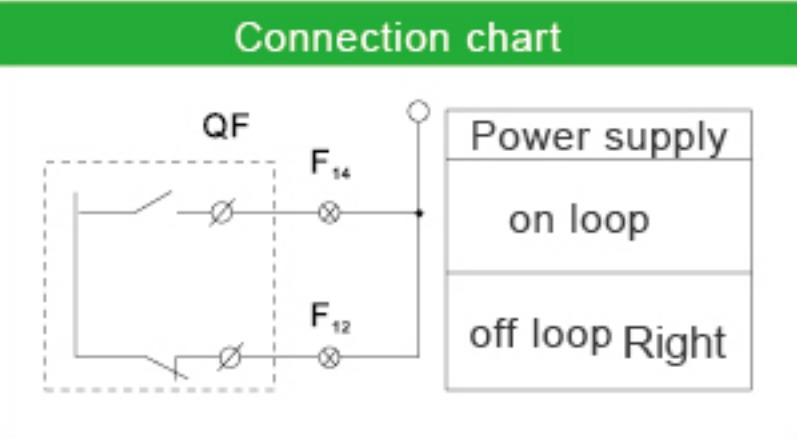
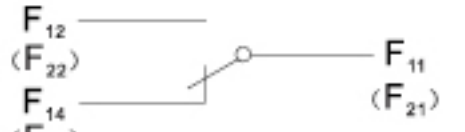
Alarm contact	A EBS1M-63	B EBS1M-100	C EBS1M-225	D EBS1M-400	E EBS1M-630	E EBS1M-800
Type code	1MA AMC	1MA AMC	1MB AMC	1MB AMC	1MC AMC	1MC AMC



when circuit breaker is at breaking status



when circuit breaker is at breaking status



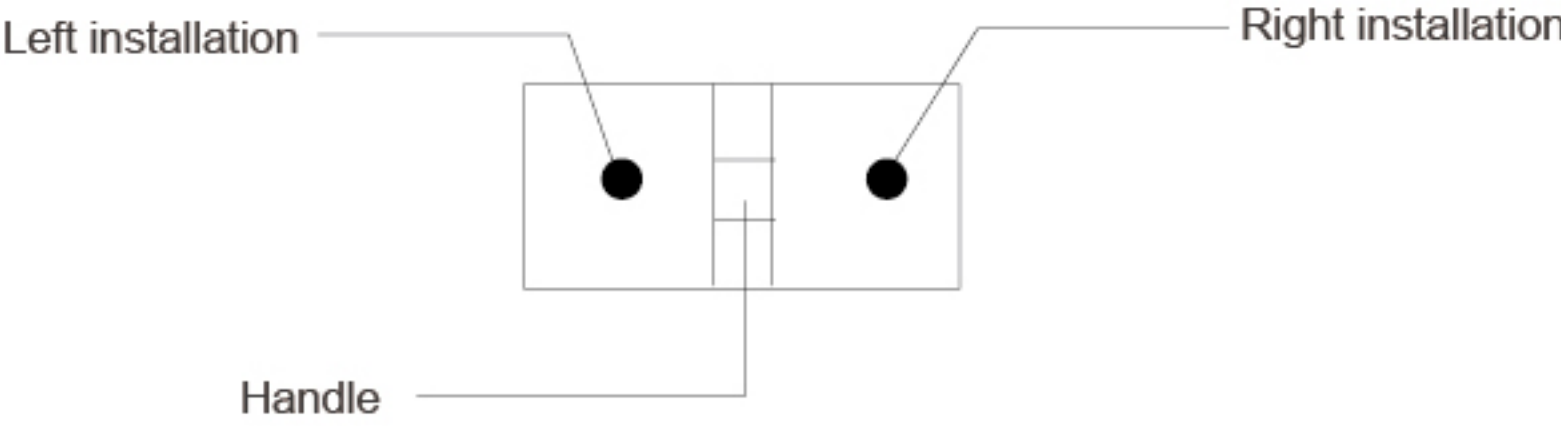
Indication of contacting status.Frame

Auxiliary Contact	A EBS1M-63	B EBS1M-100	C EBS1M-225	D EBS1M-400	E EBS1M-630	F EBS1M-800
	Left Right	Left Right	Left Right	Left Right	Left Right	Left Right
Type Code	1MA ACL 1MA ACL	1MB ACL 1MB ACL	1MC ACL 1MC ACL	1MD ACL 1MD ACL	1ME ACL 1ME ACL	1MF ACL 1MF ACL

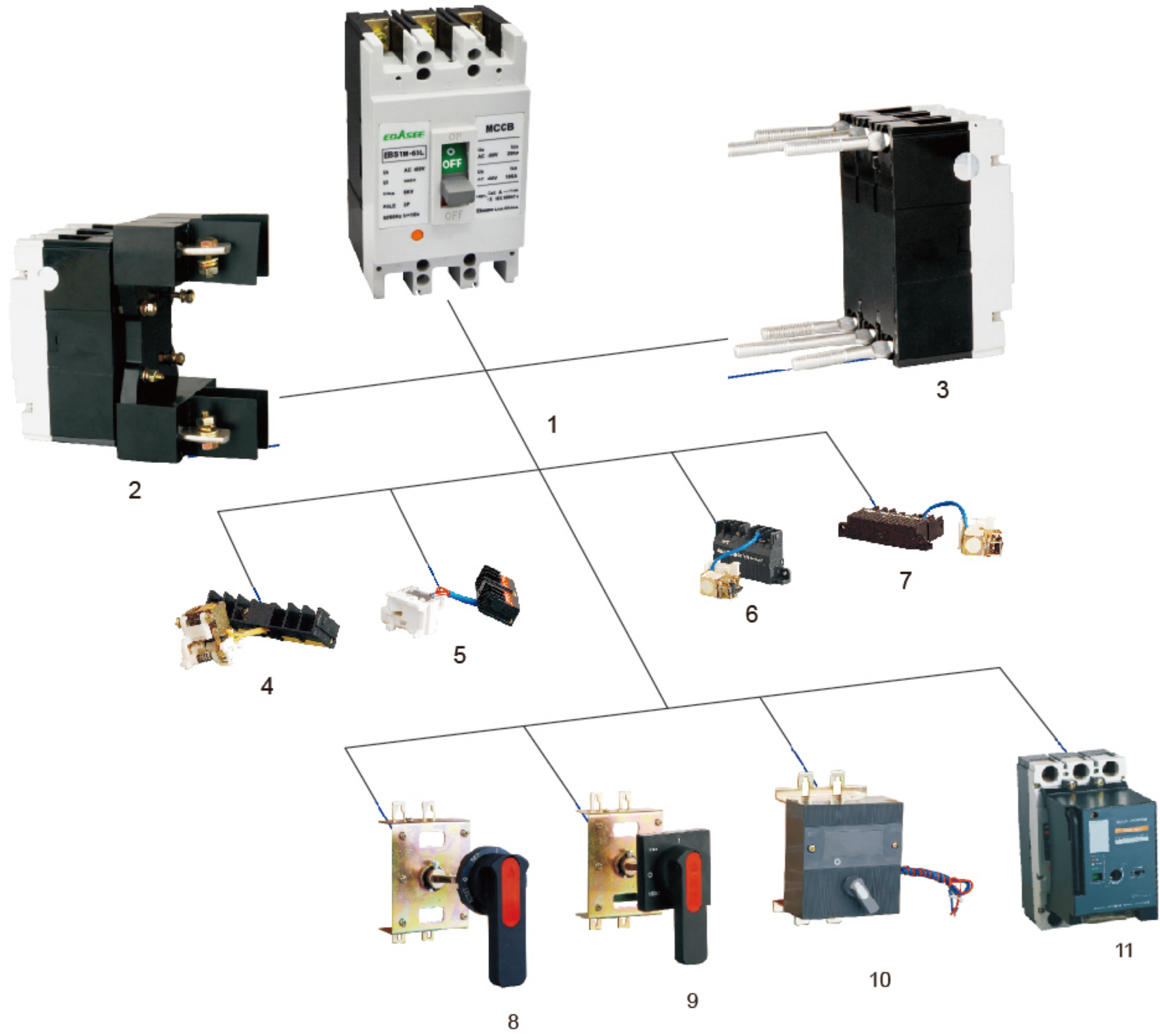
6.Release Types and Codes of Accessories

Codes of Accessories			Installation Types			
Name of Accessories	Electro magnetism trip	Double trip	EBS1M-63L.M EBS1M-100L.M.H EBS1M-225L.M.H 3poles, 4poles	EBS1M-400L EBS1M-630L.M 3poles, 4poles	EBS1M-400M.H 3poles	EBS1M-630H EBS1M-800M.H 3poles
No- Accessories	200	300				
Warning contact	208	308				
Shunt trip	210	310				
Auxiliary contact	220	320				
Under-voltage shunt trip	230	330				
Auxiliary contact of trip	240	340				
Shunt trip under voltage trip	250	350				
2-group Auxiliary contact	260	360				
Auxiliary contact Under voltage trip	270	370				
Shunt trip Warning contact	218	318				
Auxiliary contact Warning contact	228	328				
Under voltage trip Warning contact	238	338				
Shunt trip Auxiliaty contact Warning contact	248	348				
2-group Auxiliary contact Warning contact	268	368				
Auxiliary contact Under voltage trip Warning contact	278	378				

Note: ○ Auxiliary contact
● Warning contact
■ Shunt trip
▲ Under-voltage trip



EBS1M SERIES PRODUCT OVERVIEW



- 1

Body
- 2

Plug-in connection
- 3

Rear panel connection
- 4

Auxiliary contact
- 5

Alarm contact
- 6

Shunt release
- 7

Under-voltage release
- 8

Rotary handle operating mechanism
- 9

Rotary handle operating mechanism
- 10

Electromagnetic operating mechanism
- 11

Electric motor operating mechanism

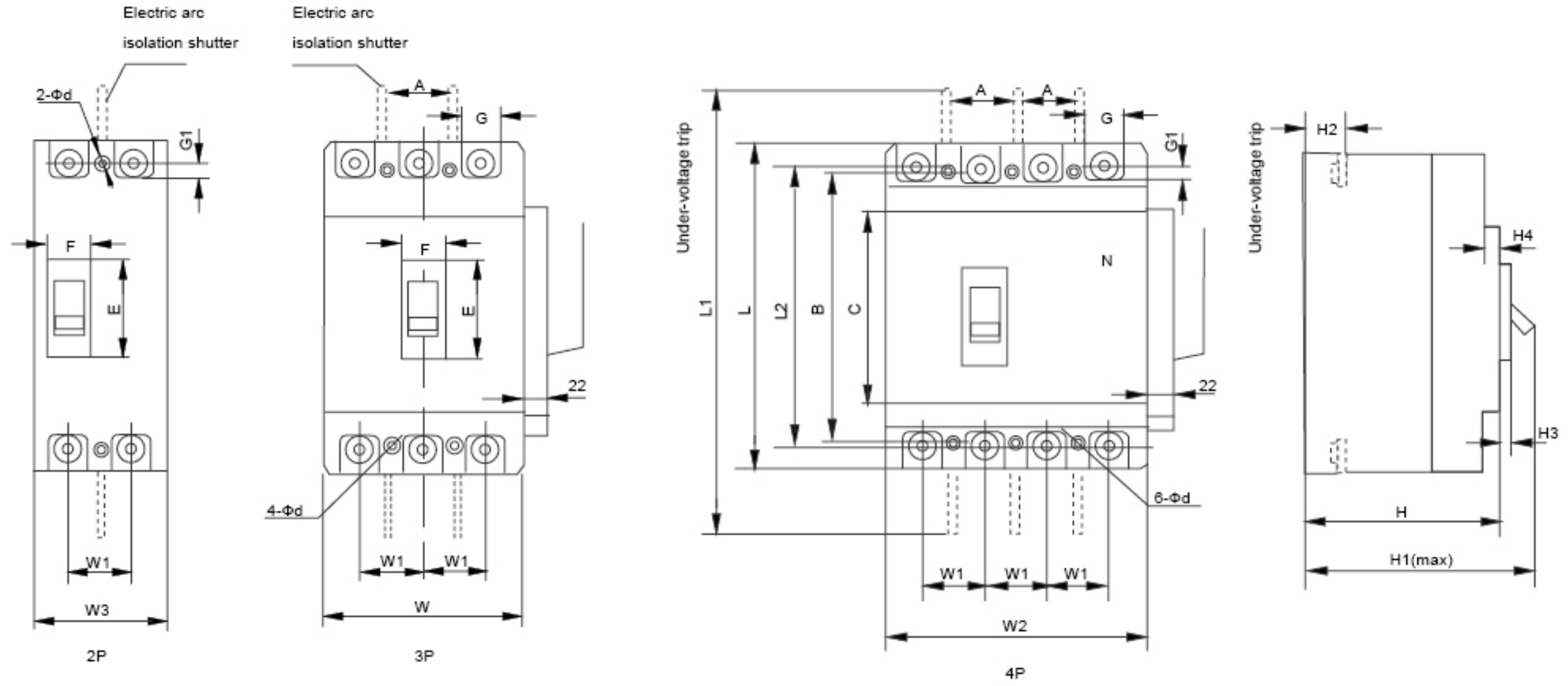
Frame			Frame A	Frame A	Frame B	Frame B	Frame B
			EBS1M-63	EBS1M-63	EBS1M-100	EBS1M-100	EBS1M-100
			L	M	L	M	H
Standard			IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1
Frame current Inm	A		63	63	100	100	100
Rated current In	A		6,10,16,20,25	6,10,16,20,25	6,10,16,20,25,32	6,10,16,20,25,32	6,10,16,20,25,32
			32,40,50,63	32,40,50,63	40,50,63,80,100,125	40,50,63,80,100,125	40,50,63,80,100,125
Poles	P		3	3,4	3	3,4	3
Rated insulating voltage Ui	V		500	500	800	800	800
Rated limited short circuit breaking capacity Icu	at 400V AC	kA	25	50	35	50	85
	at 690V AC	kA	-	-	8	10	20
Rated operating short circuit breaking capacity	at 400V AC	kA	12.5	25	17.5	25	42.5
	at 690V AC	kA	-	-	4	5	10
Arcing over distance			≤50	≤50	≤50	≤50	≤50
Operating performance	with load	times	1500	1500	1500	1500	1500
	without load	times	8500	8500	8500	8500	8500

Frame			Frame C	Frame C	Frame C	Frame D	Frame D
			EBS1M-225	EBS1M-225	EBS1M-225	EBS1M-400	EBS1M-400
			L	M	H	L	M
Standard			IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1
Frame current Inm	A		225	225	225	400	400
Rated current In	A		100,125,160	100,125,160	100,125,160	225,250,315,	225,250,315,
			180,200,225,250	180,200,225,250	180,200,225,250	350,400	350,400
Poles	P		3	3,4	3	3	3,4
Rated insulating voltage Ui	V		800	800	800	800	800
Rated limited short circuit breaking capacity Icu	at 400V AC	kA	35	50	85	50	65
	at 690V AC	kA	8	10	20	10	10
Rated operating short circuit breaking capacity	at 400V AC	kA	17.5	25	42.5	25	32.5
	at 690V AC	kA	4	5	10	5	5
Arcing over distance			≤50	≤50	≤50	≤100	≤100
Operating performance	with load	times	1000	1000	1000	1000	1000
	without load	times	7000	7000	7000	4000	4000

Frame			Frame D	Frame E	Frame E	Frame E	Frame F	Frame F
			EBS1M-400	EBS1M-630	EBS1M-630	EBS1M-630	EBS1M-800	EBS1M-800
			H	L	M	H	M	H
Standard			IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1	IEC60947-2 IEC60947-4-1
Frame current Inm	A		400	630	630	630	800	800
Rated current In	A		225,250,315,	400,500	400,500,	400,500,	630,700	630,700
			350,400	630	630	630	800	800
Poles	P		3	3	3,4	3	3,4	3
Rated insulating voltage Ui	V		800	800	800	800	800	800
Rated limited short circuit breaking capacity Icu	at 400V AC	kA	100	50	65	100	75	100
	at 690V AC	kA	20	10	10	20	20	-
Rated operating short circuit breaking capacity	at 400V AC	kA	50	25	32.5	65	37.5	50
	at 690V AC	kA	10	5	5	10	10	-
Arcing over distance			≤100	≤100	≤100	100	≤100	≤100
Operating performance	with load	times	1000	1000	1000	1000	500	500
	without load	times	4000	4000	4000	4000	2500	2500

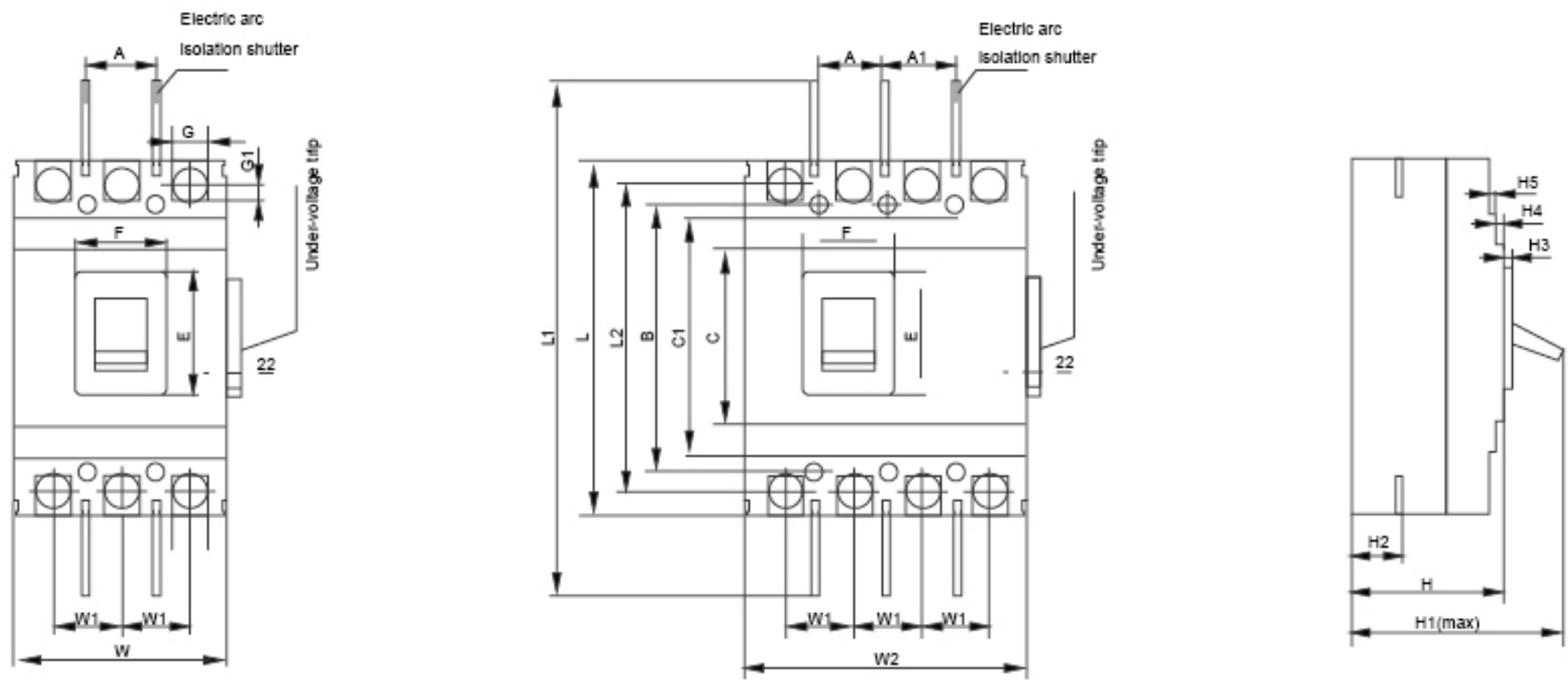
7.Dimensions

EBS1M-63,100,225 Outline and Installation Dimension(front connection)



	Model	EBS1M-63L	EBS1M-63M	EBS1M-100L	EBS1M-100M EBS1M-100H	EBS1M-225L	EBS1M-225M EBS1M-225H
Dimensions	C	85	85	84	84	103	103
	E	48	48	50.5	50.5	51	51
	F	22	22	22	22	23	23
	G	14	14	17	17	22	22
	G1	6.5	6.5	7.5	7.5	11.5	11.5
	H	73	81	68	86	86.5	103
	H1	90	98.5	86	103	110	127
	H2	20	27	24	24	24	24
	H3	4	4	4	4	4	4
	H4	6	6	7	7	5	5
	L	135	135	155	155	165	165
	L1	170	173	255	255	360	360
	L2	117	117	136	136	144	144
	W	76	76	90	90	105	105
	W1	25	25	30	30	35	35
Installation Dimensions	W2	--	102.5	--	120	--	140
	W3	--	--	--	64.5	--	74.5
	A	25	25	30	30	35	35
	B	117	117	130	130	126	126
	φd	3.5	3.5	4.5X6	4.5X6	5	5

EBS1M-400,630,800 Outline and Installation Dimensions(front connection)

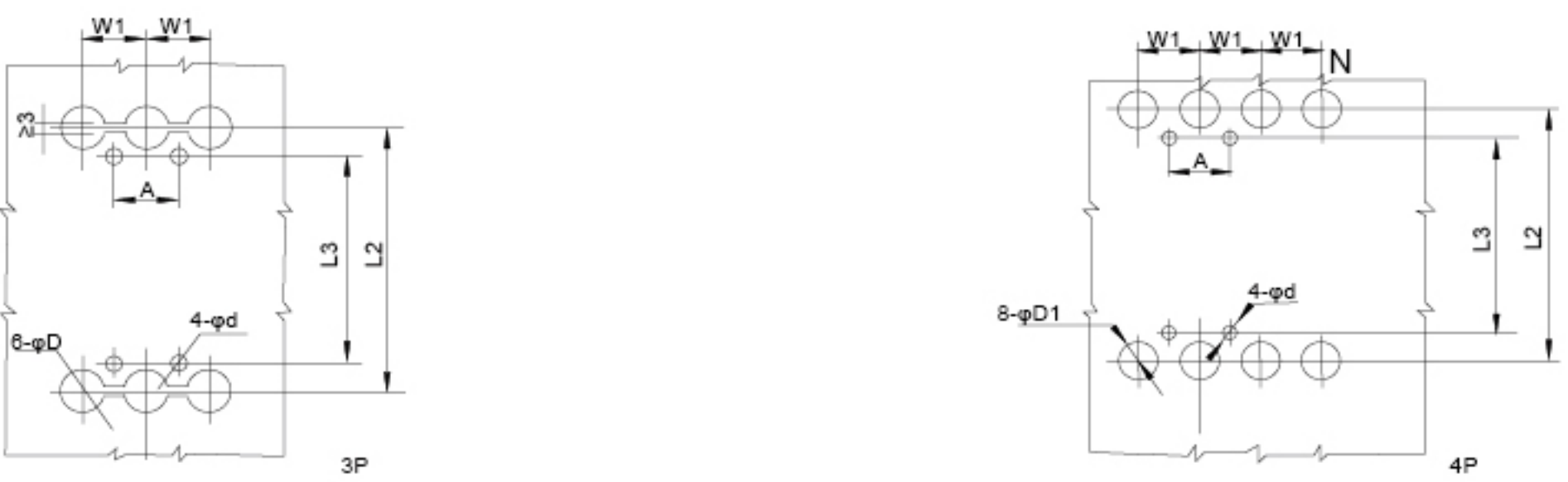


	Model	EBS1M-400M EBS1M-400H				
		EBS1M-400L	EBS1M-630L	EBS1M-630M	EBS1M-630H	EBS1M-800M/H
Dimensions	C	102	129	134	134	154
	C1	179	175	184	184	204
	E	90	89	89	89	106
	F	62	65	65	65	66
	G	28	30.5	40	40	44
	G1	13	10.5	13.5	13.5	12.5
	H	104	107	111	111	107
	H1	155	450	160	160	148
	H2	38	39	44	44	33
	H3	6	6	6	6	4.5
	H4	6	4.5	3.5	3.5	4.5
	H5	2.5	4.5	4.5	4.5	8
	L	257	257	270	270	280
	L1	457	457	470	470	470
	L2	225	225	234	234	243
	W	140	150	182	182	210
Installation Dimensions	W1	44	44	58	58	70
	W2	198	--	240	--	--
	A	44	44	58	58	70
	A1	50	--	58	--	--
	B	194	194	200	200	243
	φd	7	7	7	7	7

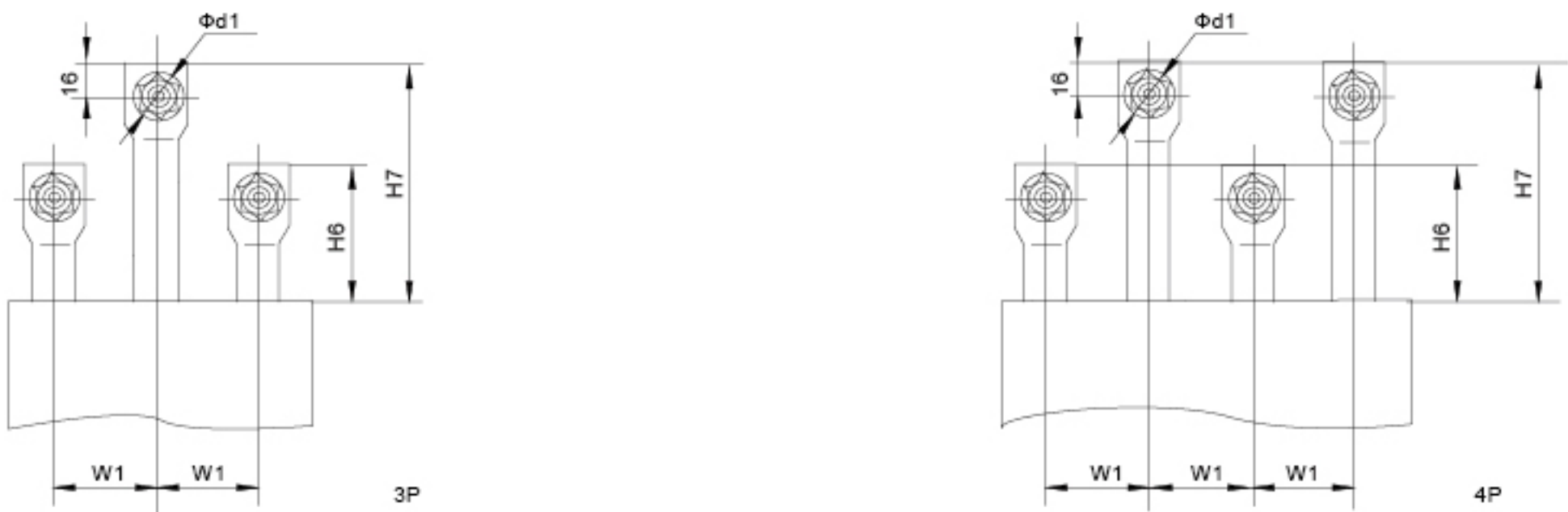
EBS1M-63,100,225 Outline and installation dimension (Back connection)



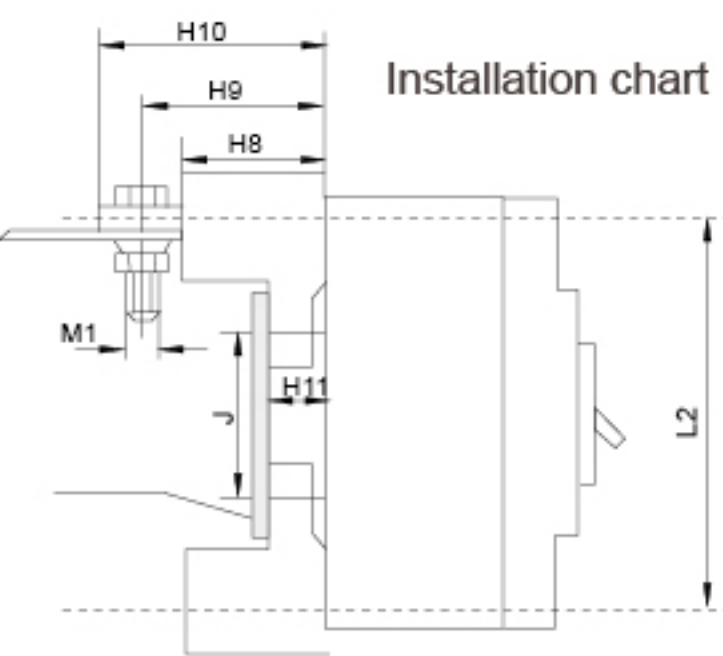
Back connection chart



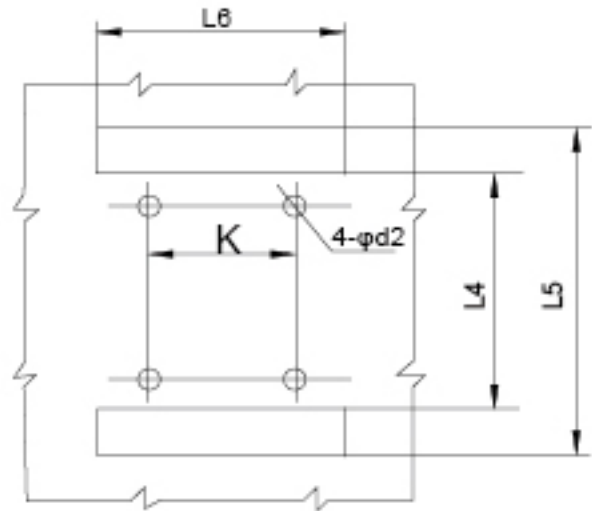
EBS1M-400、630、800 Outline and installation dimension(Back connection)



Insert style



Installation board chart



	Model	EBS1M-63L EBS1M-63M	EBS1M-100L EBS1M-100M EBS1M-100H	EBS1M-225L EBS1M-225M EBS1M-225H	EBS1M-400L	EBS1M-400M EBS1M-400H	EBS1M-630L EBS1M-630M	EBS1M-630H EBS1M-800M EBS1M-800H
Dimensions of back connection & insert type	A	25	30	30	44	44	58	70
	Φd	3.5	4.5x6(long hole)	5.5	7	7	7	7
	Φd1	--	--	--	Φ12.5	Φ12.5	Φ16.5	Φ16.5
	Φd2	6	8	8	9	9	9	12
	ΦD	8	24	26	31	33	37	37
	ΦD2	8	16	20	33	37	37	37
	H6	44	68	66	60	65	65	48
	H7	66	108	110	120	120	125	125
	H8	28	51	51	61	60	60	87
	H9	38	68	72	--	83.5	93	--
	H10	44	79	91	99	106.5	112	106
	H11	8.5	17.5	17.5	22	21	21	26.5
	L2	117	132	144	225	225	234	243
	L3	117	108	126	194	194	200	243
	L4	97	95	93	165	163	165	173
	L5	138	180	190	285	285	302	305
	L6	80	95	110	145	155	185	215
	M	M6	M8	M10	--	--	--	--
	K	50.2	60	70	60	60	100	90
	J	60.7	62	54	129	129	123	143
	M1	M5	M8	M8	M10	M10	M12	M14
	W1	25	30	35	44	44	58	70

8.Tripping Characteristic

For power distribution

No.	Test current	I/In	Conventional time	Start status
1	Conventional non-trip current	1.05	2h(In>63A), 1h(In≤63A)	Cold status
2	Conventional trip current	1.3	2h(In>63A), 1h(In≤63A)	Right after test No.1

For motor protection

No.	Operational current	Conventional time	Start status	Remark
1	1.0In	2h	Cold status	-
2	1.2In	≤2h	Right after test No.1	-
3	1.5In	≤4min	Cold status	10≤In≤225
4	7.2In	≤8min	Cold status	225≤In≤630
		4s≤T≤10s	Cold status	10≤In≤225
		6s≤T≤20s	Cold status	225≤In≤635

8.Order Note

Following items should be marked when ordering	Ordering sample
Product name, model & frame level	To order the EBS1M Moulded case circuit breaker, 3P, frame leve is
Poles & breaking capacity	400A, high breaking capacity, rated current is 350A, for motor
Rated current, Protection type	protection, and quantity is 100 pieces, should be marked:
Quantity	MCCB EBS1M-400H/3P350M, 100PCS.