



**EN**  
**MOULDED CASE**  
**CIRCUIT BREAKER**  
**INSTRUCTION**

**Family Name:** SAFE

**Model:** 114-004-3040, 114-004-3050,  
114-004-3063, 114-004-3100, 114-004-  
3125, 114-004-3160, 114-004-3200, 114-  
004-3250, 114-004-3400, 114-004-3630



## 1. Application & usage

SAFE series moulded case circuit breaker (named as MCCB in the following) is one of the newest types concerning world advanced R&D technique. It can be divided into L (Standard) type, M (more-function-al) type and H (high) type according to their rated limited short-circuit breaking capacity (Icu).

The MCCB has function of insulation with its sign.

The MCCB has function of overload, short-circuit and under-voltage for circuit and power device protection.

The MCCB can be fixed vertically and horizontally.

The product complies to IEC60947-2, GB14048.2

Note: The product can be divided into 3-P

B type: N-P without current tripper working together with other 3P;

## 2. Normal fixing condition:

- 1). Altitude 2000m and below;
- 2). Ambient temperature no higher than +40 (45 for watercraft)  
no less than -5
- 3). Stand moist air
- 4). Stand airy mist
- 5). Stand mildew
- 6). Moist gradient 22.5
- 7). Work steady on shaking watercraft
- 8). Atmosphere without corrupt & electric air and no danger of explosion;
- 9). Without rain effect.

### 3. Main technique parameter

Rated frame level current	Working capacity(400V1.10) Q-t-co			Rated working voltage (V)	Rated working frequent (Hz)	Instantaneous setting times		Rated tripping current(A)
	On-off current (KA)	Cos $\phi$	Arcing interval (mm)			Distribution type	Motor type	
114-004-3040	20	0.25 $\frac{0.05}{0.05}$	Over 50	400V	50/60Hz	10In	12In	40
114-004-3050								50
114-004-3063								63
114-004-3100	35	0.25 $\frac{0.05}{0.05}$	Over 50	400V	50/60Hz	10In	12In	100
114-004-3125								125
114-004-3160								160
114-004-3200								200
114-004-3250								250

### 4.Main characteristics

The MCCB has anti-time limit characteristic

Rated tripping current (A)	Thermal tripper(ambient tem+40℃)		M-tripping working current (A)	Remarks
	1.05In(cold) motionless duration(h)	1.30In(hot) moving duration(h)		
10 ≤ In ≤ 63	1	1	10In × (1 ± 20%)	Distribution type
63 ≤ In ≤ 125	2	2	10In × (1 ± 20%)	
125 ≤ In ≤ 800	2	2	5In × (1 ± 20%) 10In × (1 ± 20%)	
10 ≤ In ≤ 630	1.0In(cold) motionless duration(h)	1.20In(hot) moving duration(h)	12In × (1 ± 20%)	Motor type
	2	2		

### 5. Annex parameter

#### 5.1.Tripping method& annex code

Code of Accessory	Tripping way	Instantaneous tripper	Double-entry tripper
Name of Accessory			
N/A		200	300
Alarming contact		208	308
Shunt tripper		210	310
Double auxiliary contact		220	320
Single auxiliary contact		221	321
Under voltage tripper		230	330
Shunt tripping double auxiliary contact		240	340
Shunt tripping single auxiliary contact		241	341
Shunt tripping Under voltage tripper		250	350
2 unites double auxiliary contact		260	360
2 unites single auxiliary contact		261	361
Double auxiliary contact,single auxiliary contact		262	362
Under voltage tripper,double auxiliary contact		270	370
Under voltage tripper,single auxiliary contact		271	371
Shunt tripping alarming contact		218	318
Double auxiliary contact,alarming contact		228	328
Under voltage tripper,alarming contact		238	338
Shunt tripping single auxiliary contact,alarming contact		248	348
Single auxiliary contact,alarming contact		258	358
Double auxiliary contact,alarming contact		268	368
Under voltage tripper,alarming contact		278	378

## 5.2. Rated value of auxiliary & alarming contact

Type	Frame level rated current (A)	Proposed heating current Ith(A)	rated working current at AC380V Ie(A)
Auxiliary contact	63~225	3	0.3
	400~800		0.4
Alarming contact	63~225	3	0.3
	400~630		0.4
	800		0.3

5.3. The product can trip steady with 70%~110% rated controlling voltage of shunt tripper;

5.4. The product can trip steady with 70% ~ 30% of power voltage; under-voltage tripper can stop product from contacting with power voltage lower than 35% of rated tripping voltage; under-voltage tripper can ensure product's contacting with power voltage higher than 85% of rated tripping voltage.

## 6. sectional area of wire and rated values

Rated current(A)	10	16	25	32	40	63	80	100	125	160	180	250	315	400
		20			50				140		200		350	
Sectional area of wire (mm <sup>2</sup> )	1.5	1.5	4	6	10	16	25	35	50	70	95	120	185	240

Rated current (A)	Sectional area of wire(mm <sup>2</sup> )		Busbar size	
	number	Sectional area (mm <sup>2</sup> )	number	Sectional area mm × mm
500	2	150	2	30 × 5
630	2	185	2	40 × 5
700, 800	2	240	2	50 × 5

## 7. Usage & maintenance

7.1. Characters & annex is fixed by manufacturer, which cannot be adjusted by others;

7.2. MCCB handle can be in 3 positions: contact, break, trip. When in trip position, handle shall be pushed to break position, then can make it contact.

