



1.General

EBS9MH series is type moulded case circuit breaker that developed and manufactured by adopting international MCCB advantages and market requirements. It is supplied with rated insulating voltage 800V, and use in the distribution network circuit of AC 50/60Hz, rated operating voltage AC690V, rated operating current up to 1250A. It could allot electric energy and protect circuit & electric power unit against over-load, short-circuit, under-voltage etc. It also protects motor frequently start&over-load, short-circuit, under-voltage.

This MCCB features by small size, high breaking capacity, and short flashover etc. installed vertically or horizontally. It is convenient & ideal product for user.

This product conforms to IEC60947-2 standard.



2.Feature and Application

Miniaturized Design

125A frame level size is same to 100A, it can meet specifically requirements for installation size.

Unified Size

At the same frame level, the installation size is same at different breaking capacity (C, S, M, H) and different functions (ACB, RCCB, Thermal-magneticadjustable type).

Reasonable Parameters Setting

It provides the setting of over-load & long time delay inverse time limit, short circuit & instantaneouus operation. And users can set data based on their needs to realize reasonable distribution.

3.Operation and Installation Conditions

- The product has passed the environmental tests of dry cold, dry heat, wet heat, etc., and can operate reliably in unconventional environments.
- The product can be used in the temperature environment range of -35°C~70°C. If the temperature is lower than -5°C or higher than 40°C, it must be calculated according to the temperature compensation coefficient table provided in the catalog.
- 2000m and below is the normal working installation altitude. If it exceeds 2000m, the decrease in dielectric strength and air cooling factors must be considered. Please correct it according to the altitude derating coefficient table provided in the catalog.
- The product can operate reliably in Grade 3 pollution environment defined by IEC/EN 60947-1 and IEC 60664-1 (industrial environment).
- The product meets the standard requirements of IEC 60529 (enclosure protection grade). Product body: Protection grade is IP30 (except for wiring terminals).

4.Nomenclature

EBS9MH - 160 H Z / 3 300 2 A Q1 D Q 2

Company code	Release type	Frame size rated current	Breaking capacity code					
EBS9MH		160	C					
MCCB	Thermal-magnetic adjustable type	160	160	25/18	35/25	50/35	/	
		250	250	25/18	35/25	50/35	/	
		630	630	/	35/25	50/35	75/75	
		800	800	/	35/25	50/35	75/75	

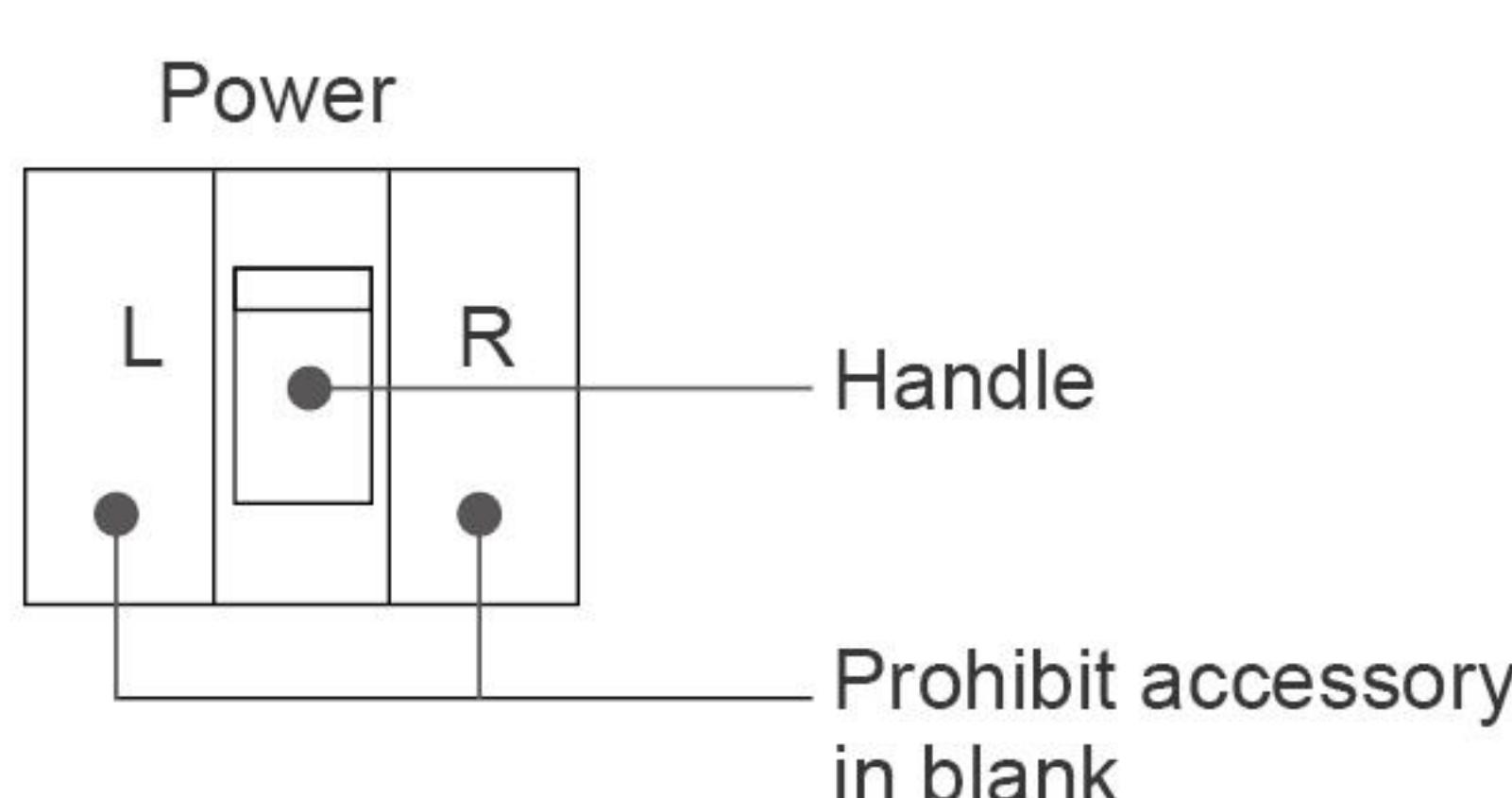
Mode of operation	Poles	Release mode and internal accessories	Rated current	
P	4	300	125A	
P: Electric motor operating mechanism		The first digit indicates the trip mode	160	32,40,50,63,80,100,125,140,160
Z: Rotary handle operating mechanism	2: 2P 3: 3P 4: 4P	2: Only instantaneous trip device 3: Multiple trip device Note: The last two digits are the attachment code (see accessories table)	250	100,125,140,160,180,200,225,250
W: Direct operation			630	250,315,350,400,500,630
D: Electric operating			800	500,630,700,800
D C 1D C 2,D C 3				

Application	4P MCCB Optional code
2	A
1: Distribution protection 2: Motor protection	A: N pole is not protected and cannot be divided into A N pole is not protected and can be divided into A

Accessories voltage	Electric motor operating voltage		Installation mode	Whether to install the wiring board
Q1	D1	DC1	Q	2
UVT	Shunt	Auxiliary	DC3	
Q1: AC220V	F1: AC220V	J1: AC125V	D5: AC230V	
Q2: AC240V	F2: AC380V	J2: AC250V	D6: AC110V	
Q3: AC380V	F3: DC110V	J3: DC125V	D7: DC220	
Q4: AC415V	F4: DC24V	J4: DC24V	D8: DC110	
			D9: AC110~240V	
			D10: DC100~220V	
Note: When electric operation is selected, please refer to the external attachment for the applicable voltage of the two electric operation				

5. Accessories

Model		EBS9MH-160	EBS9MH-250	EBS9MH-630	EBS9MH-800
Breaking capacity code		C, S, M	S, M, H	C, S, M	S, M, H
Pole		3,4		3,4	3,4
Accessory code	Accessory name				
208、308	Alarm switch				
210、310	Shunt release				
220、320	Auxiliary contact				
230、330	Under-voltage release				
240、340	Shunt release, auxiliary switch				
260、360	Double auxiliary switch				
270、370	Auxiliary switch, under-voltage release				
218、318	Shunt release, alarm switch				
228、328	Auxiliary switch, alarm switch				
238、338	Under-voltage release, alarm switch				
248、348	Shunt release, auxiliary switch, alarm switch				
268、368	Double auxiliary switch alarm switch				
278、378	Auxiliary switch under-voltage release alarm switch				
280、380	Double auxiliary switch, shunt release				

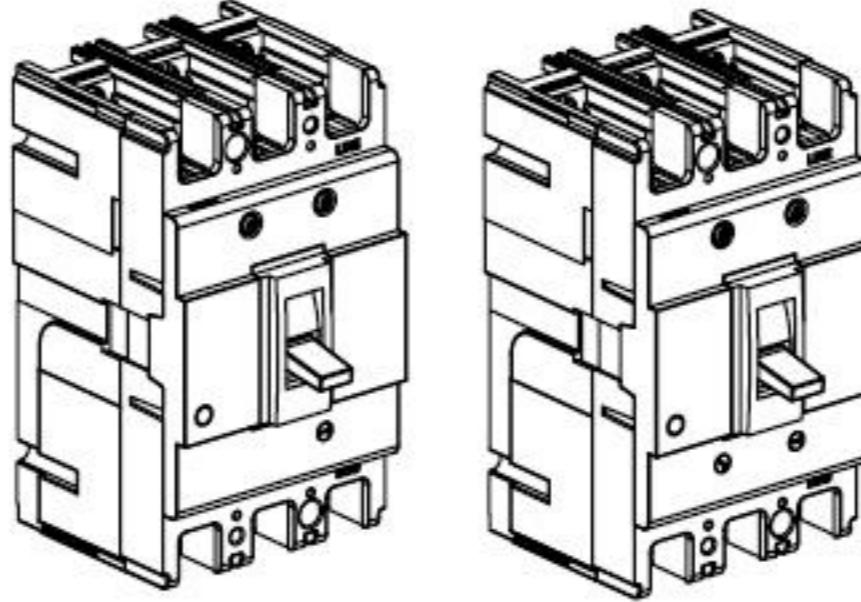
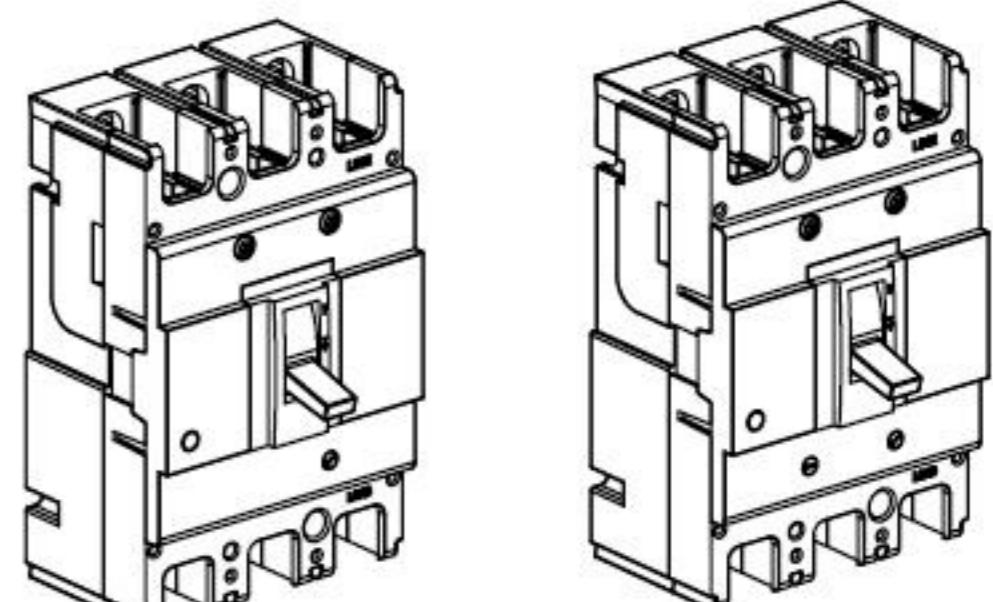
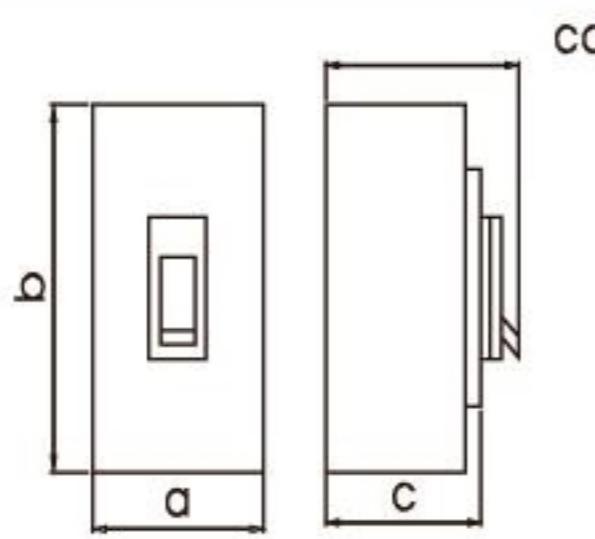


● Alarm switch ○ Auxiliary switch □ Shunt release ■ Under voltage release

Note:

1. three series for user's choosing: Right auxiliary switch, left shunt release, left under voltage release
2. double auxiliary switch is available in 220,320,240,340,270,370A

6.Techincal data

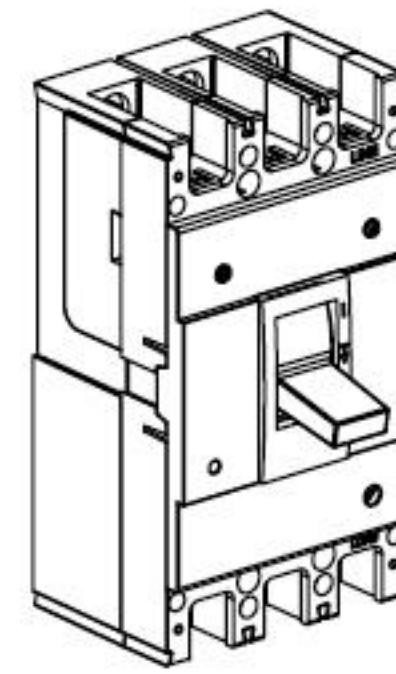
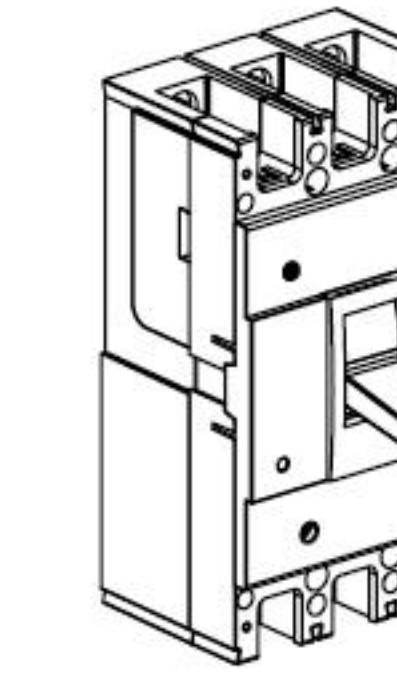
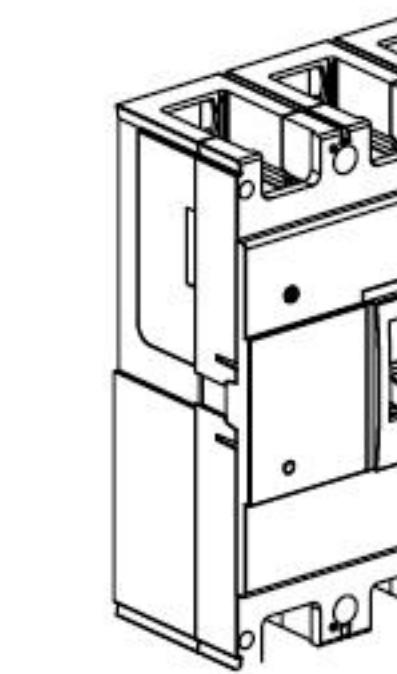
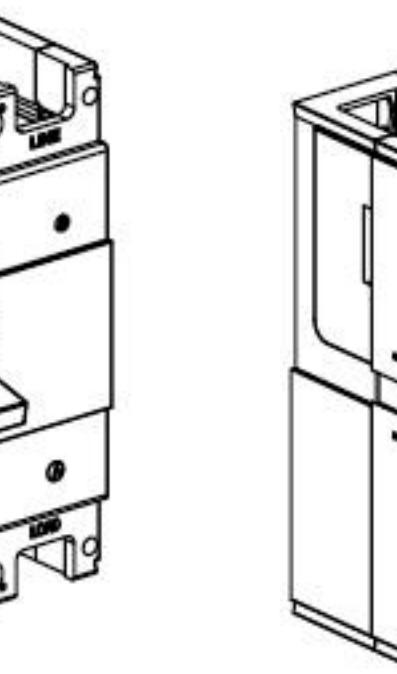
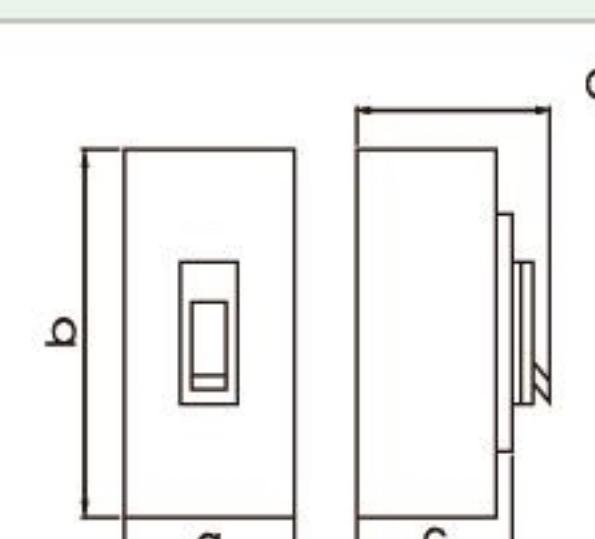
Model	EBS9MH-160			EBS9MH-250		
Frame size rated current	160			250		
Poles	3,4			3,4		
Product pictures						
Rated current In(A), 40°C, 50°C, 55°C	63,80,100,125,160			125,140,160,180,200,225,250		
Rated voltage Ue(V), AC 50/60Hz	400/415			400/415		
Rated-insulation voltage Ui(V)	800			800		
Rated impulse withstand voltage Uimp(KV)	8			8		
Breaking capacity code	C	S	M	C	S	M
Short-circuit interrupting capacity Icu/Ics(kA) AC400/415V	25/18	35/25	50/35	25/18	35/25	50/35
Optional categories	A	A	A	A	A	A
Operation life (cycle)	Electrical ON		3000			3000
	Mechanical OFF		7000			7000
Release mode and protection type	Electromagnetic trip	Distribution protection		●	●	●
		Motor protection		●	●	●
	Thermal magnetic trip	Distribution protection		●	●	●
		Motor protection		●	●	●
Accessories	Auxiliary contact		●	●	●	●
	Alarm switch		●	●	●	●
	Shunt release		●	●	●	●
	Under-voltage release		●	●	●	●
	Rotary handle operating mechanism		●	●	●	●
	Electric motor operating mechanism		●	●	●	●
	Rear panel connection		●	●	●	●
	Plug-in rear panel connection		●	●	●	●
	Connecting plate		●	●	●	●
	Phase partition		●	●	●	●
Overall dimension(mm) Width(W), Height(H), Depth(D)		3P	90-155-70-94			105-165-70-96
		4P	120-155-70-94			140-165-70-96

Note: Adding ● indicates optional accessories; Adding - indicates that no accessories are available.

EBS9MH Series
Thermal Magnetic Adjustable MCCB

EBASEE

S

Model	EBS9MH-630			EBS9MH-800			
Frame size rated current	630			800			
Poles	3,4			3,4			
Product pictures	 			 			
Rated current In(A), 40°C, 50°C, 55°C	250,315,350,400,500,630			500,630,700,800			
Rated voltage Ue(V), AC 50/60Hz	400/415			400/415			
Rated-insulation voltage Ui(V)	800			800			
Rated impulse withstand voltage Uimp(KV)	8			8			
Breaking capacity code	S	M	H	S	M	H	
Short-circuit interrupting capacity Icu/Ics(kA)	AC400/415V	35/25	50/35	75/75	35/25	50/35	75/75
Optional categories	A	A	A	A	A	A	
Operation life (cycle)	Electrical ON		2000			1500	
	Mechanical OFF		4000			4000	
Release mode and protection type	Electromagnetic trip	Distribution protection		●	●	●	
		Motor protection		●	●	●	
	Thermal magnetic trip	Distribution protection		●	●	●	
		Motor protection		●	●	●	
Accessories	Auxiliary contact		●	●	●	●	
	Alarm switch		●	●	●	●	
	Shunt release		●	●	●	●	
	Under-voltage release		●	●	●	●	
	Rotary handle operating mechanism		●	●	●	●	
	Electric motor operating mechanism		●	●	●	●	
	Rear panel connection		●	●	●	●	
	Plug-in rear panel connection		●	●	●	●	
	Connecting plate		●	●	●	●	
	Phase partition		●	●	●	●	
Overall dimension(mm)		3P	140-257-105-155			210-275-105-155	
		4P	185-257-105-155			280-275-105-155	

Note: Adding ● indicates optional accessories; Adding - indicates that no accessories are available.



7.Operation Characteristic

1. When the ambient air temperature of the distribution circuit breaker is +40°C, the inverse time limit operation characteristics of the poles are energized at the same time without humidity compensation, as shown in the following table:

Test current	I/I _n	Conventional time	Start status
		$I_n \leq 63$ $I_n > 63$	
Conventional non-trip current	1.05	$\geq 1h$ $\geq 2h$	Cold status
Conventional trip current	1.30	$< 1h$ $< 2h$	Right after test No.1

2. When the ambient air temperature of the circuit breaker for motor protection is +40°C, the poles are energized at the same time, and the inverse time limit operation characteristics without humidity compensation are shown in the following table:

Test current	I/I _n	Conventional time	Start status
		$I_n \leq 800$	
Conventional non-trip current	1.0	$\geq 2h$	Cold status
Conventional trip current	1.2	$< 2h$	Right after test No.1

3. Short-circuit operation characteristics:

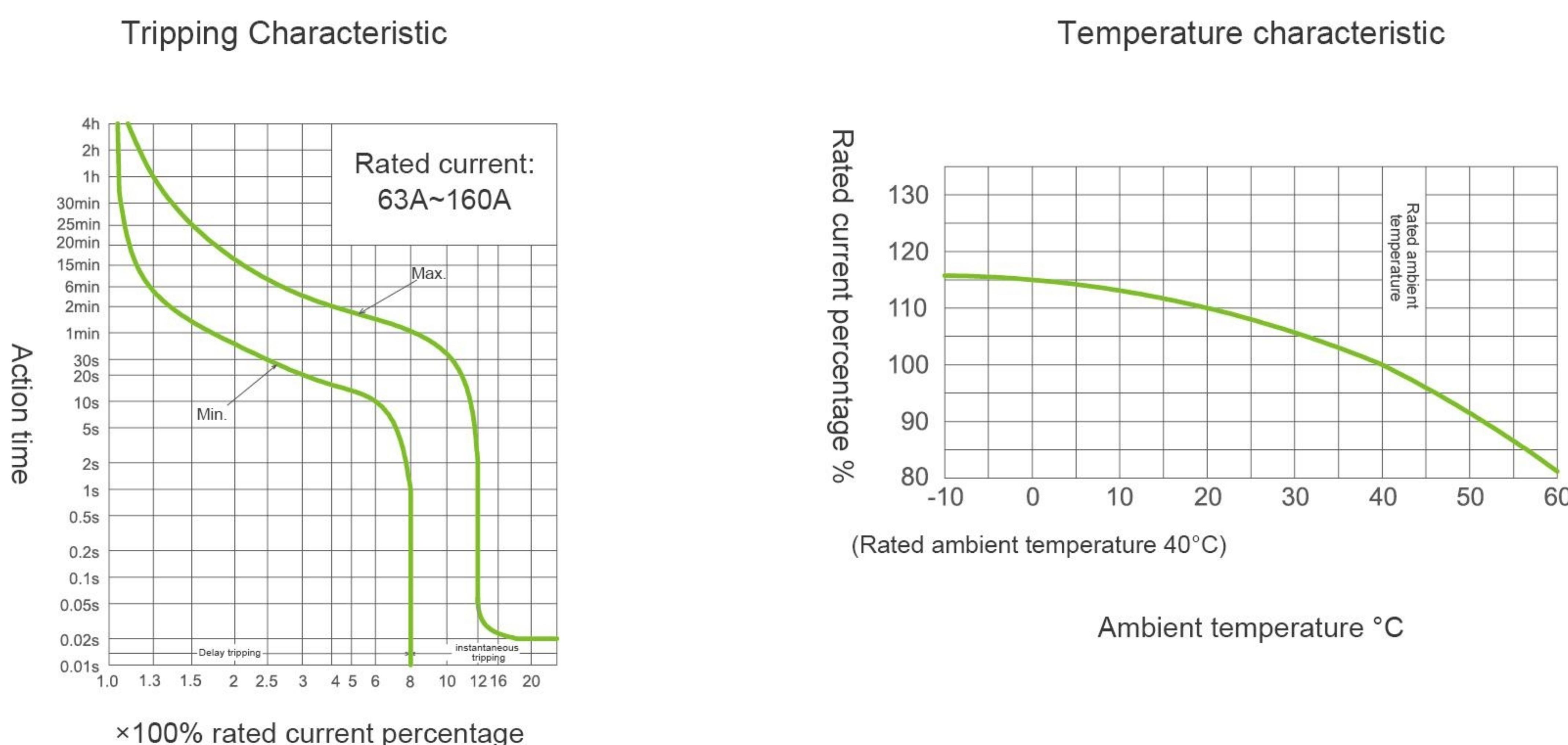
The short-circuit current of the instantaneous trip of the circuit breaker for distribution is set to 10I_n.

The short-circuit current setting value of the instantaneous trip device for motor protection is 12I_n.

The accuracy of the short-circuit current setting value of the instantaneous trip device is 20%.

8.Tripping Characteristic curve

EBS9MH-160



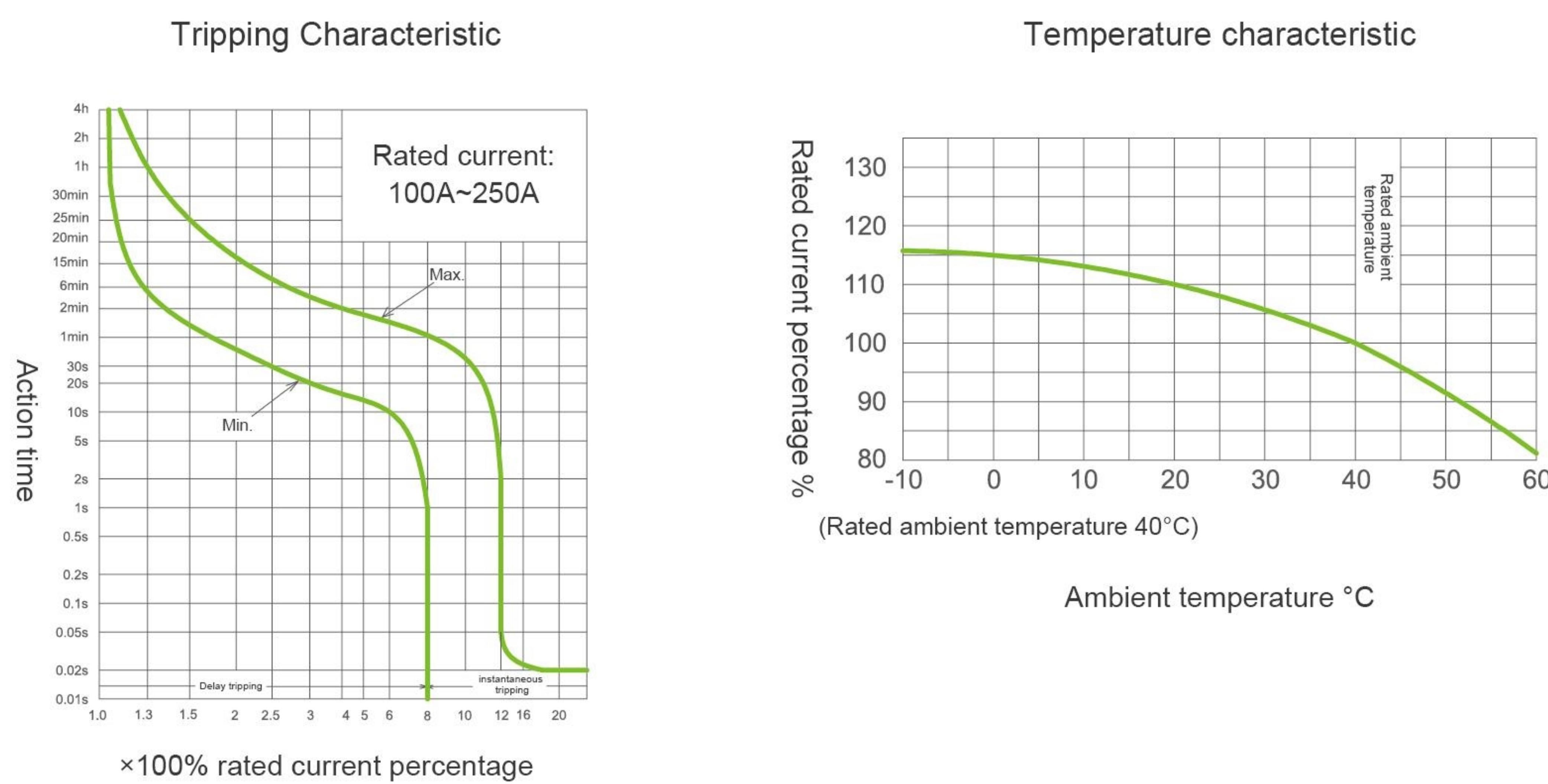
EBS9MH Series

Thermal Magnetic Adjustable MCCB

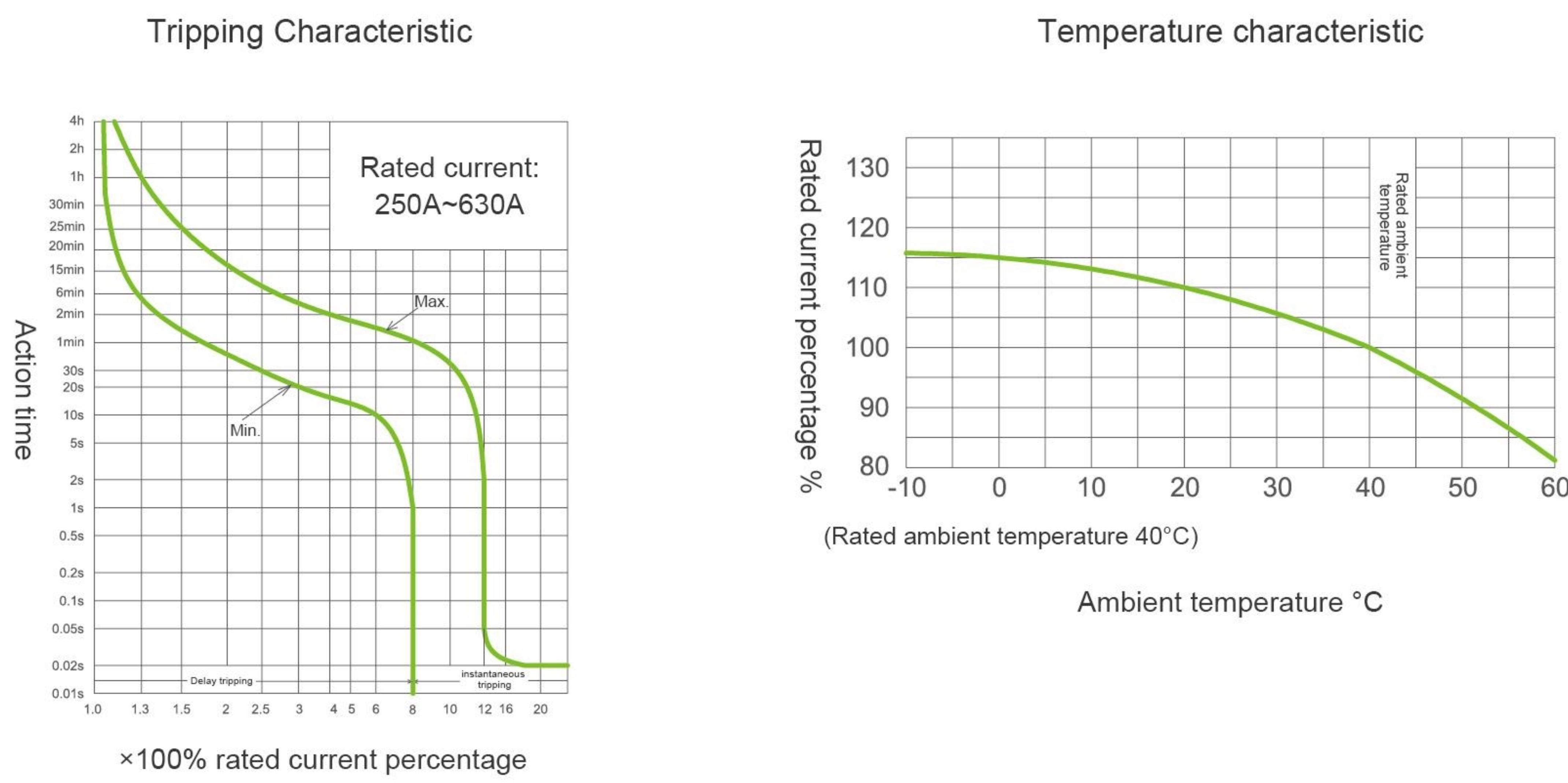
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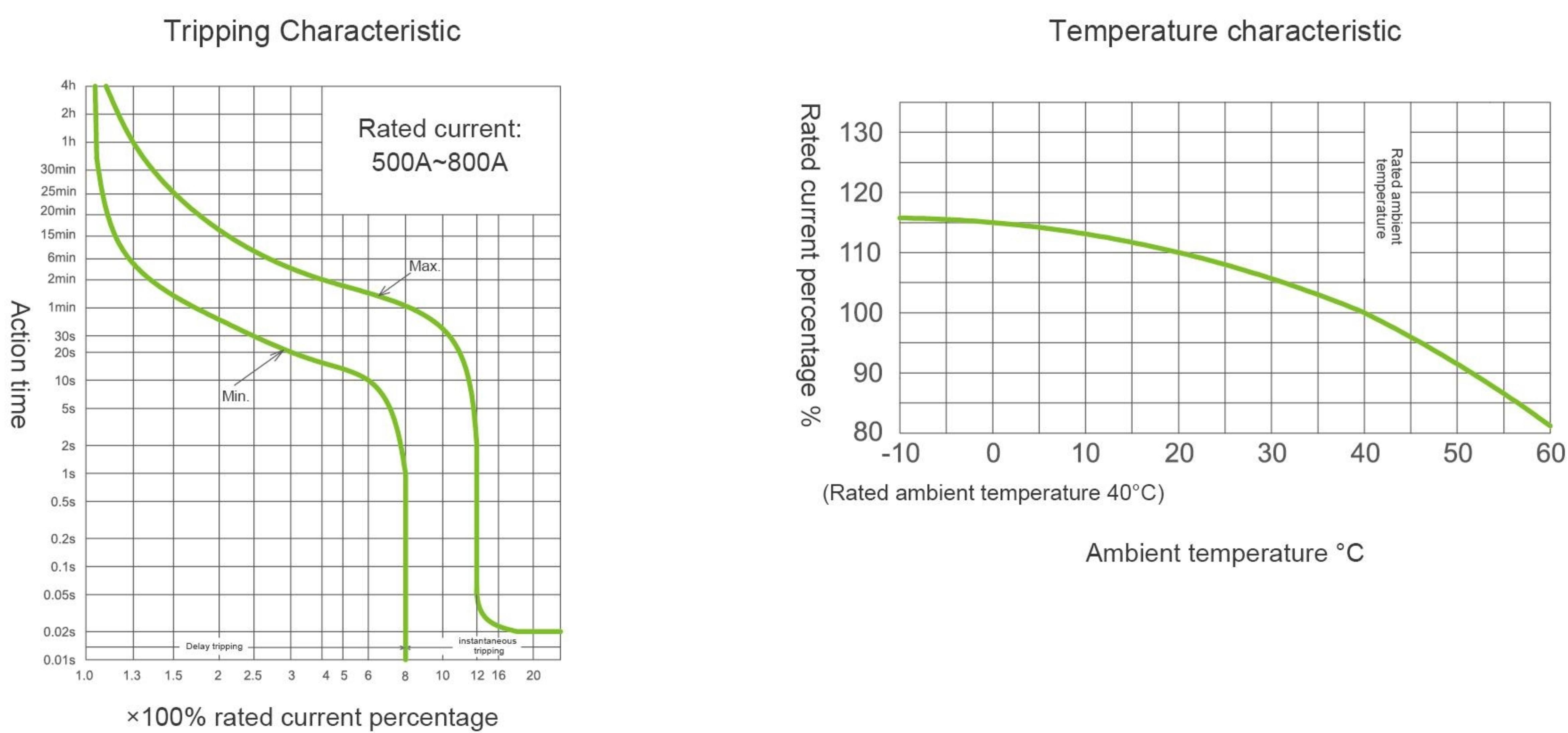
EBS9MH-250



EBS9MH-630

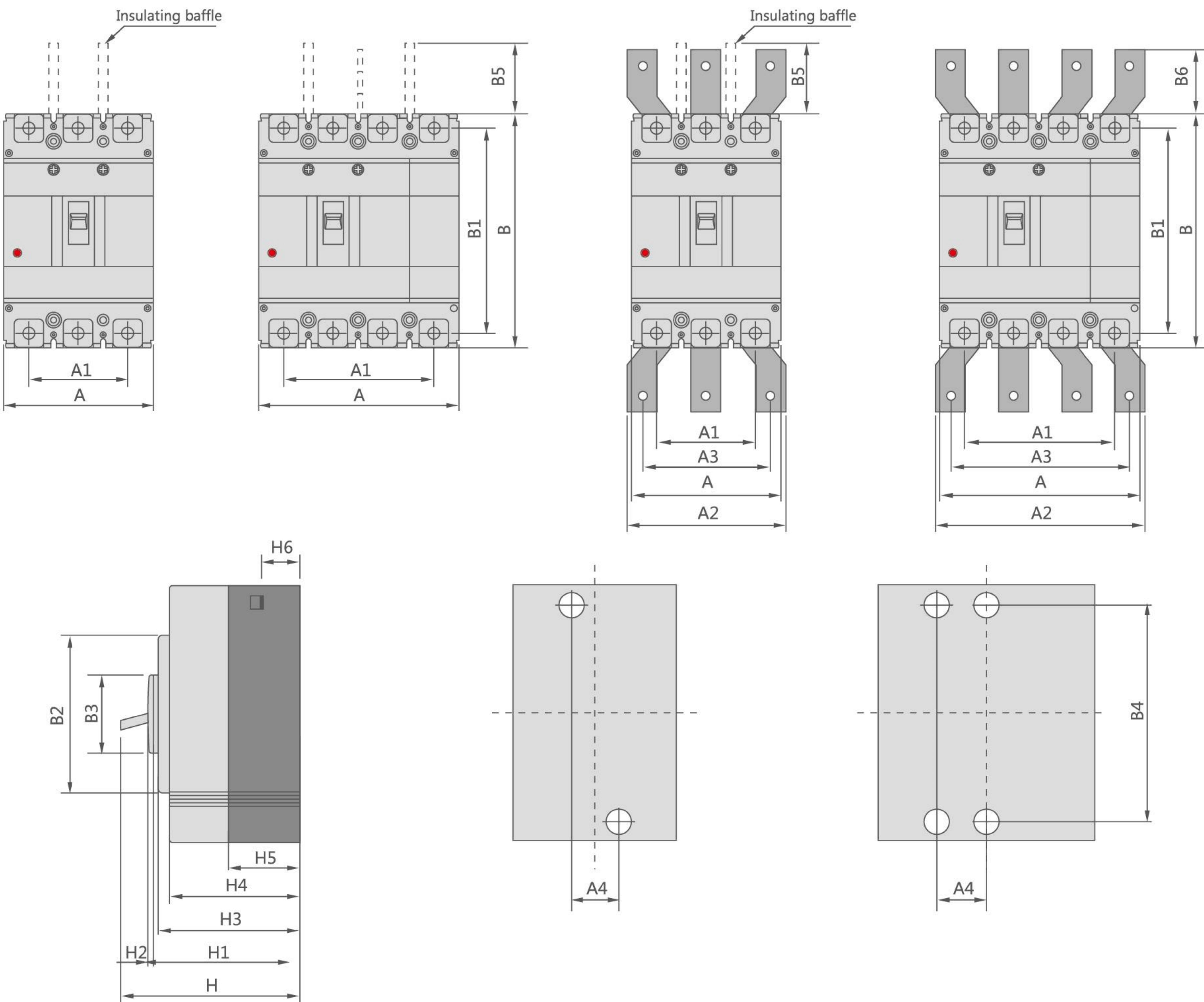


EBS9MH-800





9. Outline and Installation Dimension



MCCB	Overall dimensions																		Installing dimensions	Bolt				
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6			
	3P	4P	3P	4P	3P	4P	3P	4P																
EBS9MH-160	90	120	60	90	-	-	-	-	155	134	103	50	50	-	94	72	4	70	61	41	24	30	132	M8
EBS9MH-250	105	140	70	105	-	-	-	-	165	144	103	50	100	-	96	72	4	70	61	46	24	35	126	M8
EBS9MH-630	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	35	44	194	M10
EBS9MH-800	210	280	140	210	180	250	140	210	275	243	192	90	110	87	155	107	5	104	97	65	24	70	242.5	M12