

# DUO series Combination Starters

## Features

### ■ Description

- The combination starter protects the motor from short-circuit and overcurrent accidents in the three-phase motor circuit within a range between 15kW at 240V AC and 22kW at 415V AC, up to a current level of 50A.
- The manual motor starter provides overload, phase-loss, and short-circuit protections for the motor circuit, and incorporates a dial for flexible adjustment to match the total load current of the motor.
- The magnetic contactor allows remote ON/OFF operation of the motor circuit with high frequency, and features a electrical durability of one million operations.
- The manual motor starter and magnetic contactor are connected via link module and mounted to a base plate.

### ■ Features

#### Reduction and space-saving design

- The combination starter consists of a manual motor starter and magnetic contactor that can be assembled by the user to achieve a compact motor control circuit.
- The modular wiring system reduces wiring works, shortens required mounting time, and decreases the mounting area.
- The busbar system and connecting modules make it possible to reduce complicated wiring work.

#### Comforms to IEC standard

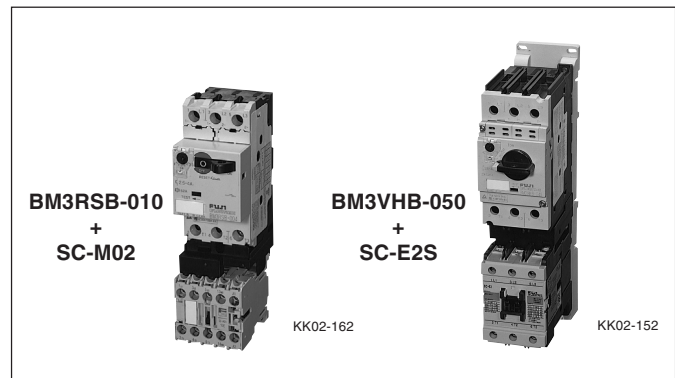
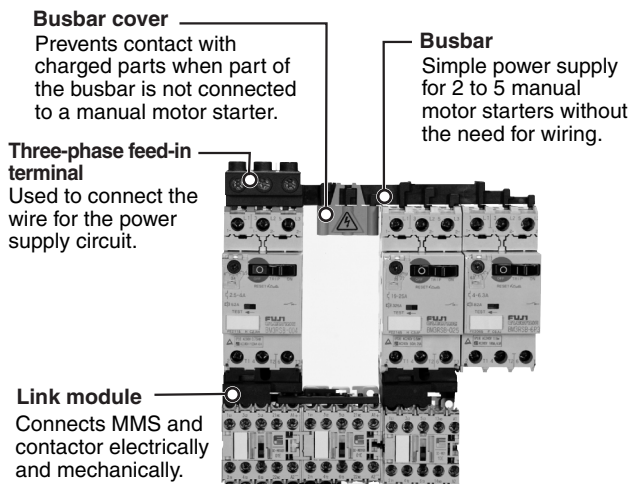
- The combination starter conforms to IEC 60947 requirements for magnetic motor starters and short circuit protective device of coordination types 1 and 2, thus greatly reducing the possibility of an accident spreading to affect other equipment.
- The combination starter can be mounted to IEC top hat rail using the base plate.

#### Protection against exposure to charged parts

- A busbar system, busbar cover, and terminals with finger protection prevent exposure to charged parts.

### ■ Busbar system

Various wiring materials available to reduce both wiring and wiring steps.



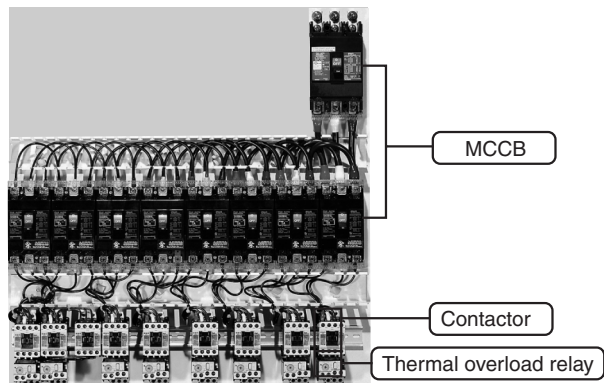
### ■ Application example

Combining modular equipment enables compact control panel configurations.

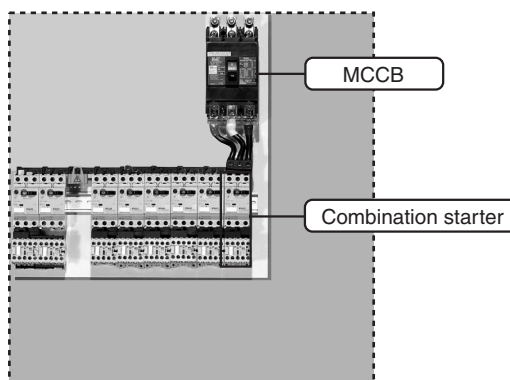
Combination starters and busbar systems help to downsize equipment.

#### • Example of 8-motor control circuit

##### Conventional control panel



##### New control panel



Mounting space: **52% reduction**

Wiring space: **90% reduction**