

■ Description

Now, FABs (MCCBs) and ELCBs rated at 30AF (ampere frame) to 800AF share the same frame sizes and dimensions (Twin Breaker). FUJI has expanded its line up of 30AF to 225AF SUPER 60 models with the addition of 400AF, 600AF, and 800AF models. The new 400AF FAB is 38% smaller than its previous models. The 600AF and 800AF FABs, with similar outline dimensions to their previous models, have a newly developed dual-latching current-limiting mechanism. This is an enhancement of the mechanism in the 30AF to 400AF Twin Breaker series and enables high-speed current interruption.

● Outstanding features

Twin Breakers employ a new current-limiting mechanism based on the arc-driving technique for high-speed contact opening and very short arcing time. This, and a dual-latching mechanism, enable 600AF and 800AF FABs to interrupt current faster at higher capacities. A special resin with excellent thermal and mechanical properties produces a more compact molded case for higher interrupting capacity.

■ Types of MCCBs

● Line protection

For general-purpose circuit protection

This type of MCCB may be employed in both main and branch circuits. They are installed in motor control centers and distribution boards to provide protection from both overload and short-circuit currents. The overcurrent trip mechanism of the general-purpose MCCB consists of thermal and magnetic elements. Thermal trip action and magnetic trip action provided overcurrent protection and short-circuit protection, respectively.

For distribution boards

These MCCBs are used exclusively in branch circuits of distribution boards for lighting installations. These breaker are compact and suitable for mounting in groups. These circuit breakers are available in 50 and 100AF (Ampere Frame) types, and their interrupt capacities are within the 2.5kA to 5.5kA range.

● Standardized modular construction

Standardized dimensions ease panel design and manufacture. SUPER 60 series Models 30AF to 225AF (except for H103R and H203R type) are 60mm deep and require a panel cutout height of 50mm. Models 400AF to 800AF are 99mm deep and require a panel cutout height of 102mm. Handle heights have been standardized at 50mm, and the operating handle of all breakers is at the center of the case. With standardized modular construction, FUJI Twin Breakers cut panel manufacturing costs.

● Wide choice

Choose from a wide variety of models — from economical to high-performance.

Three series of Twin Breakers ensure the best choice for the application: the economical E series, the standard S series, and the high-performance, high-interrupting capacity H series. The E series line-up of compact, economical FABs is best for circuits with relatively low short-circuit currents. The S series' new and unique current-limiting mechanism

● Motor-protection

The line current ratings of MCCBs for motor protection are equal to the motor's full-load current to provided motor overload and line overcurrent protection. These MCCBs obviate the need for magnetic motor starters. Since these MCCBs control motor start-stop operation, they must be used with loads which do not require frequent switching. These MCCBs handle starting rush currents of up to 600% and enable starting times of up to two seconds. These MCCBs are for general-purpose, 3-phase squirrel-cage induction motors with direct-on-line starting. These breakers meet the JIS C 8370 Appendix-1 Standards. The MCCBs will not trip under full rated current conditions at an ambient temperature of 40°C. They will trip within specified time limits when subjected to overload currents of 125% and 200%. These MCCBs meet the trip characteristics specified in JIS C 8325, AC magnetic motor starters.



provides a surprisingly high current interrupting capacity for a compact breaker. The H series features an excellent current-limiting mechanism and an enhanced method of arc-extinguishing to achieve a higher current interrupting capacity than the E and S series.

● Compliance with EN Standards

FUJI's MCCBs conform to the European Standards for circuit breakers (EN60947-2 = IEC947-2). (E, S, and H series, 30AF to 800AF only)

● Non-automatic trip

These breakers are not provided with overcurrent trip elements as inverse time and instantaneous trips. They do not trip automatically. The make/break switching is carried out manually for currents ranging from the rated current to overload currents and FUJI's MCCB's switching capacity is 6 times the rated current.

● Instantaneous trip

These MCCBs do not have inverse time trip elements, but are provided with sole instantaneous trip element. These circuit breakers are suitable for use in circuits which require instantaneous trip. These MCCBs are used in combination magnetic motor starters in motor control centers which are in an operational coordination with general overload relays in the motor circuit. These MCCBs may also be used for semiconductor protection if the instantaneous trip current values are set at low values such as 2 or 3 times the rated current.

Molded Case Circuit Breakers

General information

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■ Quick selection of special purpose FAB (MCCB)

S series

Breaker ampere frame	Type	Motor protection (M)	Instantaneous trip (I)		Non- automatic (S)
			Fixed	Adj.	
30	SA32B	●	●		●
	SA33B	●	●		●
50	SA52B				●
	SA53B	●	●		●
	SA54B				●
	SA52R SA53R	●			
60	SA62B				●
	SA63B	●	●		●
	SA62R SA63R				
100	SA102BA		●		●
	SA103BA	●	●		●
	SA102RA		●	●	●
	SA103RA	●	●	●	●
	SA104R				●
225	SA202BA		●	●	●
	SA203BA	●	●	●	●
	SA202RA		●	●	●
	SA203RA	●	●	●	●
	SA204R				●
400	SA402B				●
	SA403B				●
	SA402R		●	●	●
	SA403R		●	●	●
	SA404HA				●
600	SA603R SA604H		●	●	●
800	SA803R SA804H		●	●	●
1000	S1003 S1004				●
1200	S1203 S1204				●

E series

30	EA32 EA33	●			●
50	EA52A EA53A				
	EA52B EA53B	●			●
					●
60	EA62B EA63B	●	●		●
100	EA103F EA102B				●
	EA103B EA104B	●			●
					●
					●
225	EA202B EA203B	●			●
400	EA402B EA403B				●
600	EA603B				●
800	EA803B				●

● Available

L and H series

Breaker ampere frame	Type	Motor protection (M)	Instantaneous trip (I)	
			Fixed	Adj.
50	L53B*	●	●	
	LA53B	●	●	
	H52BA H53BA	●		
100	H102BA H103BA H103R			
225	H202BA H203BA H203R			
400	H402B H403B H403R		●	●
			●	●
600	H603B H603R		●	●
800	H803B H803R		●	●

* Not available for line protection type

● Available