

# TWOMASTER



## **TWOMASTER DC MCCB SERIES** **Photovoltaic DC Molded Case Circuit Breaker**

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## Photovoltaic DC Molded Case Circuit Breaker

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### The solution for

- Combiner box
- Recombiner box
- Inverter

### Compliance with standards

- IEC 60947-2
- GB/T14048.1-2006
- GB/T14048.3-2008

### Approvals and certifications

China Quality Certification Centre



## Product Description

The rated insulation voltage of TWOMASTER DC MCCB new energy photovoltaic DC molded case circuit breaker is 1800V, the rated voltage is DC1000V, DC1500V, and the rated current is up to 1600A for distribution network.

Under normal circumstances, the circuit breaker can be used for infrequent line switching and infrequent motor starting.

It protects the line from overload and short circuit; it has protection functions for overvoltage and undervoltage of the line.

## Product features

Two-pole shape, small size, high performance

Meet the single-pole DC1500V  $I_{cs}=10kA$  breaking capacity: provide reliable protection when the system is secondary grounded

Zero arcing: equipped with arc extinguishing cover and three-layer free metal partition to avoid secondary system failure caused by arc spraying during disconnection

Super current limiting capability; Super insulation performance, electrical clearance and creepage distance meet UL489 standards

Non-polarity: Reliable protection against current backflow and reverse line inflow. It has the ability to resist moisture, heat, salt spray and mildew;

## Core patented technology

Contact low repulsion reverse point anti-drop technology;

Arc extinguishing technology, which can achieve zero arcing;

New arc extinguishing chamber arrangement technology, which makes more arc extinguishing grids and achieves high breaking capacity;

The arc extinguishing chamber adopts special narrow gap arc extinguishing technology to achieve ultra-high breaking capacity;

Magnetic blowing arc ignition integrated arc ignition technology to achieve super strong arc extinguishing ability;

New insulating static contact cover technology, the arc spray port is completely isolated from the wiring terminal to avoid breakdown during breaking;

**Product Code**

| TWOMASTER DC MCCB Serisi - New Energy Photovoltaic DC Molded Case Circuit Breaker |            |              |       |                        |                   |               |                   |          |
|-----------------------------------------------------------------------------------|------------|--------------|-------|------------------------|-------------------|---------------|-------------------|----------|
| (Un)                                                                              | Rating (A) | Product Code | Poles | Shunt release (220VAC) | Auxiliary Contact | Alarm Contact | Auxiliary + Alarm | Motor    |
| 1500VDC                                                                           | 63         | 82312006     | 2     | 82310001               | 82310002          | 82310003      | 82310004          | 82310013 |
|                                                                                   | 100        | 82312010     | 2     |                        |                   |               |                   |          |
|                                                                                   | 160        | 82312016     | 2     |                        |                   |               |                   |          |
|                                                                                   | 250        | 82312025     | 2     |                        |                   |               |                   |          |
|                                                                                   | 315        | 82312031     | 2     | 82310005               | 82310006          | 82310007      | 82310008          | 82310014 |
|                                                                                   | 400        | 82312040     | 2     |                        |                   |               |                   |          |
|                                                                                   | 500        | 82312050     | 2     |                        |                   |               |                   |          |
|                                                                                   | 630        | 82312063     | 2     |                        |                   |               |                   |          |
|                                                                                   | 800        | 82313080     | 3     | 82310009               | 82310010          | 82310011      | 82310012          | 82310015 |
|                                                                                   | 800        | 82314080     | 4     |                        |                   |               |                   |          |
|                                                                                   | 1000       | 82313100     | 3     |                        |                   |               |                   |          |
|                                                                                   | 1000       | 82314100     | 4     |                        |                   |               |                   |          |
|                                                                                   | 1250       | 82313125     | 3     |                        |                   |               |                   |          |
|                                                                                   | 1250       | 82314125     | 4     |                        |                   |               |                   |          |
|                                                                                   | 1600       | 82313160     | 3     |                        |                   |               |                   |          |
|                                                                                   | 1600       | 82314160     | 4     |                        |                   |               |                   |          |

\* Inter-phase barrier for 63A-315A DC MCCB is available in the box.  
\*\* Zero Arc Extinguishing Unit is available for 400-630A DC MCCB.  
\*\*\*Please consult for coils with 400VAC, 24VDC operating voltage.

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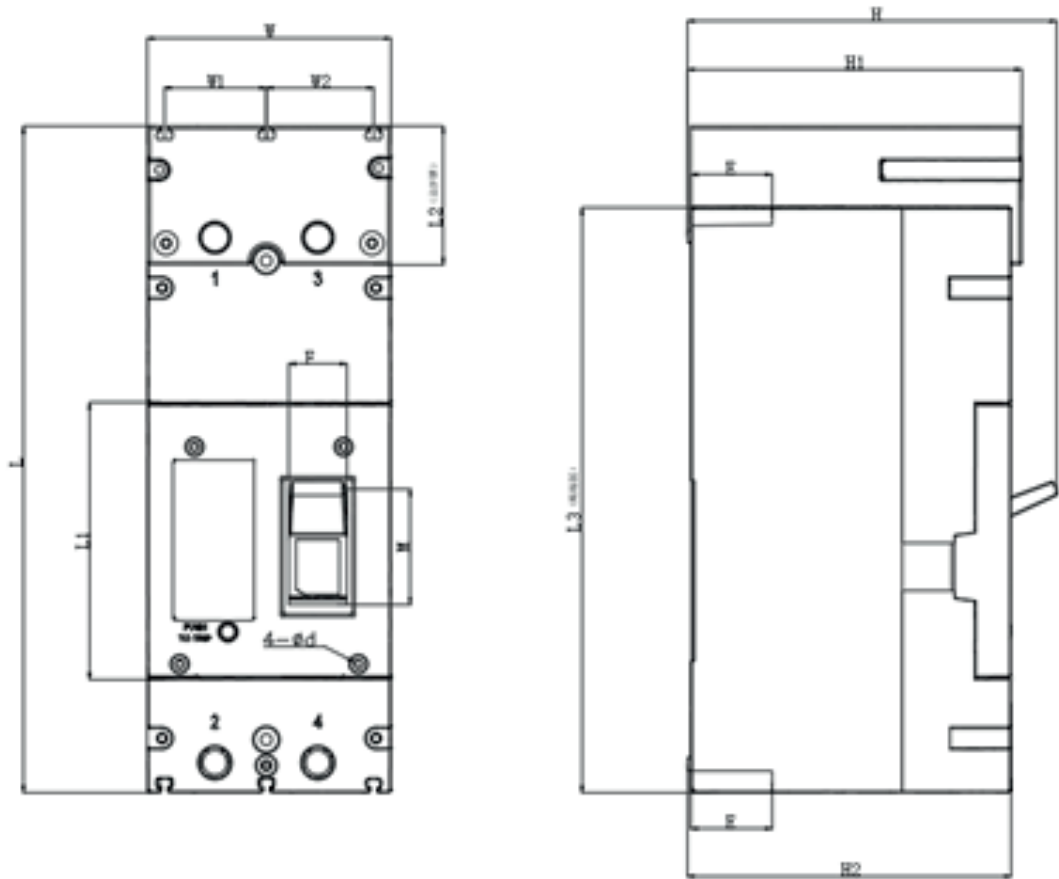
Photovoltaic DC Molded Case Circuit Breaker



## Technical Data

| Case                                                                                                               |          | DC MCCB-320                                                      | DC MCCB -400                | DC MCCB -630     | DC MCCB -1600                    |             |
|--------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------|-----------------------------|------------------|----------------------------------|-------------|
| Rated current (A)                                                                                                  |          | 100A, 125A, 140A, 160A, 180A, 200A, 225A, 250A, 280A, 315A, 320A | 225, 250A, 315A, 350A, 400A | 400A, 500A, 630A | 800A, 1000A, 1250A, 1500A, 1600A |             |
| Number of poles                                                                                                    |          | 2P                                                               |                             |                  | 3P                               | 4P          |
| Rated operating voltage Ue DC (V)                                                                                  |          | DC1500V                                                          |                             |                  |                                  |             |
| Rated insulation voltage Ui (V)                                                                                    |          | 1600V                                                            |                             |                  |                                  |             |
| Rated impulse withstand voltage Uimp                                                                               |          | 12kV                                                             |                             |                  |                                  |             |
| Rated ultimate short-circuit breaking capacity Icu (kA) = rated operating short-circuit breaking capacity Ics (kA) | DC750V:  | 85kA                                                             | 85kA                        | 85kA             | 50kA                             |             |
|                                                                                                                    | DC1000V: | 50kA                                                             | 50kA                        | 50kA             | 30kA                             |             |
|                                                                                                                    | DC1200V: | 35kA                                                             | 35kA                        | 35kA             | 15kA                             |             |
|                                                                                                                    | DC1500V: | 20kA                                                             | 20kA                        | 20kA             | 10kA                             |             |
| Mechanical life (times)                                                                                            |          | 4000                                                             | 4000                        | 4000             | 2500                             |             |
| Electrical life (times)                                                                                            |          | 1000                                                             | 1000                        | 1000             | 500                              |             |
| Arcing distance (mm)                                                                                               |          | 50, 0 (with arc extinguishing hood)                              |                             |                  |                                  |             |
| Basic dimensions W×L×H (mm)                                                                                        |          | 245*90*135                                                       | 319*110*178                 | 319*110*178      | 400*210*191                      | 400*280*190 |
| Instantaneous release                                                                                              |          | 5In or 10In                                                      |                             |                  |                                  |             |

**Dimensions**  
**100A-630A**



| Case            | DC MCCB-320 | DC MCCB-400   | DC MCCB-630   |
|-----------------|-------------|---------------|---------------|
| Dimensions (mm) | 2P          | 2P            | 2P            |
| W               | 90          | 110           | 110           |
| W1              | 37.6        | 49            | 49            |
| W2              | 39.6        | 49            | 49            |
| L               | 245         | 318.5         | 318.5         |
| L1              | 102         | 119.5         | 119.5         |
| L2              | 51          | 76            | 76            |
| L3              | 215         | 271.3         | 271.3         |
| M               | 42.5        | 61.2          | 61.2          |
| F               | 21.5        | 32            | 32            |
| H               | 136.3       | 177.3         | 177.3         |
| H1              | 123.5       | 152           | 152           |
| H2              | 119.5       | 152           | 152           |
| E               | 30          | 50.5          | 50.5          |
| $\phi d$        | 4- $\phi 3$ | 4- $\phi 4.5$ | 4- $\phi 4.5$ |

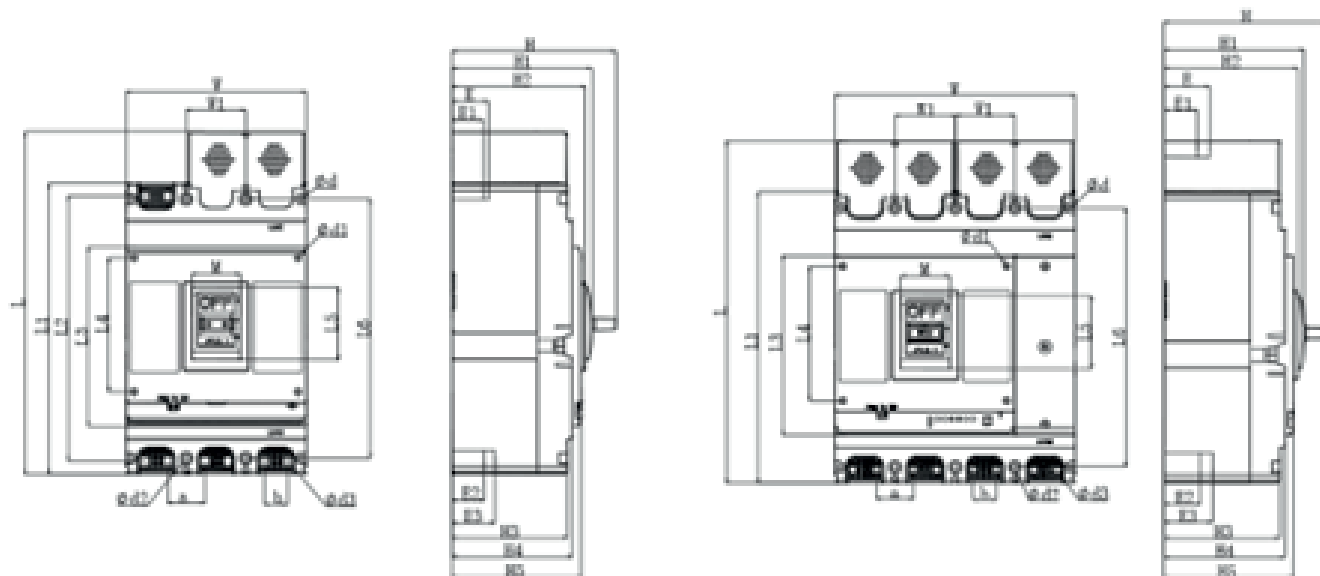
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## Dimensions

### 800A-1600A



| Case            | DC MCCB-1600 |     |
|-----------------|--------------|-----|
| Dimensions (mm) | 3P           | 4P  |
| W               | 210          | 280 |
| W1              | 70           |     |
| L               | 400          |     |
| L1              | 340          |     |
| L2              | 310          |     |
| L3              | 210          |     |
| L4              | 158          |     |
| L5              | 86           |     |
| L6              | 303          |     |
| H               | 191          | 190 |
| H1              | 163          |     |
| H2              | 156          |     |
| H3              | 135          |     |
| H4              | 141          |     |
| H5              | 151          |     |
| a               | 43           |     |
| b               | 27           |     |
| M               | 57           |     |
| E               | 40           |     |
| E1              | 35           |     |
| E2              | 51           |     |
| E3              | 56           |     |
| φd              | Φ6           |     |
| φd1             | Φ9           |     |
| φd2             | Φ15          |     |
| φd3             | Φ11          |     |