

Two-pole DC protection for 600 V circuits.

amiciSmart DC circuit breaker · SKU 1xDC-MCB-100A · label model DCB-C100A



100 A

600 V DC rated voltage

2-pole · trip curve **C**

Breaking capacity **10 kA**

35 mm DIN rail · IP20

Overload and short-circuit protection
for solar PV and other DC circuits.

Scope: SKU **1xDC-MCB-100A** only: two-pole DC breaker, **100 A, 600 V DC, curve C, 10 kA** (ratings confirmed by amiciKart, 6 Oct 2026). This guide does not cover the 125 A or single-pole DC breakers, which have different ratings and wiring.

Electrician installation only. DC arcs are harder to break than AC arcs and solar modules stay live in daylight. Wrong polarity or reverse current can stop this breaker from clearing a fault.

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SKU 1xDC-MCB-100A · Version 1.0

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This guide is based on the supplier technical datasheet for this breaker series, the product label, and owner-confirmed ratings for SKU 1xDC-MCB-100A. Where the store listing differs from the datasheet, the datasheet values are used.

01 · OVERVIEW

Know the breaker before you wire it

Front view of the DCB-C100A label and controls



Label

DCB-C100A: curve **C**, **100 A**. Printed ratings: **DC 600 V**, **Icu = 10 kA**, IEC/EN 60947-2, GB 14048.2 and CE marks.

Polarity symbol

Top: **1 (+)** and **3 (-)**. Bottom: **2 (-)** and **4 (+)**. The symbols show which way current must flow through each pole. See page 5 before wiring.

Handle and window

I ON up, **O OFF** down. Both poles share one handle and switch together. The window is the contact position indicator.

Terminals

Four screw terminals: **1** and **3** on top (source side), **2** and **4** at the bottom (load side). The breaker mounts on a 35 mm DIN rail using its quick-fit clip.

What it does

Opens both poles automatically on **overload** (thermal trip) or **short circuit** (magnetic trip) in a DC circuit. It may also be switched by hand occasionally. It is not designed for frequent switching. DC use only; do not use on AC.

02 · SAFETY

Check these before installation

All four conditions must be met. If any is uncertain, stop and get advice.

1 · Maximum system voltage ≤ 600 V DC

Include the highest voltage the circuit can reach. For solar strings, use the open-circuit voltage at the lowest expected module temperature, not the nominal voltage.

2 · Prospective fault current ≤ 10 kA

Breaking capacity is $I_{cu} = I_{cs} = 10$ kA. Large battery banks can deliver higher fault currents; confirm the prospective short-circuit current at the breaker location.

3 · Current flows in one direction only

This is a polarised DC breaker. Use it only where current always flows from the source on the top terminals to the load at the bottom. **Do not use it on two-way circuits** (battery charge and discharge through the same breaker) unless the supplier confirms that use.

4 · Load current and temperature

Rated current is 100 A, calibrated at a 30 °C reference temperature. In a hotter enclosure it can trip below 100 A. Size the circuit and ventilation accordingly.

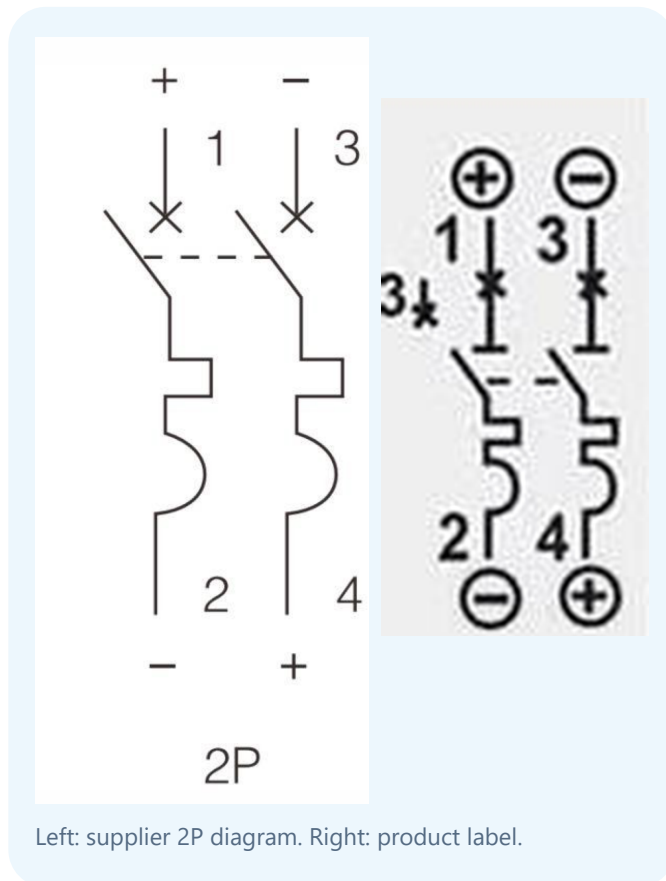
Work safely

Installation by a qualified electrician only. Isolate every source first: solar modules are live whenever light falls on them, so open the upstream isolators or cover the modules. Then prove the conductors dead with a DC-rated tester before touching the terminals.

03 · WIRING

Source on top, load at the bottom

Two-pole wiring: one pole in the positive conductor, one in the negative conductor



Terminal	Connect to
1 (top, +)	Source positive (PV string / DC supply +)
3 (top, -)	Source negative (PV string / DC supply -)
2 (bottom)	Load / inverter / controller positive
4 (bottom)	Load / inverter / controller negative

Why the bottom symbols look reversed

The + / - symbols show the **current direction** through each pole: in at +, out at -.
Positive-conductor current enters at 1 and leaves at 2. Return current from the load enters at 4 and leaves at 3. Never connect the load negative to 2 or the load positive to 4.

Do not

- feed the breaker from the bottom terminals (reverse feed)
- swap the poles (negative through 1-2)
- use it where current can reverse, such as battery charge and discharge, unless the supplier confirms that use
- exceed 600 V DC or 10 kA prospective fault current

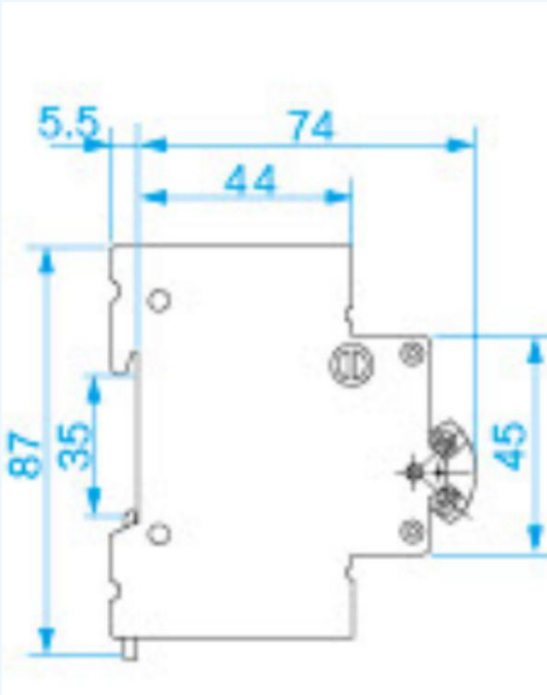
Check polarity before closing

With the breaker **OFF** and sources connected, measure with a DC meter: terminal 1 must read positive relative to terminal 3. If it reads negative, isolate and correct the wiring before switching ON.

04 · MOUNTING

Mount on DIN rail and terminate firmly

Datasheet values for the 2-pole breaker



Side profile (mm), supplier drawing

Dimension (2-pole)	Value
Width	54 mm (27 mm per pole)
Height	87 mm
Depth	74 mm (drawing also shows a 5.5 mm rear offset)
Front step	44 mm deep, 45 mm high
Rail	35 mm DIN rail (EN 60715)

Install inside a suitable enclosure or distribution board. The body is **IP20** (finger-safe), not weatherproof.

1 · Mount

Hook the breaker onto the 35 mm rail and snap the quick-fit clip home, with terminals 1 (+) and 3 (–) at the top.

2 · Conductors

Terminals take cable up to **25 mm²**, or U-type or pin-type busbar. Choose the conductor size for 100 A under local wiring rules and the installation method.

3 · Terminate

Strip only enough insulation for the terminal. Insert fully, with no loose strands, and tighten to **3.0 N·m**.

4 · Check

Pull-test each conductor. Re-check polarity (page 5) and label the circuit before closing the enclosure.

05 · OPERATION

Switching and resetting after a trip

Handle positions are printed on the label: I ON (up), O OFF (down)

Switching ON

Confirm the polarity and installation checks are complete, then push the handle firmly up to **I ON**. Both poles close together.

Switching OFF

Pull the handle down to **O OFF**. Both poles open. Before working on the circuit, still prove it dead: a source may also be connected elsewhere.

When it trips

The handle moves to **O OFF** on its own. Typical causes: overload (current above the rating for some time), short circuit, or a wiring fault. Do not hold the handle ON or re-close it repeatedly.

Before re-closing

1. Isolate the circuit and find the cause.
2. Correct the fault, or reduce the load.
3. Inspect terminals and cables for heat damage.
4. Switch back to **I ON**. If it trips again straight away, leave it OFF and call an electrician.

Occasional manual switching only

The supplier allows infrequent operation of the line. Mechanical life is **20,000** operations. For frequent or routine isolation, use a dedicated DC isolator.

06 · SPECIFICATIONS

Electrical ratings

SKU 1xDC-MCB-100A · 2-pole · from the supplier datasheet, using the 2P / 100 A values

Parameter	Value
Rated current I_n	100 A
Poles	2 (2P)
Rated operational voltage U_e	600 V DC (2-pole rating)
Rated insulation voltage U_i	1000 V
Rated impulse withstand voltage U_{imp} (1.2/50 μ s)	6 kV
Rated breaking capacity	$I_{cu} = I_{cs} = 10$ kA (10,000 A)
Trip characteristic	Curve C (thermal-magnetic)
Current type	DC only; polarised (one-way current, source on top)
Label markings	IEC/EN 60947-2 · GB 14048.2 · CE

The 600 V rating applies to this two-pole breaker. Do not apply ratings for other pole counts or other amiciKart DC breakers.

06 · SPECIFICATIONS

Trip characteristic and environment

Curve C time-current values from the supplier datasheet

Test current	Datasheet value	At $I_n = 100\text{ A}$
$1.05 \times I_n$ (I_{nt} , conventional non-tripping)	$t \leq 1\text{ h}$	105 A
$1.30 \times I_n$ (I_t , conventional tripping)	$t < 1\text{ h}$	130 A
$2.55 \times I_n$	$t = 1\text{--}120\text{ s}$ ($I_n > 32\text{ A}$)	255 A
Magnetic (instantaneous) trip, curve C	$12 \times I_n \pm 20\%$	960–1,440 A

Parameter	Value
Reference temperature (thermal setting)	30 °C
Ambient operating temperature	–5 °C to +40 °C (daily average $\leq 35\text{ °C}$)
Storage temperature	–25 °C to +70 °C
Protection degree	IP20
Contact position indicator	Yes
Mechanical life	20,000 operations
Terminal connection	Cable / U-type busbar / pin-type busbar; top and bottom
Cable size	Up to 25 mm ²
Tightening torque	3.0 N·m
Mounting	35 mm DIN rail (EN 60715), quick-fit clip
Dimensions (W × H × D)	54 × 87 × 74 mm

07 · TROUBLESHOOTING

What you see, and what to check next

Isolate and prove dead before touching terminals

What you see	Possible cause	Next step
Trips as soon as it is switched ON	Short circuit, damaged cable, or wiring fault downstream	Leave OFF. Isolate, then check insulation and wiring. Do not keep re-closing.
Trips after running for a while	Load above 100 A, or a hot enclosure	Measure the load current. Check ventilation and the ambient limit (–5 to +40 °C).
Handle will not stay ON	Fault still present, or the breaker is damaged	Disconnect the load and try again. If it still will not latch, replace the breaker.
Terminal or body hot or discoloured	Loose terminal or undersized conductor	Isolate. Re-terminate at 3.0 N·m and check the conductor size. Replace if the plastic is damaged.
No output with handle ON	Upstream isolator open, wiring error, or no source	Check the source voltage at terminals 1/3, then at 2/4.
Terminal 1 reads negative to terminal 3	Source polarity reversed	Isolate and rewire as on page 5 before use.
Battery circuit charges and discharges through it	Two-way current: not a supported use	Stop using it in that position. Get supplier-confirmed protection.

Still unsure? Contact amiciKart support with photos of the label, the wiring and your meter readings.

[Contact support](#)

[Product page](#)

08 · RECORD

Installation record

Completed by the installing electrician · keep with the system documents

Item	Entry
Date / electrician / licence no.	
Site and circuit name	
System type (PV string / battery / DC supply)	
Maximum system voltage (V DC, incl. cold Voc) ≤ 600 V	
Prospective fault current at breaker (kA) ≤ 10 kA	
One-way current confirmed (not charge/discharge)	Yes / No
Design load current (A)	
Conductor size and type	
Terminals torqued to 3.0 N·m	Yes / No
Polarity check: terminal 1 positive to terminal 3	Yes / No
Trip test or functional ON/OFF check done	Yes / No
Customer handover / signature	