



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.

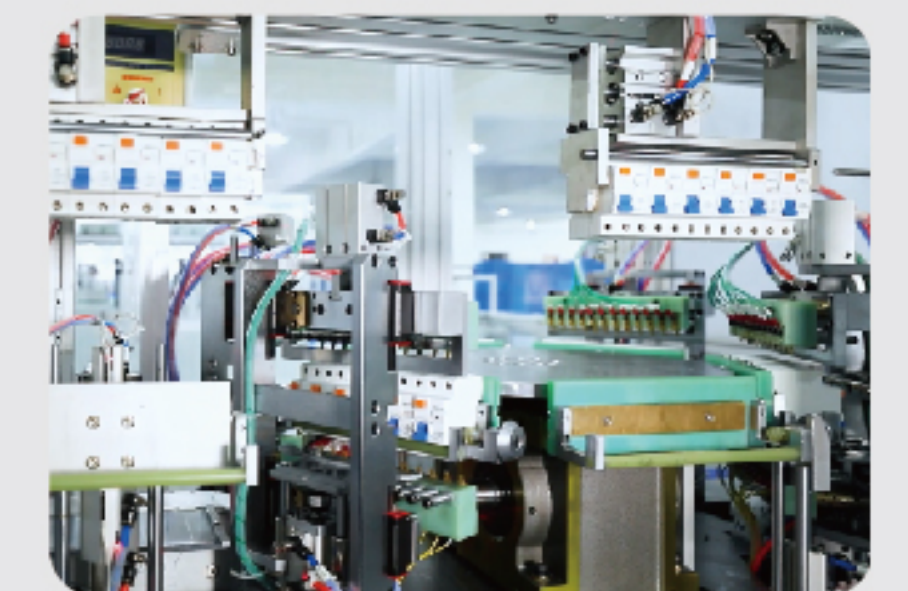
EBASEE focused on achieving growth through the success of worldwide partners. Guided by the philosophy of "market-oriented", powered by the idea of "Quick response and flexible supply", EBASEE support our worldwide partners to compete against established global players, to deliver the most systemetic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

"Smart life, Green EBASEE"



Quality is our culture!

PRODUCTION LINE

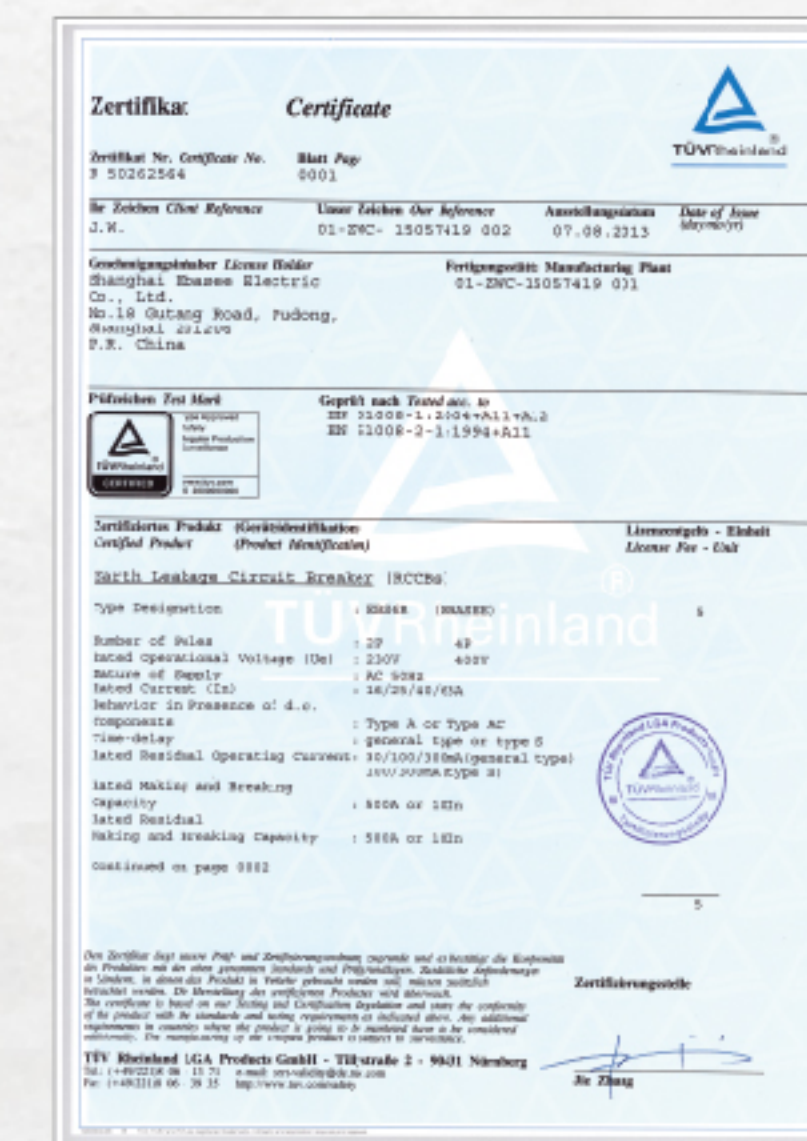
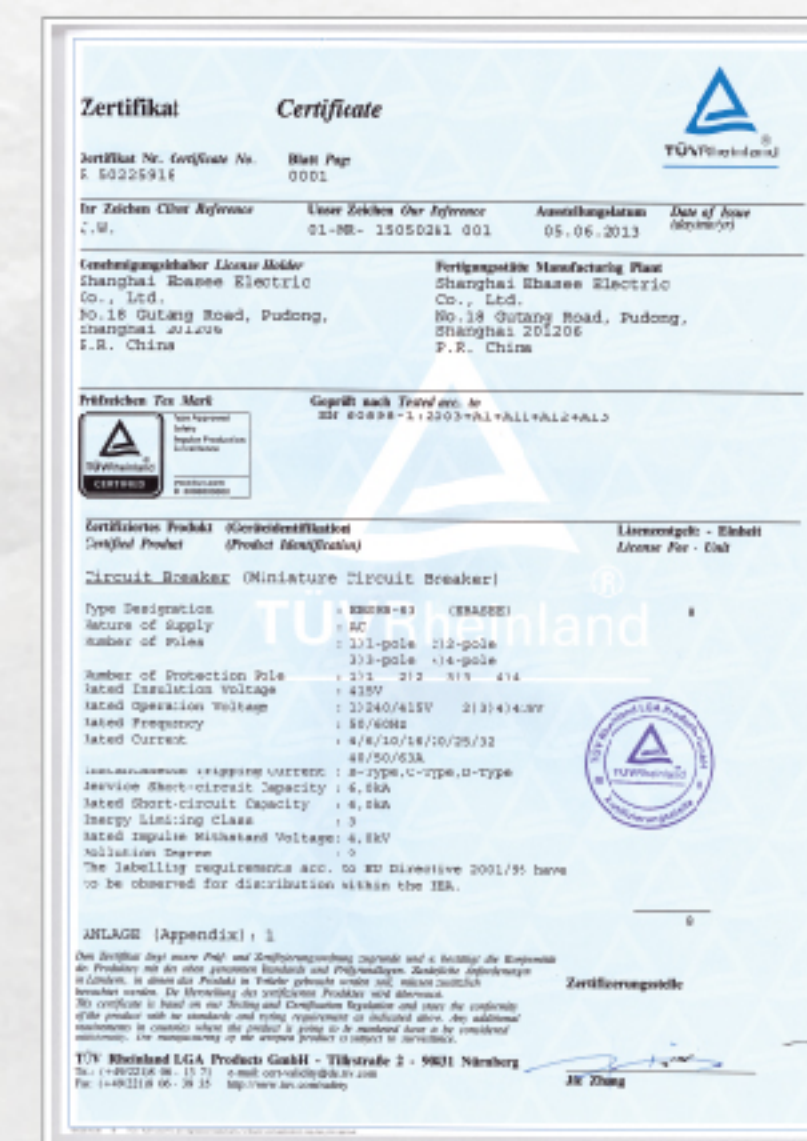
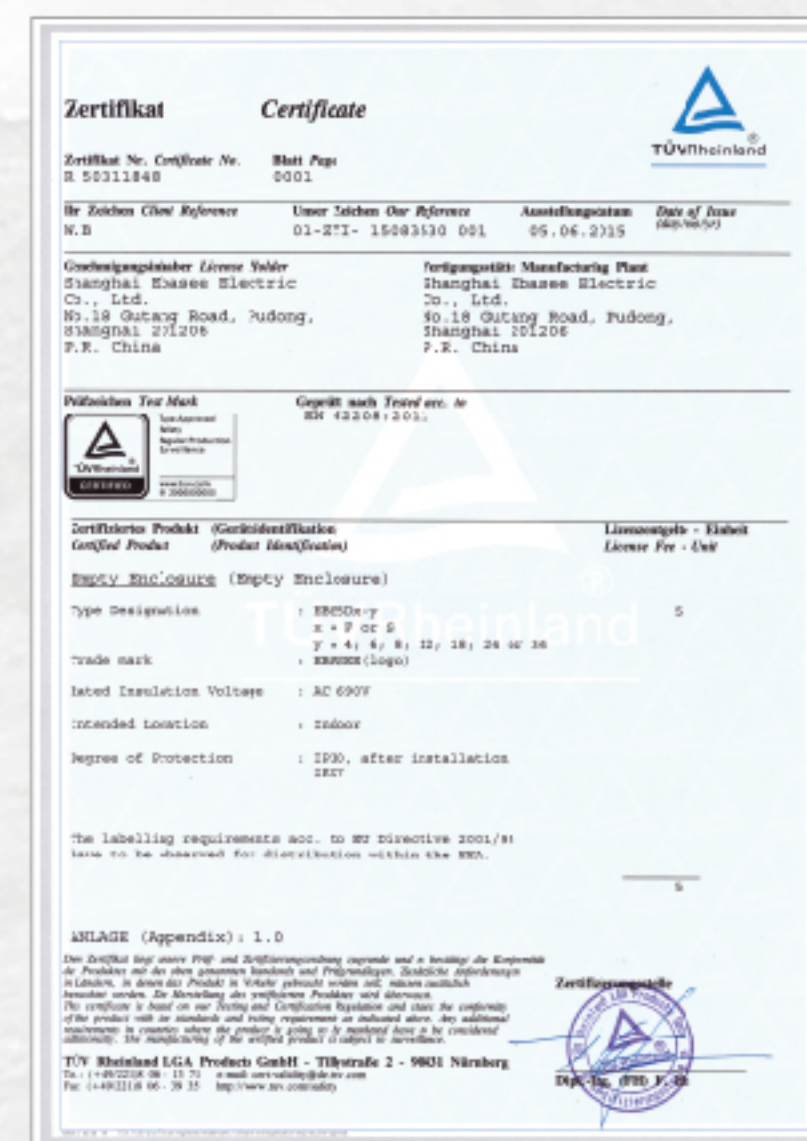
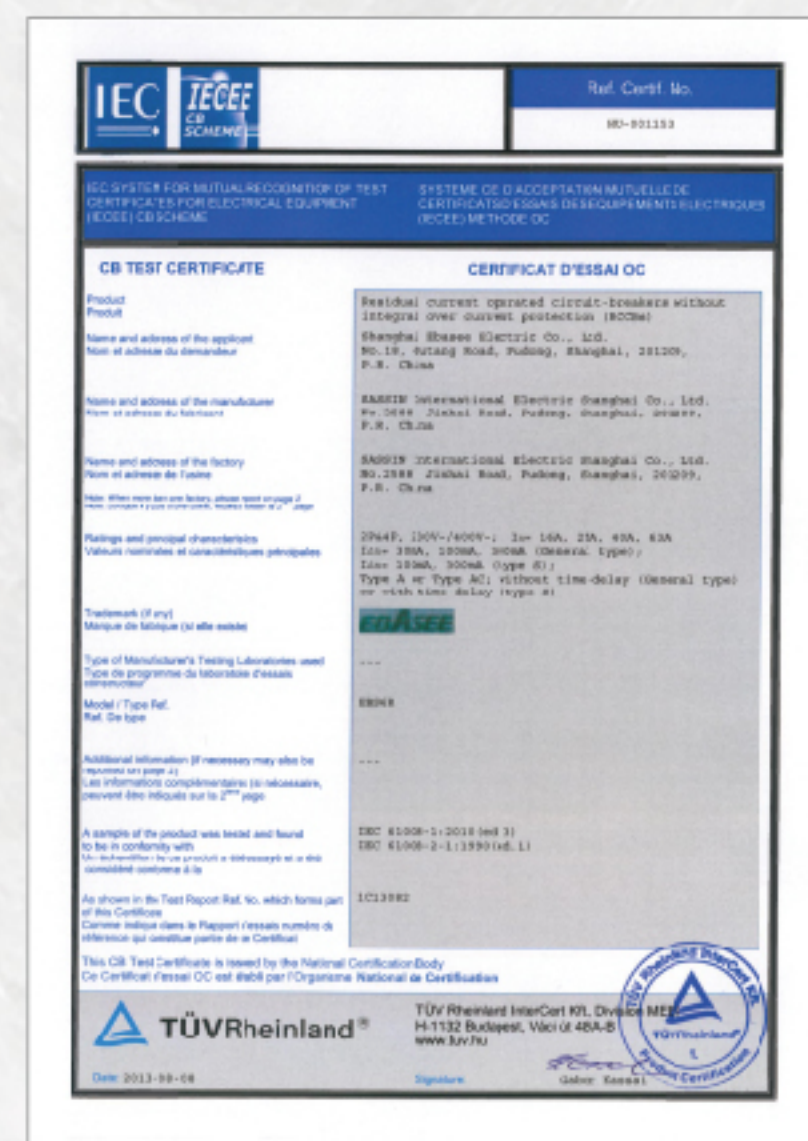
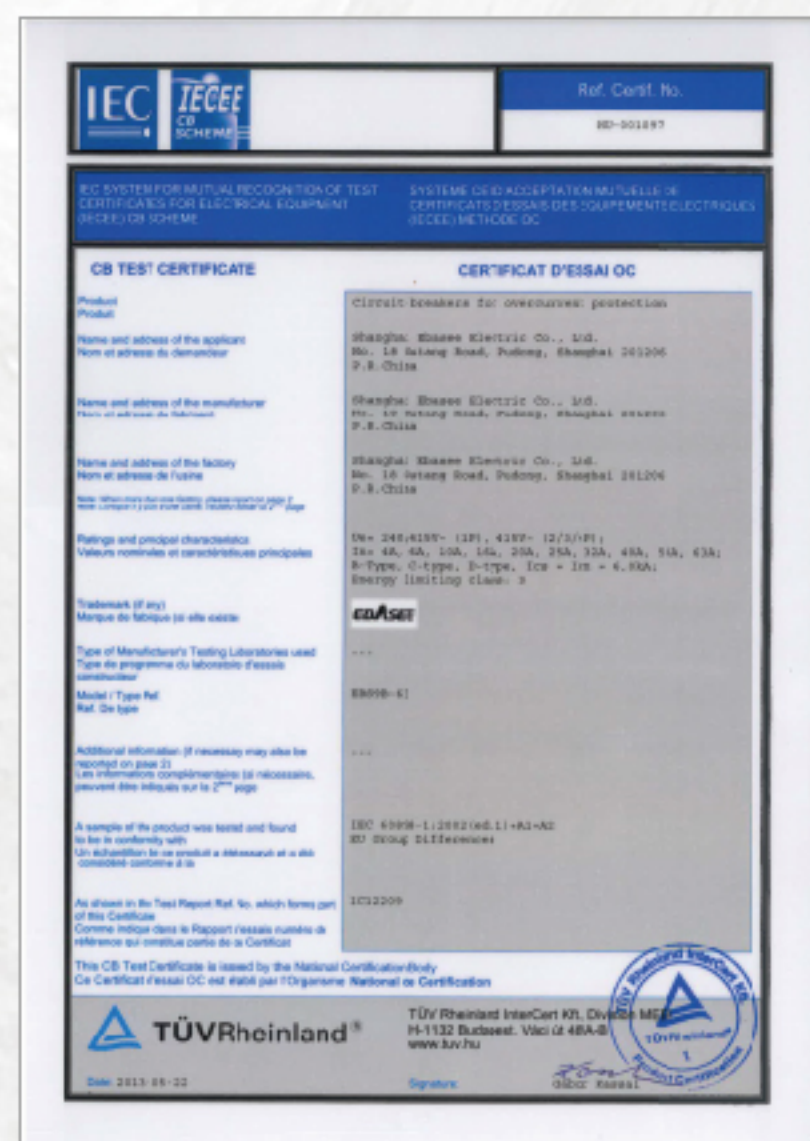


SMART LIVING GREEN EBASEE



INTERNATIONAL QUALITY CERTIFICATE

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

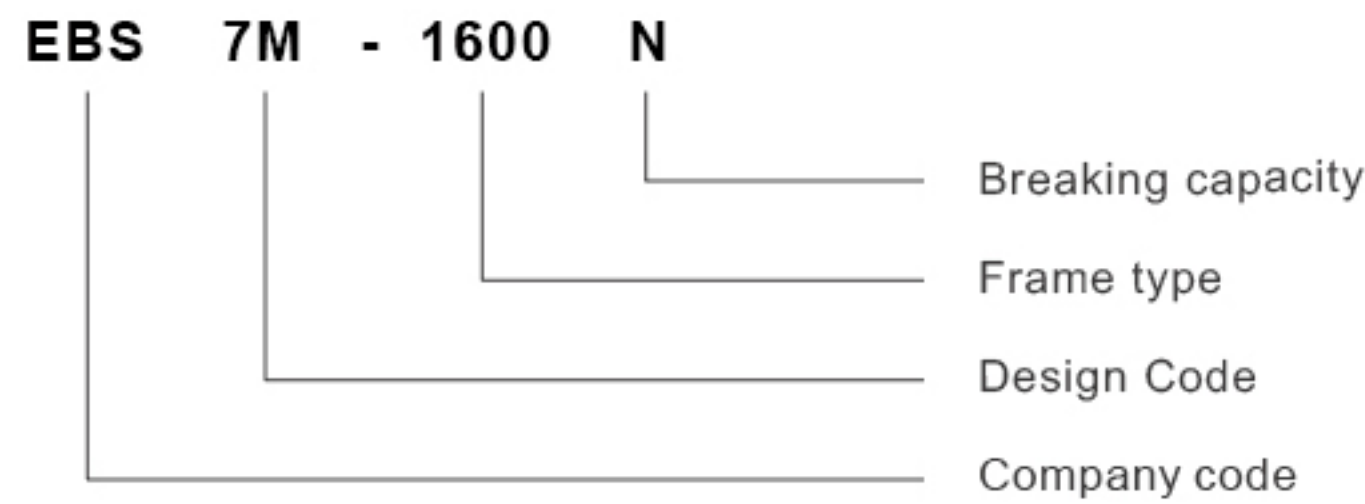


1.General

EBS7M series moulded case circuit breaker, it's applicable circuit of AC50/60Hz, rated insulating voltage 690V(EBS7M-125 500V), rated operating voltage AC 690V or below, rated operating current 12.5-1600A, for distribute energy of electric and infrequent making and breaking circuit in normal condition. The circuit-breakers are provided with the function of the protection against overload and short circuit under-voltage. The circuit breakers comply with standard of IEC60947-2. The circuit-breakers are double insulating($I_{nm}=250A$ or above), the control circuit of the accessories is set apart with the main circuit, and doesn't need to open the cover of the circuit breaker when install the accessories.



2.Nomenclature



3.Specifications

Type	Pole	Rated insulating voltage (V)	Rated operating voltage (V)	Ultimate short circuit breaking capacity Icu(kA)		Rated short-circuit service breaking capacity Ics(%Icu)	Utilization category				
				AC380V(400)	AC660V(690)						
EBS7M-125L	1,2,3,4	500	500	25	—	50%	A				
EBS7M-160L	3/4	690	690 and below	35	8	75%					
EBS7M-160M				50	10	75%					
EBS7M-250L		800		35	14	100%					
EBS7M-250M				65	18	75%					
EBS7M-250H				85	20	75%					
EBS7M-400L				35	18	100%					
EBS7M-400M				65	22	100%					
EBS7M-400H				100	30	75%					
EBS7M-630L				35	20	100%					
EBS7M-630M				50	22	100%					
EBS7M-630H				65	25	100%					
EBS7M-800L				35	20	100%					
EBS7M-800M				50	22	100%					
EBS7M-800H				65	25	100%					
EBS7M-1250L	3/4			50	20	100%					
EBS7M-1600L											

4.Main Technical Parameter of Trip Units (See Table 2)

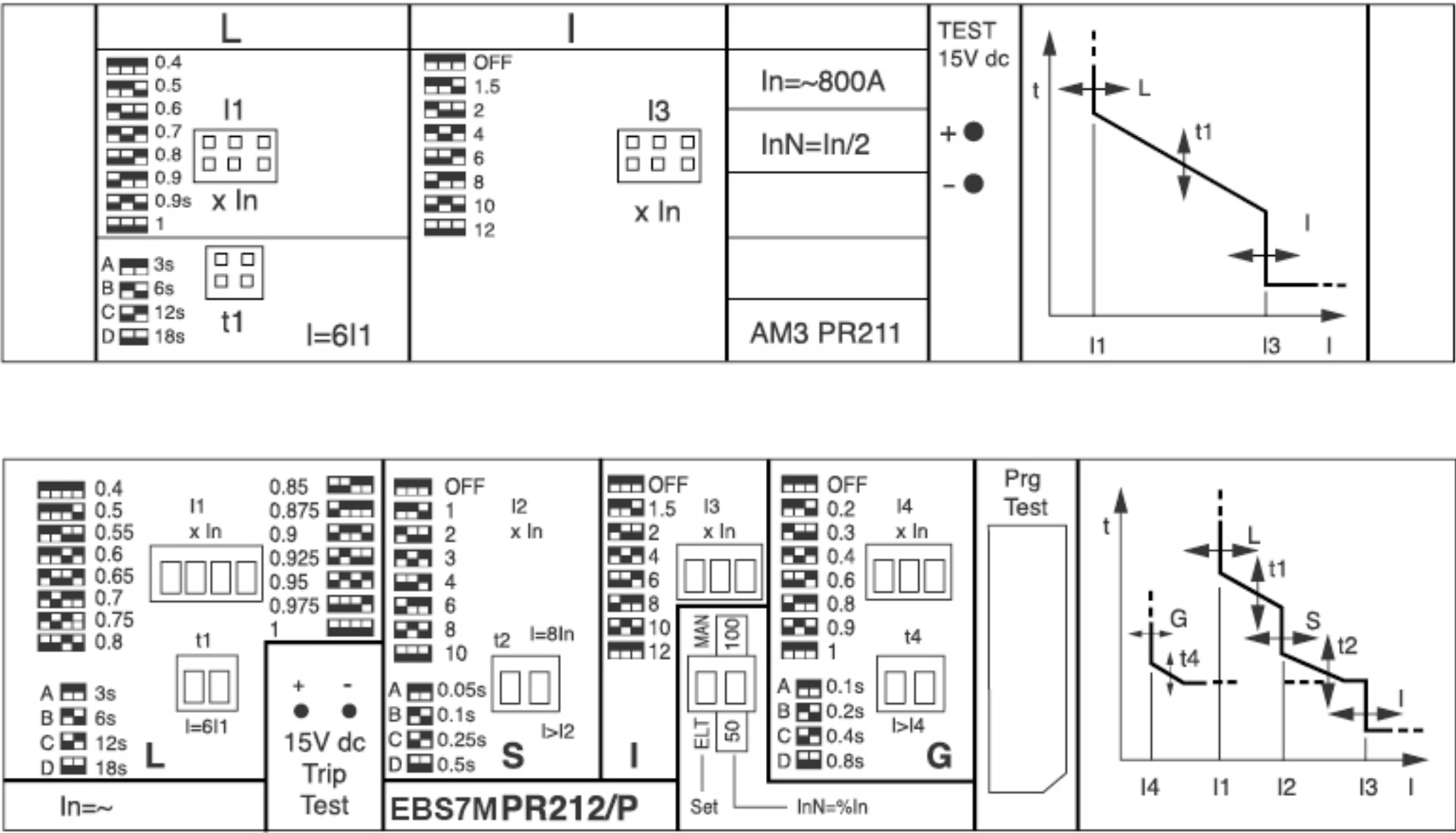


Table 2

Type	Thermal magnetic release		Electronic release	
	Rated current In(A)	Note	Rated current In(A)	Note
EBS7M-125	12.5,16,20,25,32,40,50,63,80,100,125	T fixed M fixed	—	/
EBS7M-160	16,20,25,32,40,50,63,80,100,125,160	T adjustable(0.7~1In) M fixed	—	/
EBS7M-250	100,125,160,180,225,250	T adjustable(0.7~1In) M fixed	—	/
EBS7M-400	225,250,315,350,400	T fixed or adjustable(0.7~1In) M fixed	320,400	I1=0.4...1*In EBS7M PR211(L-L1) I1=0.4...1*In EBS7M PR212(LSI-LSIG)
EBS7M-630	400,500,630	T fixed M fixed	630	Tripping between 1.05...1.3*In(IEC60947-2)I2 t=constant(Long-time overload protection)
EBS7M-800	630,700,800	T fixed M fixed	800	I2=1-2-3-4-6-8-10*In t2=0.05s,0.1s,0.25s,0.5s adjustable (short-circuit short time delay protection)
EBS7M-1250	—	—	800, 1000,1250	I3=1.5-2-4-6-8-10-12*In(Instantaneous short-circuit protection)I4=0.2-0.3-0.4-0.6-0.8-0.9-1*In
EBS7M-1600	—	—	1000,1250,1600	t4=0.1s,0.2s,0.4s,0.8s adjustable (Earth fault protection)

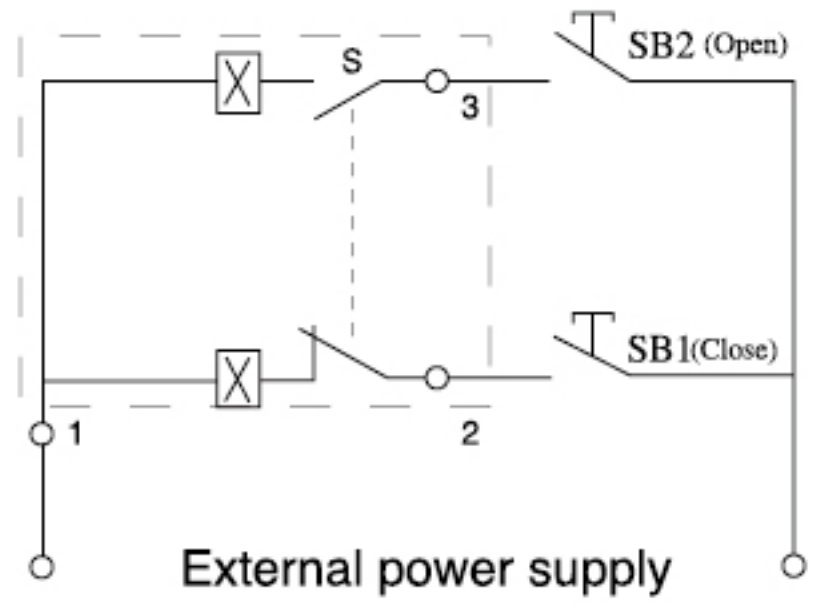
Note: T-thermal M-magnetic L-long time S-short time relay I-instantaneous G-earth fault
EBS7M-125/160 In=12.5,16,20,32,40 magnetic protection that is fixed at 500A.

5.Accessories

5.1 The external accessories of the breaker

●Motor-driven operation device

(1)Wiring diagram of type CDM electromagnetic operation device(fitting EBS7M-125,160,250) see the following drawing(wiring diagram of the exteral accessories of the breaker in the dotted frame)

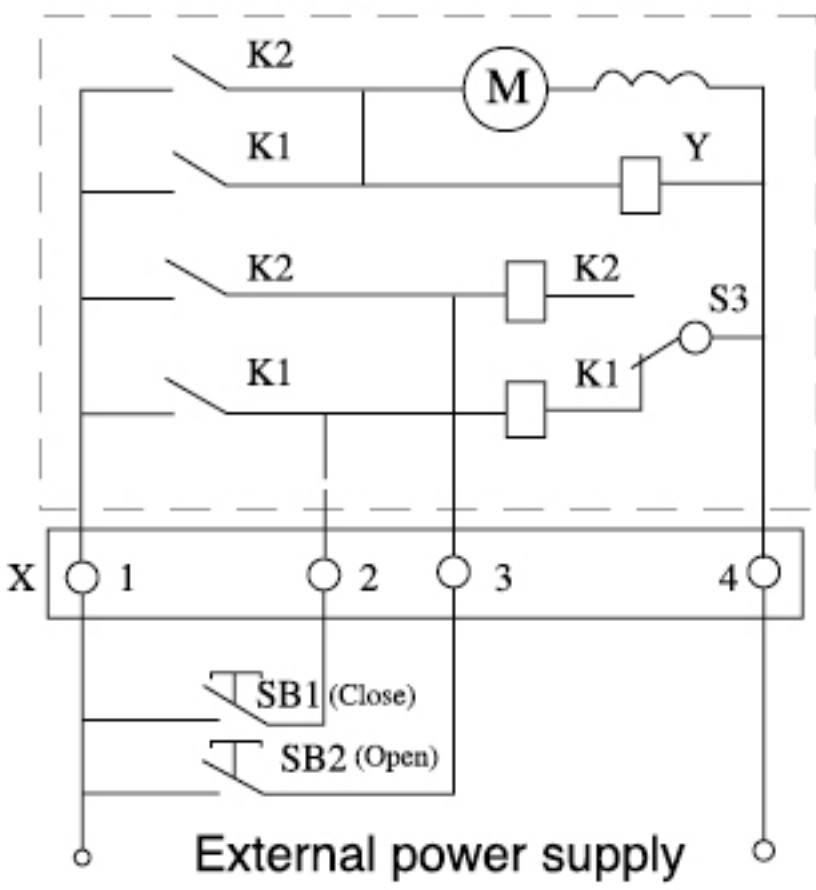


Code description:SB1、 SB2 stand for push button(provided by users themselves)

Number“1”,“2”,“3”stand for number of wiring terminals.

Voltage rating:AC50Hz 230V,400V,DC220V

(2) Wiring diagram of type CD motor-driven operation device(fitting EBS7M-400、 630、 800) see belows(wiring diagram of the external accessories of the breaker in the dotted frame)



Code description:SB1、 SB2 stand for push button(provided by users themselves)

“X”stands for line connection terminals

Voltage rating:AC50Hz 230V,400V,DC220V

●Rotary handle

Economic extended rotary handle

Degree of protection:IP30

Function:(1)With indication of isolation

(2)Indication of three positions o(off)(on)and tripped

(3)Door opening prevented when circuit breaker is on

5.2 The Internal Accessories of the Breaker

●Under-voltage release

Us:AC50/60Hz 400V,230V

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

When the operation voltage is 85%~110% of the rated voltage,the under-voltage release should make the breaker close.

In case of the operation voltage less than 35% of the rated voltage,the under-voltage should prevent the breaker frok closing.

Note:Only the under-voltage release should be energized in advanced,the breaker could be recramped and turned-on,herwise the breaker will be damaged.

●Shunt release

Us:AC50/60Hz 230V 400V;DC110V 220V

The shunt release should make the breaker trip reliably when the operation voltage is 70%~110% of the rated control voltage

●Auxiliary Contact

When the breaker is in "off"		Size 2N/O+2N/C 1N/O+1N/C
When the breaker is in "on"		

●Alarm Contact

The position of the breaker in "off" or "on"	
The position of the breaker in "free release" (alarm)	B11 and B12 switch from "close" to "open", status of B11 and B14 switch from "open" to "close"

Auxiliary contact and Alarm contact:Auxiliary contact is as same Alarm contact, the technical parameter(see table 3)

Table 3

Rated heating current Ith(A)	Rated operating current Ie(A)		Suited frame Inm(A)
	AC380V	DC220V	
3	0.3	0.15	125,160
3	0.4	0.15	250,400
3	0.4	0.15	630.800.1250.1600



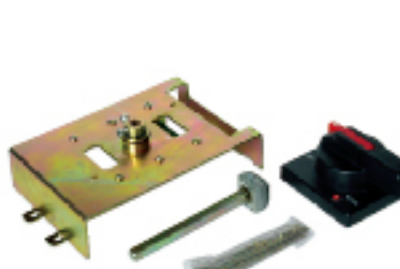
Motor-driven operation device



Electromagnetic operation device



Plug-in base



Rotary handle



Under-voltage release



Shunt release



Alarm contact

6.Motor Operator

Motor operator is used to remote control the closing of the breaker
The specification of motor operator

Frame rated current	Model of motor operator		
	CD1	CD2	CD3
125A	-	CD2-125	-
160A	-	CD2-160	-
250A	CD1-250	-	-
400、630A	CD1-400 CD1-630	-	-
800A	-	-	CD3-800
1600A	-	-	CD3-1600

CD1 direct action motor operator

- Both the opening and closing commands controlled by the motor, which acts directly on the circuit-breaker lever. The table shows the power supply voltage values Un [V].
- With manual urgent cut off button.
- User can install break-position lock ,avoid the breaker being closed.
- Apply to ①Inm=250A ②Inm=400、 630A Customer should indicate the specification in order.
- Accessories for selecting



CD1 motor operator power supply

The accessory of electric operation				motor operation device	
The range of operating voltage				(0.85-1.1)XUs	
Rated control voltage	Power supply	AC 50 Hz		220V	380V
		Power consumption	Start Power consume	510VA	510VA
			Continuance Power consume	360VA	360VA
		DC		110V	220V
		Power consumption	Start Power consume	510W	510W
Continuance Power consume	360W		360W		
Close time		0.1s			
Cut off time		0.1s			

CD2 motor operator

- Direct close or cut off close or cut off.
- With manual urgent cut off button.
- Apply to ①Inm=125A ②Inm=160A Customer should indicate the specification in order.
- Accessories for selecting.



CD2 motor operator

The accessory of electric operation				motor operation device	
The range of operating voltage				(0.85-1.1)XUs	
Rated control voltage	Power supply	AC 50 Hz		220V	380V
		Power consumption	Start Power consume	220VA	200VA
			Continuance Power	110VA	110VA
		DC		110V	220V
		Power consumption	Start Power consume	200W	200W
Continuance Power	110W		110W		
Close time		0.1s			
Cut off time		0.1s			

CD3 Stored energy motor operator

- Motor pre-storage and manual pre-storage.
- Electric close.
- When user needs close the breaker, make sure the storage is finished firstly, then cut off the breaker.
- Electric cut off function
- Manual urgent cut off button
- User can install break-position lock ,avoid the breaker being closed.
- Apply to ① Inm=800A ② Inm=1600A Customer should indicate the specification in order.
- Accessories for selecting



CD3 Stored energy motor operator

The accessory of electric operation				motor operation device	
The range of operating voltage				(0.85-1.1)XUs	
Rated control voltage	Power supply		AC 50 Hz	220V	380V
		Power consumption	Start Power consume	660VA	660VA
			Continuance Power consume	180VA	180VA
			DC	110V	220V
		Power consumption	Start Power consume	600W	600W
Continuance Power consume	180W		180W		
		Close time	0.1s		
		Cut off time	0.3s		

7.Rotary Handle Operation Mechanism

Rotary handle operation mechanism can apply to:

- Use the rotary handle to close or cut off the breaker.
- Use the rotary handle outside of the switch box to close or cut off the breaker.
- The rotary handle operation device is interlocked with switch box ,avoid opening the box's door when breaker is closing.

User can install break-position lock ,avoid the breaker closing.

Supply condition:

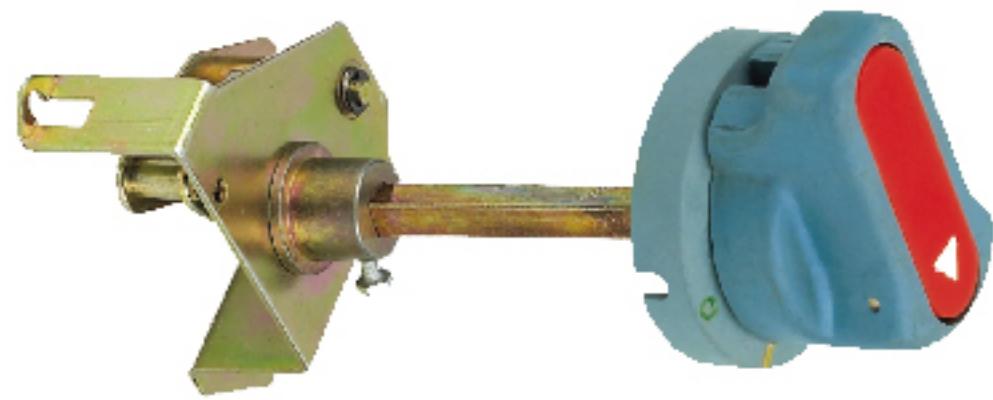
- One breaker equipped separate lock and key.
- 2 breakers equipped 2 same locks and 1 key.
- 3 breakers equipped 3 same locks and 2 keys.

Specification of rotary handle operation device.

Model of rotary handle operation mechanism

Model of rotary handle operation mechanism for selection										
Frame rated current	Device in breaker		Device in switch box's door (for selecting:handle and operation device)							
			Rotary Handle				operation device			
	CS2	CS2/L	Model A(round)		Model B(rectangle)		Model CS1(central)		Model CSS(eccentricity)	
		with inter lock	A-1 short handle	A-2 long handel	F1-1 short handle	F1-2 short handle	CS1	CS1/L with interlock	CSS	CSS/L with interlock
125A	-	-	A-1	-	F1-1	-	-	-	CSS-125	CSS/L-125
160A	-	-	A-1	-	F1-1	-	-	-	CSS-160	CSS/L-160
250A	CS2-250	CS2/L-250	A-1	-	F1-1	-	CS1-250	CS1/L-250	CSS-250	CSS/L-250
400A	CS2-400	CS2/L-400	A-1	-	F1-1	-	CS1-400	CS1/L-400	CSS-400	CSS/L-400
630A	CS2-630	CS2/L-630	A-1	-	F1-1	-	CS1-630	CS1/L-630	CSS-630	CSS/L-630
800A	CS2-800	CS2/L-800	-	A-2	-	F1-2	CS1-800	CS1/L-800	CSS-800	CSS/L-800
1600A	CS2-1600	CS2/L-1600	-	A-2	-	F1-2	CS1-1600	CS1/L-1600	CSS-1600	CSS/S-1600

CSS rotary handle operation device



CSS-125A~160A



CSS-250A~1600A

Rotary handle operation mechanism

Eccentric connecting lever.
Device in breaker.
Can equip interlock device with switch box's door.



CS2

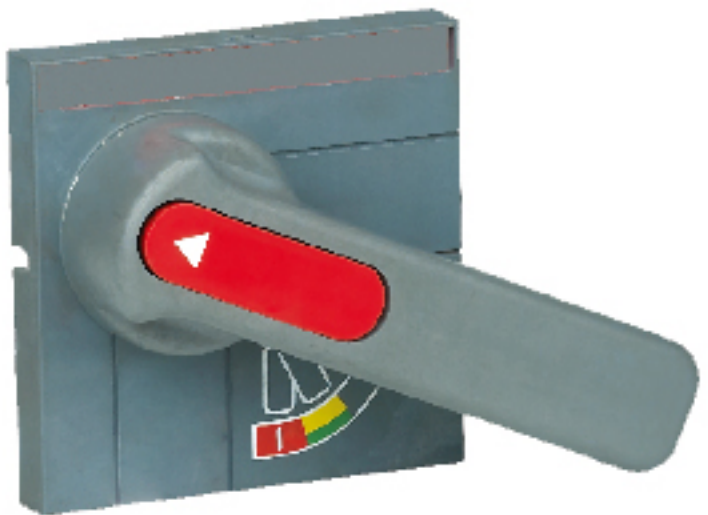
Rotary handle operation device

Model A handle
Device in breaker.
With break-position lock.
Can equip interlock device with switch box's door.
Accessories for selecting.



A-2 handle

Long handle.
Equip in switch box's door.
Can apply to model CS1\CSS operation device.
Safety category :IP30
Accessories for selecting.



F1-2 handle

Long handle.
Equip in switch box's door.
Can apply to model CS1\CSS operation device.
Safety category:IP30(can offer IP54 handle)
Accessories for selecting.

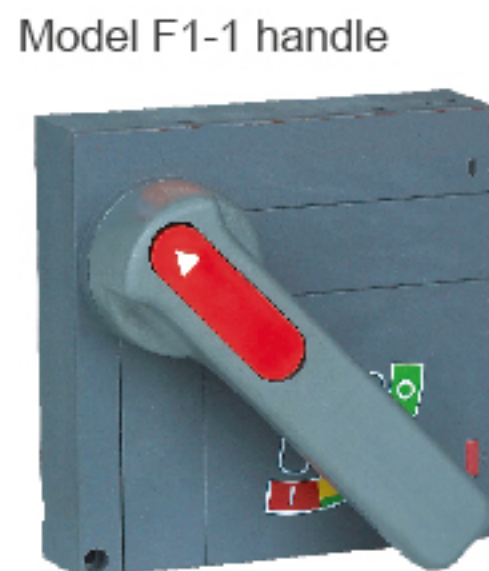
Rotary handle operation mechanism

Can equip model A or model F handle.
Accessories for selecting.



F1-1 handle

Short handle.
Equip in switch box's door.
Can apply to model CS1\CSS operation device.
Safety category :IP30
Accessories for selecting.



A1-1 handle

Short handle.
Equip in switch box's door.
Can apply to model CS1\CSS operation device
Safety category :IP30(can offer IP54 handle)
Accessories for selecting.

Name of Accessories	Accessory Code		Accessory Installation and lead cable method			
	Thermal magnetic Release	Duplex Release	EBS7M-125 EBS7M-160	EBS7M-250 EBS7M-400 EBS7M-630	EBS7M-800	EBS7M-1250 EBS7M-1600
			3P、4P	3P、4P	3P、4P	3P
Alarm Contact	208	308				
Shunt release	210	310				
Shunt Release Alarm Contact	218	318				
Auxiliary Contact	220	320				
Auxiliary Contact Alarm Contact	228	328				
Under voltage release	230	330				
Under voltage release Alarm Contact	238	338				
Shunt release Auxiliary Contact	240	340				
Shunt Release Under voltage release Two-sets Auxiliary Contact	248	348				
Two-sets Auxiliary Contact	260	360				
Two-sets Auxiliary Contact Alarm Contact	268	368				
Under voltage release Auxiliary Contact	270	370				
Under voltage release Auxiliary Contact Alarm Contact	278	378				

Attention: handle
left installation right installation
 Alarm Contact Two-sets Auxiliary Contact Shunt release
 Auxiliary Contact Under voltage release Lead cable direction

8.Shunt Release

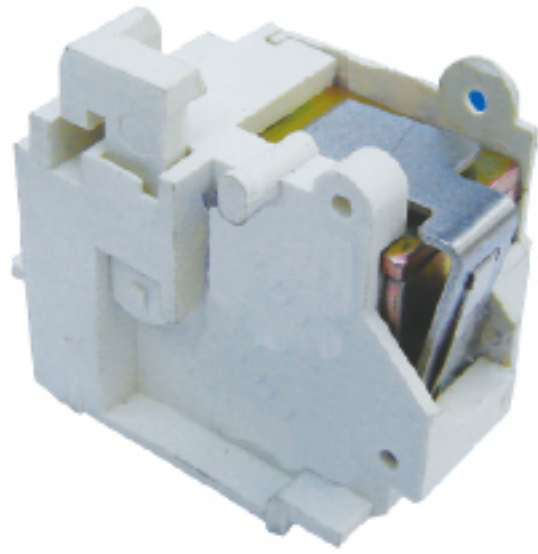
Shunt release is used for remote controlling the breaker to cut off.

There are three frames specifications of shunt release :

- ①apply to Inm=125A-160A
- ②apply to Inm=250A-630A
- ③apply to Inm=800A-1600A

Customer should indicate the specification in order.

For instantaneous work type selecting accessory.



Shunt release character

The accessory of electric operation The range of operating voltage		Shunt release (0.7-1.1)XUs		
Rated control voltage	Power supply	AC 50HZ	220V	380V
		Power consumption	150VA	150VA
		DC	110V	220V
		Power consumption	150W	150W

9.Under-voltage Release

Under-voltage release is used for protecting the circuit and power supply's under-voltage.

Under-voltage release can be used as shunt release

There are three frames specifications of under-voltage release :

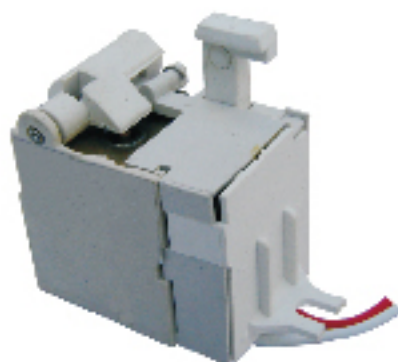
- ①apply to Inm=125A-160A
- ②apply to Inm=250A-630A
- ③apply to Inm=800A-1600A



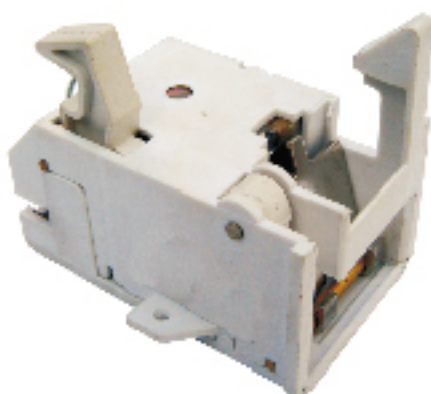
63A-160A under-voltage
inlay release



63A-160A
under-voltage release



250A-400A
under-voltage release



630A-1600A
under-voltage release

Under-voltage release action character

Rated work voltage Ue(V)	AC380	AC220	DC110	DC220
Action voltage	(0.35-0.7)XUe			
Guarantee close voltage	(0.85-1.1)XUe			
Guarantee no-close voltage	≤0.35Ue			
Power consumption	10VA		4W	

10.Auxiliary Contact & Warning Contact

Auxiliary contact is used for auto controlling the breaker's control loop,such as the indication of breaker's on or off.

Warning contact is used for alarming of the breaker's cut off when overload、short-circuit、under voltage of circuit and equipment .

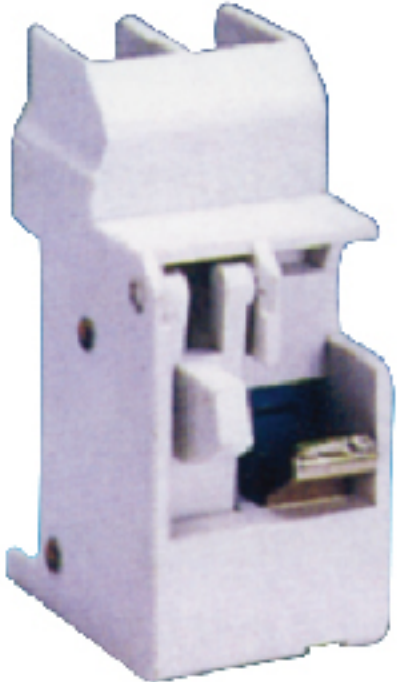
The specification of auxiliary contact & warning contact:

- ① 1 often-on 1 often-off
- ② 2 often-on 2 often-off
- ③ 1 often-on 1 often-off+ 1 warning contact
- ④ 2 often-on 2 often-off+ 1 warning contact (only apply to 800A-1600A)

There are three frames specifications of auxiliary contact & warning contact :

- ① apply to Inm=125A-160A
- ② apply to Inm=250A-630A
- ③ apply to Inm=800A-1600A

Customer should indicate the specification in order.



11.Technical Data

Frame rated current	Stipulation heat current	Rated insulation voltage	Rated work voltage Ue		
			AC380V	AC220V	DC220V
125A	4A	AC250V	-	3A	0.14A
160A					
250A	8A	AC380V	3.5A	6A	0.2A
400A					
630A					
800A					
1600A					

12.Installation

Circuit breaker may be mounted vertically,horizontally or flat on their back without any derating of characteristics.

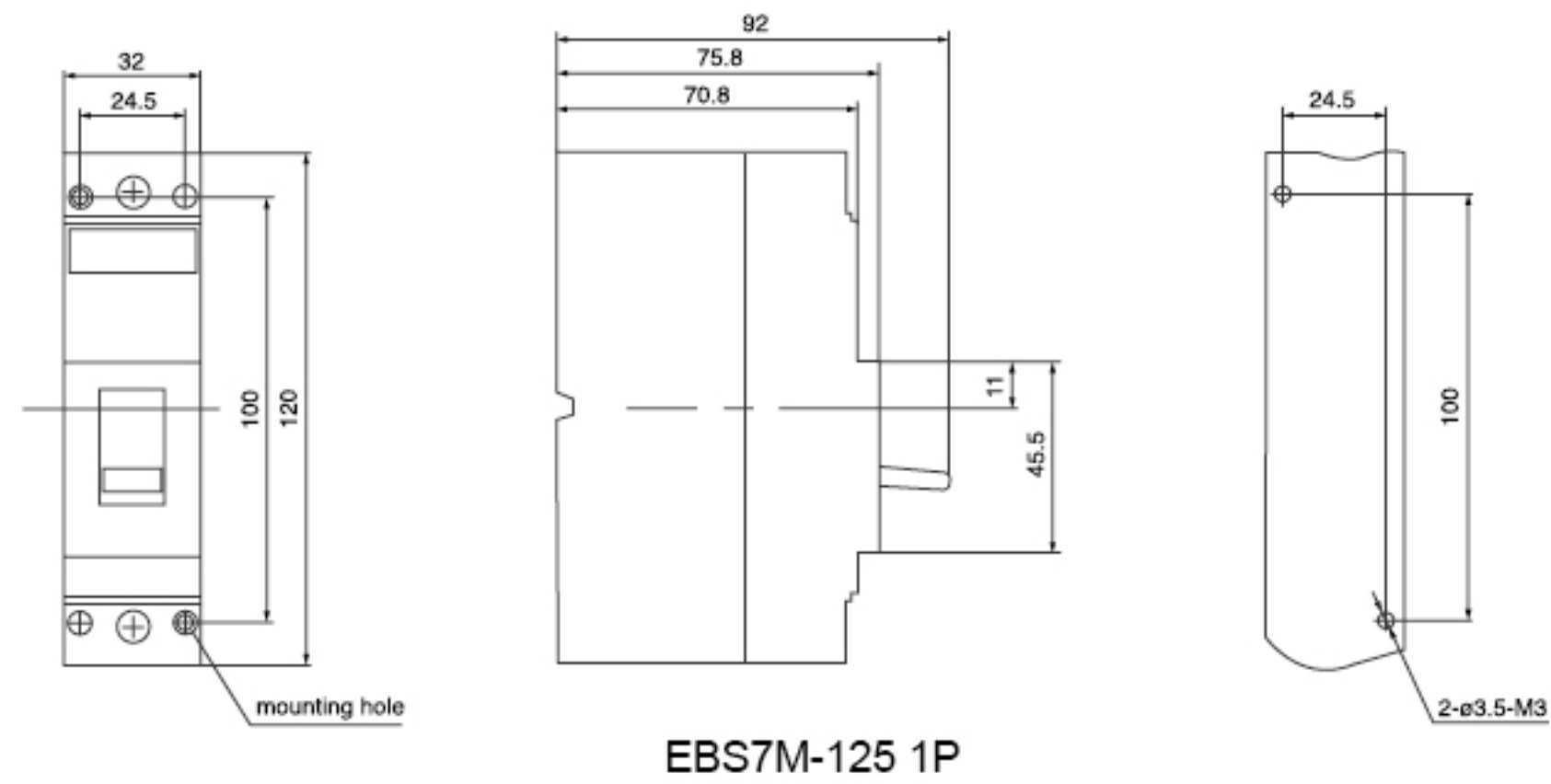
13.Fix

Mounting on backplate.

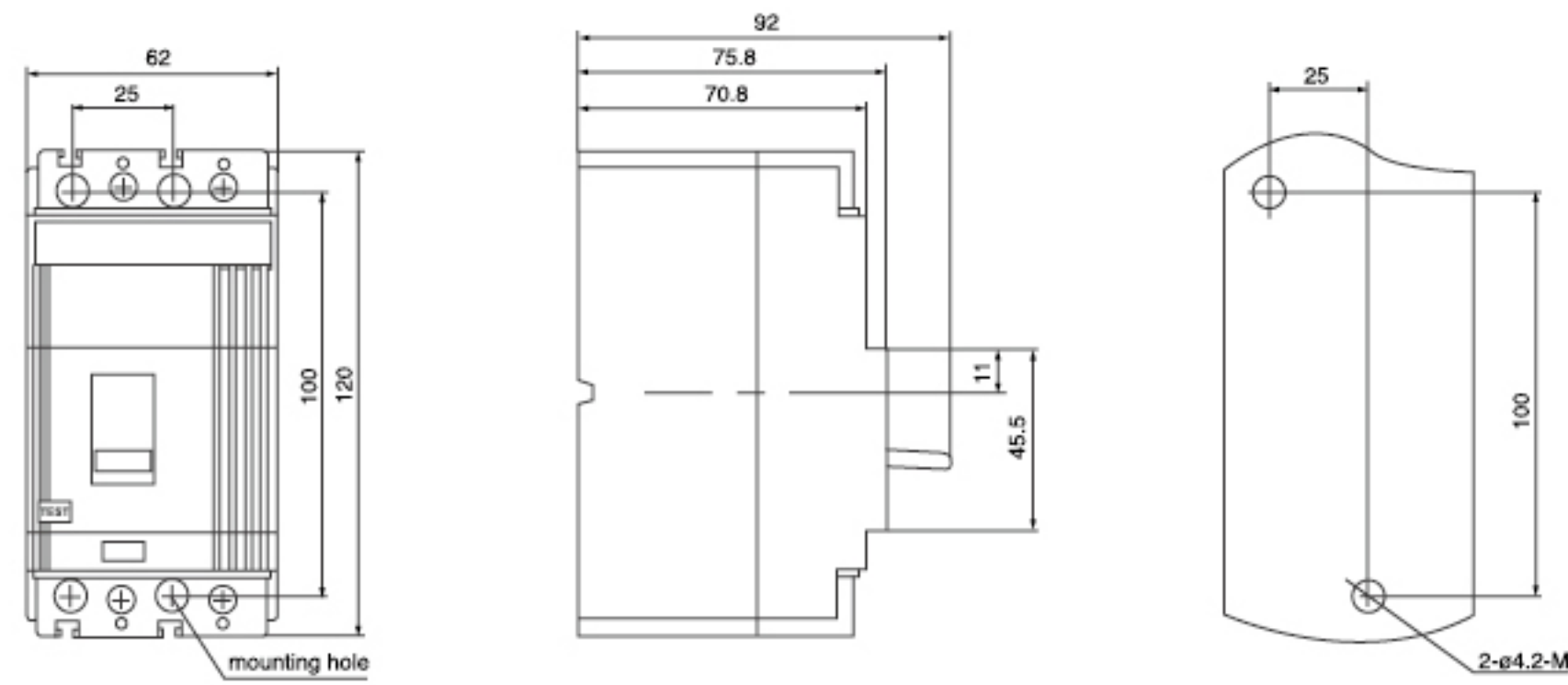
14.Connection

Front panel connection, black panel connection, plug-in connection

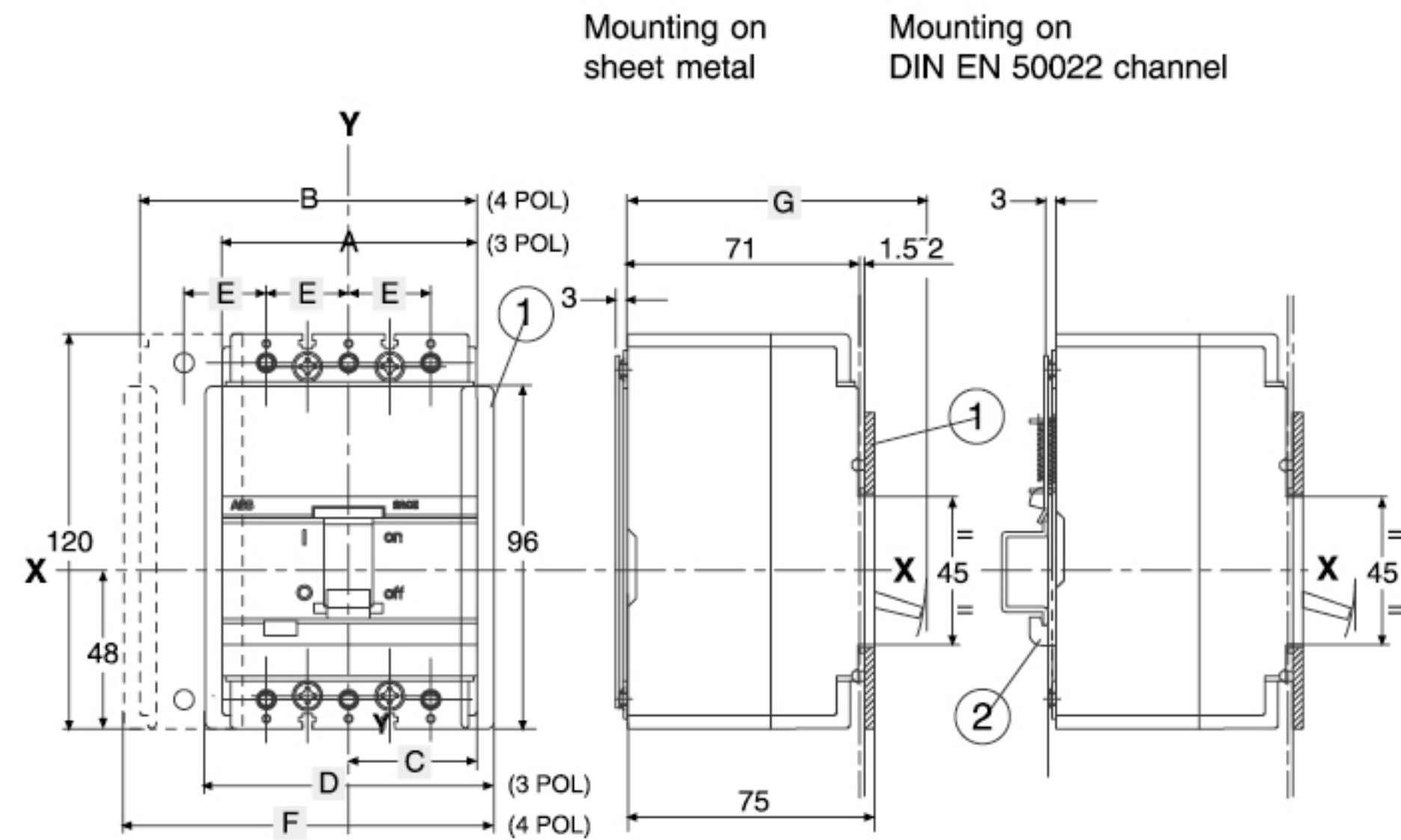
15.Dimensions



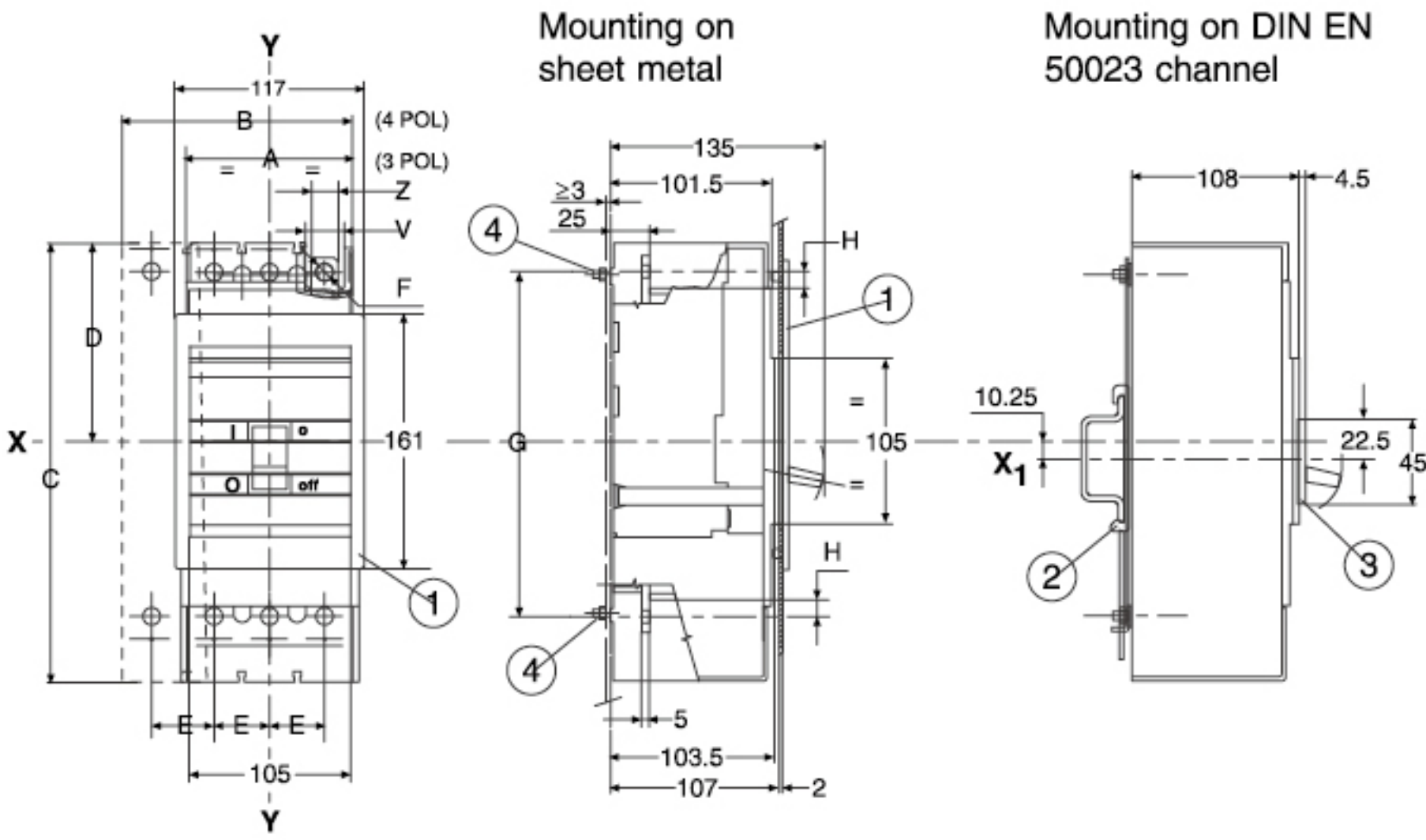
EBS7M-125 1P



EBS7M-125 2P

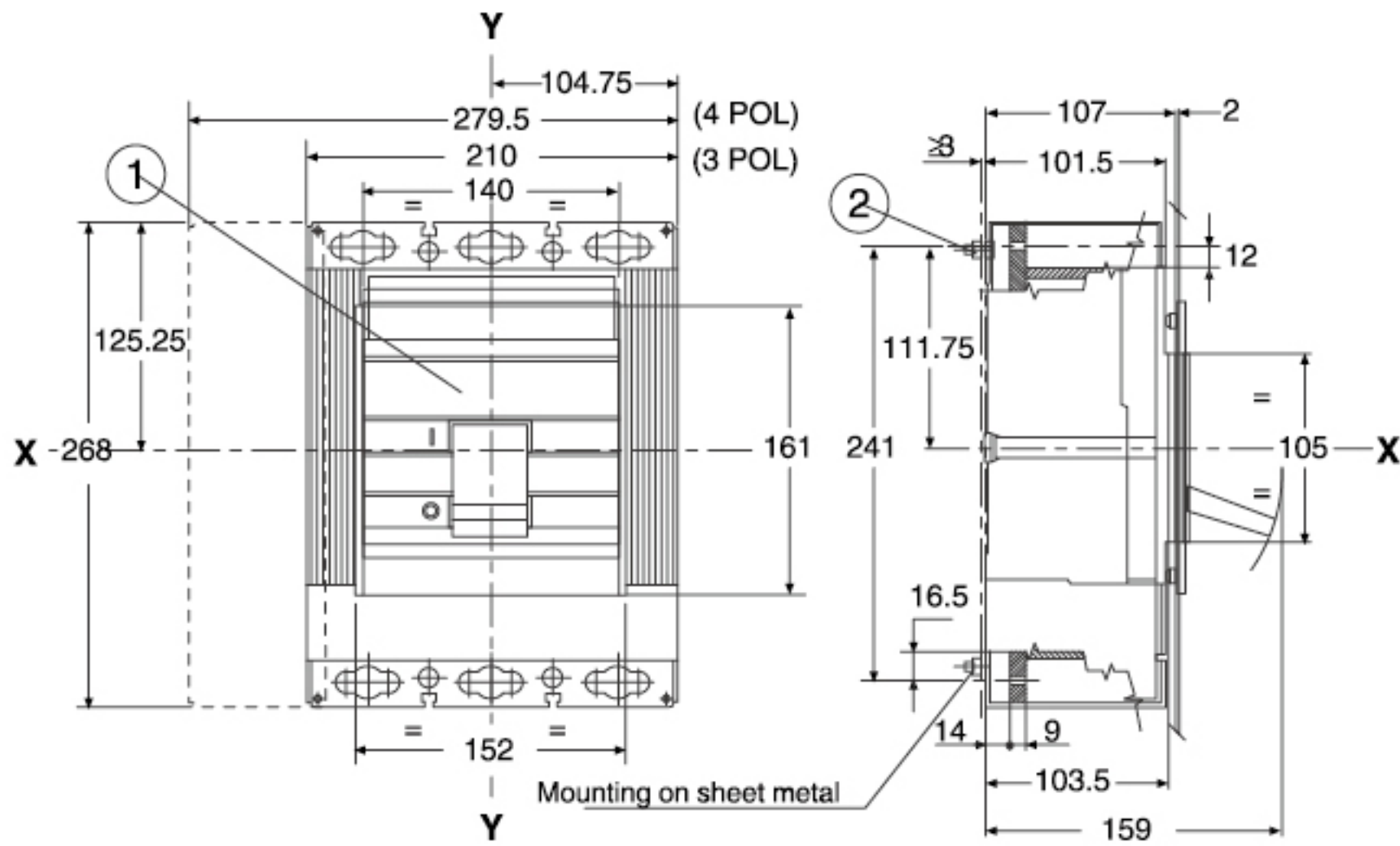


	A	B	C	D	E	F	G
EBS7M-125	78	103	39	91	25	116	91
EBS7M-160	90	120	45	103	30	133	93

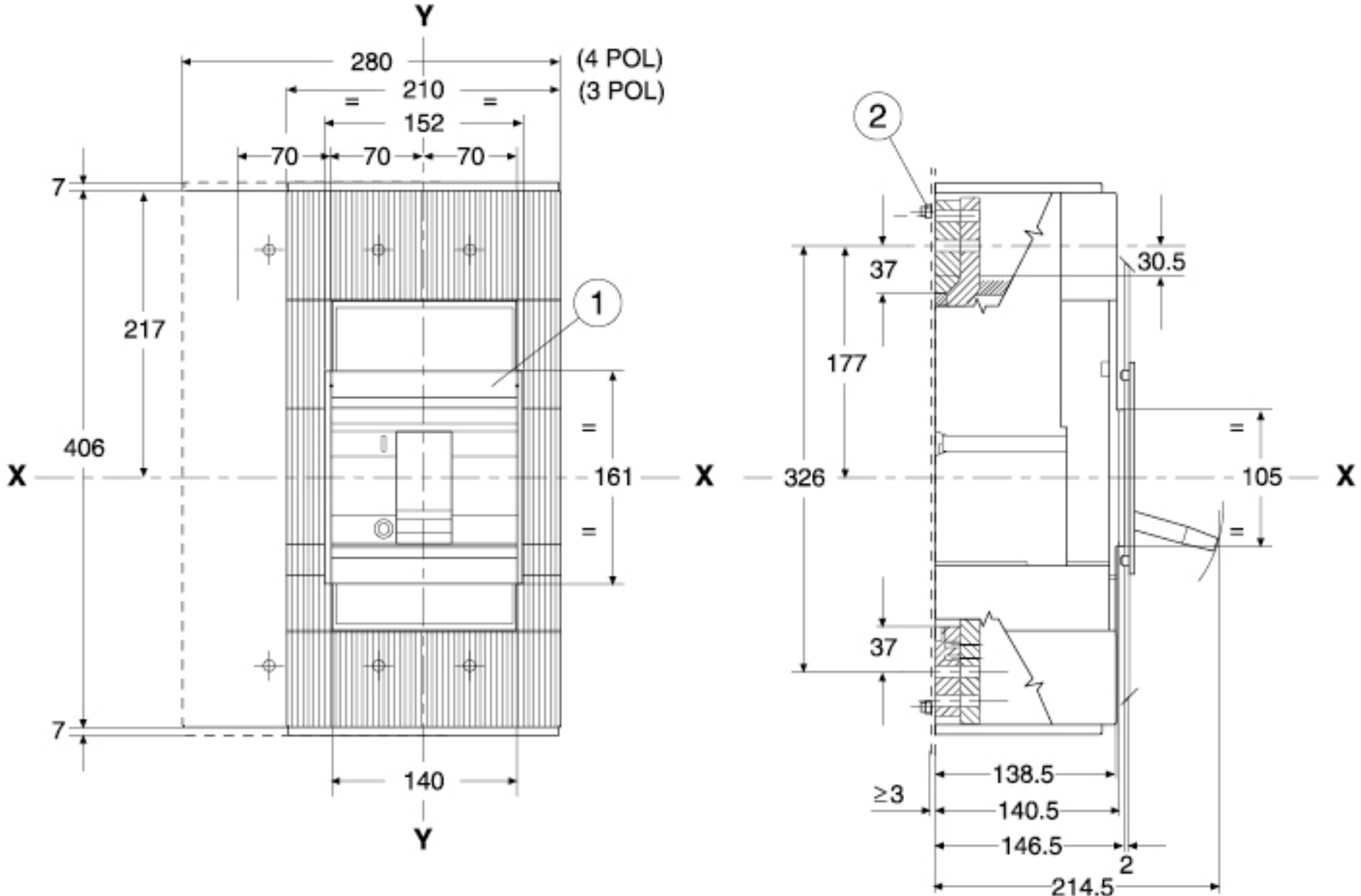


	A	B	C	D	E	F	G	H
EBS7M-250	105	140	170	87.25	35	Ø 8	143	10
EBS7M-400	140	183.75	254	125.25	143.75	Ø 10	218	12

EBS7M-630/EBS7M-800



EBS7M-630/EBS7M-800



EBS7M-1250/EBS7M-1600