

# MOLDED CASE CIRCUIT BREAKER CMM-HU AC

## OPERATIONAL MANUAL



This document describes the technical specifications, operation, and installation of the product.  
The product must be handled and operated by qualified personnel only.

## Sumário

1. GENERAL.....	3
2. STANDARDS.....	3
3. TECHNICAL DATA.....	3
4. USAGE INFORMATION.....	4
5. TEMPERATURE DERATING COEFFICIENT.....	4
6. INSPETION AND TEST.....	5
7. APPEARANCE AND INSTALLATION DIMENSIONS.....	6
8. ATTACHMENT INFORMATION.....	7
9. SAFETY TIPS.....	8
10. WARRANTY TERMS.....	8
11. SUPPORT.....	9
12. DOCUMENT CONTROL.....	9

## 1. GENERAL


CMM-HU series AC molded case circuit breaker is suitable for AC grid circuits with rated voltage up to AC1140V and rated current of 800A.

The circuit breaker has the functions of overload long-time delay protection and short-circuit instantaneous protection, and is used to distribute electric energy and protect lines and power supply equipment from overload, short circuit and other faults.

## 2. STANDARDS

- a) IEC/EN60947-2

## 3. TECHNICAL DATA

Model CMM		HU-250	HU-320	HU-400	HU-630	HU-800
Shell frame current Inm (A)		250	320	400	630	800
Number of poles of products		3	3	3	3	3
AC working voltage (V)		415 / 690 800 / 1140	415 / 690 800 / 1140	415 / 690 800 / 1140	415 / 690 800 / 1140	415 / 690 800 / 1140
Rated insulation voltage Ui(V)		AC1150				
Rated impulse withstands voltage Uimp (KV)		8	8	12	12	12
Rated current In (A)		63, 80, 100, 125, 140, 160, 180, 200, 225, 250	280, 315, 320	225, 250, 315, 350, 400	500, 630	700, 800
Ultimate short-circuit breaking capacity Icu (kA)	S	85 / 50 36,5 / 10	85 / 50 36,5 / 10	85 / 50 36,5 / 10	85 / 50 36,5 / 10	85 / 50 36,5 / 10
	N	/	/	100 / 60 50 / 15	100 / 60 50 / 15	100 / 60 50 / 15
Running short-circuit breaking capacity Ics(kA)		Ics = 100%Icu				
Wiring method		Up in and down out, down in and up out, Down in and up out, up in and down out(3P)				
Isolation function		Yes				
Tripping type		Thermal-magnetic type				
Electrical life(time)		3000 / 3000 2000 / 2000	3000 / 3000 2000 / 2000	1000 / 1000 700 / 700	1000 / 1000 700 / 700	1000 / 1000 700 / 700
Mechanical life(time)		20000	20000	10000	5000	5000
Standard		IEC/EN60947-2				
Attached accessories		Shunt, Alarm, Auxiliary, Manual operation, Electric operation				
Certifications		CE				
Overall dimension (mm) 	Width(W)	107	107	182	182	182
	Height(H)	180	180	250	250	250
	Depth(D)	126	126	165	165	165

#### 4. USAGE INFORMATION

- a) The normal operating environment temperature of the products is  $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$ ;
- b) Pollution level: III;
- c) Main circuit installation category: III;
- d) Shell protection level: IP20;
- e) Terminals screw torque (N) of CMM-HU: 250,320 – M8 / 12N; 400,630,800 – M12 / 40N.

Note: If the operating temperature is  $-35^{\circ}\text{C}\sim+70^{\circ}\text{C}$ , the user should consult the manufacturer;  
If the altitude of installation exceeds 4000m, consult the manufacturer.

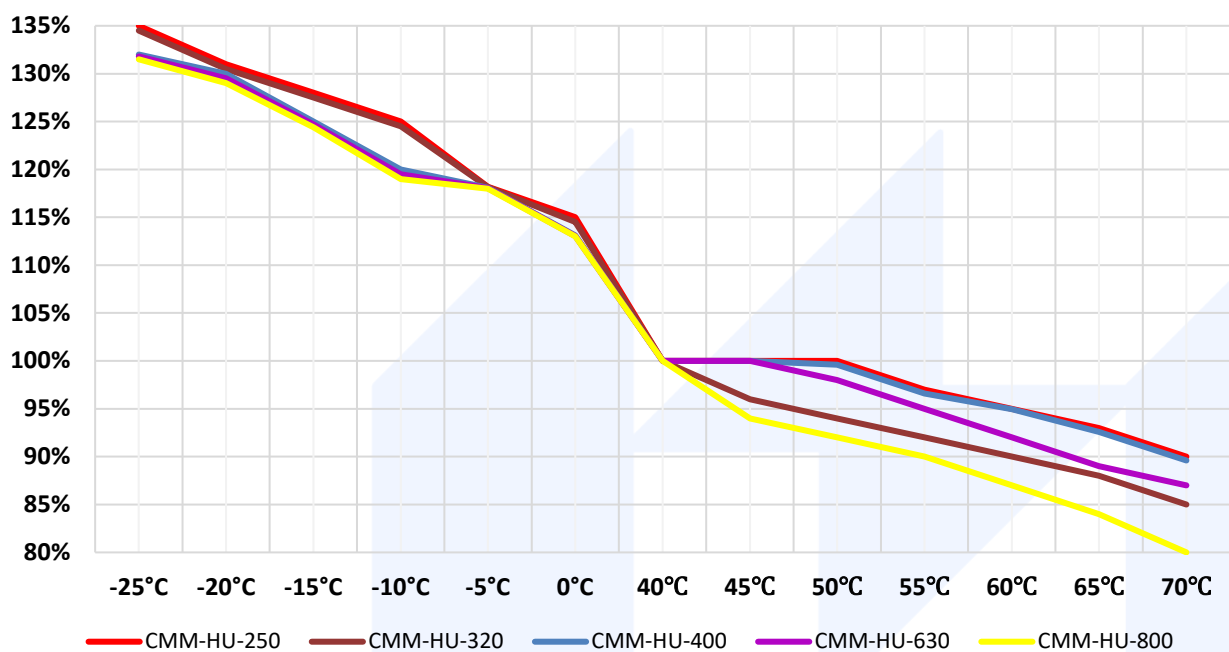
#### 5. TEMPERATURE DERATING COEFFICIENT

Montê MCCBs are subject to current derating based on the ambient temperature at the installation site. The table below indicates the correction factors to be applied to the rated current ( $I_n$ ) as a function of ambient temperature.

Products	Temperature derating coefficient (Current $x I_n$ )												
	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C
CMM-HU-250	1,35	1,3	1,28	1,25	1,18	1,15	1	1	1	0,97	0,95	0,93	0,9
CMM-HU-320	1,35	1,3	1,28	1,25	1,18	1,15	1	0,96	0,94	0,92	0,9	0,88	0,85
CMM-HU-400	1,32	1,3	1,25	1,2	1,18	1,13	1	1	1	0,97	0,95	0,93	0,9
CMM-HU-630	1,32	1,3	1,25	1,2	1,18	1,13	1	1	0,98	0,95	0,92	0,89	0,87
CMM-HU-800	1,32	1,3	1,25	1,2	1,18	1,13	1	0,94	0,92	0,9	0,87	0,84	0,8

##### 5.1. Chart based on circuit breaker frame ratings

Rated current (%) as a function of temperature ( $^{\circ}\text{C}$ )

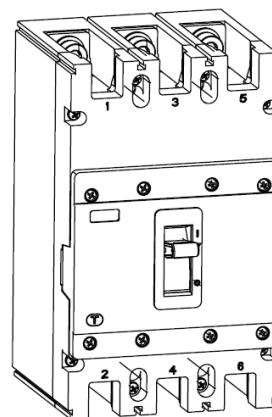


**6. INSPECTION AND TEST**

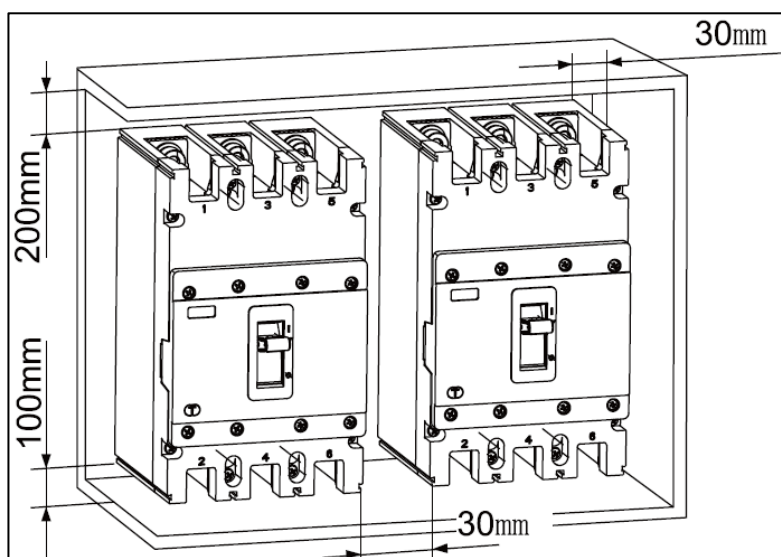
**6.1. Inspect**

Model	Recommended Installation Screws	Quantity	Torque (N)
CMM-HU-250/320	M4 x 90	4	1,5
CMM-HU-400/630/800	M5 x 85	2	1,5

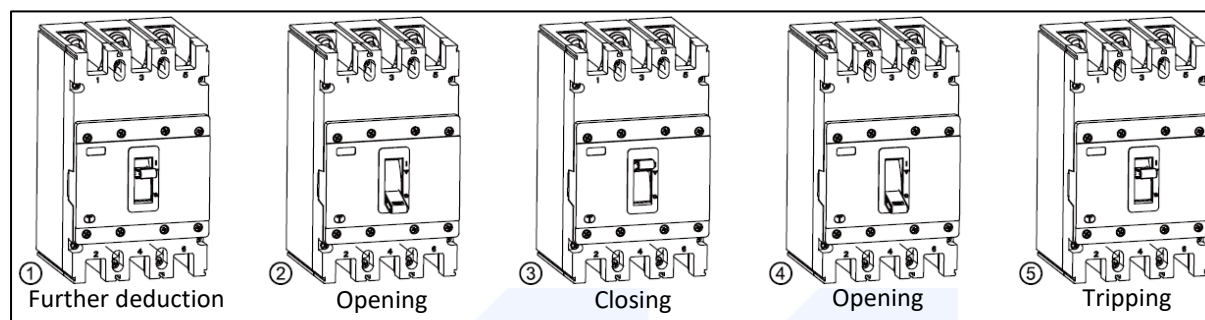
- a) Determine the product technical parameters;
- b) The installation, operation and maintenance work of the product is limited to professionally qualified personnel.



**6.2. Minimum Installation Distance**

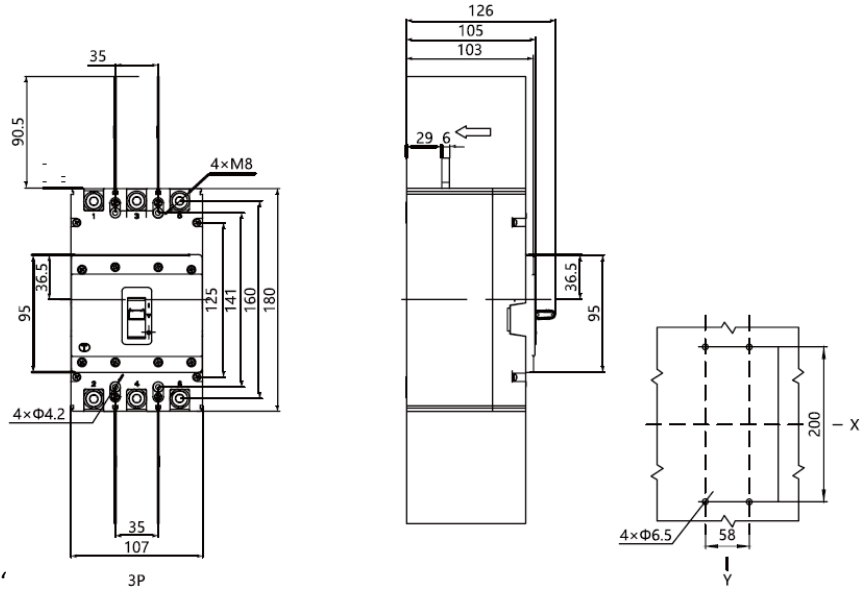


**6.3. Pre-test**

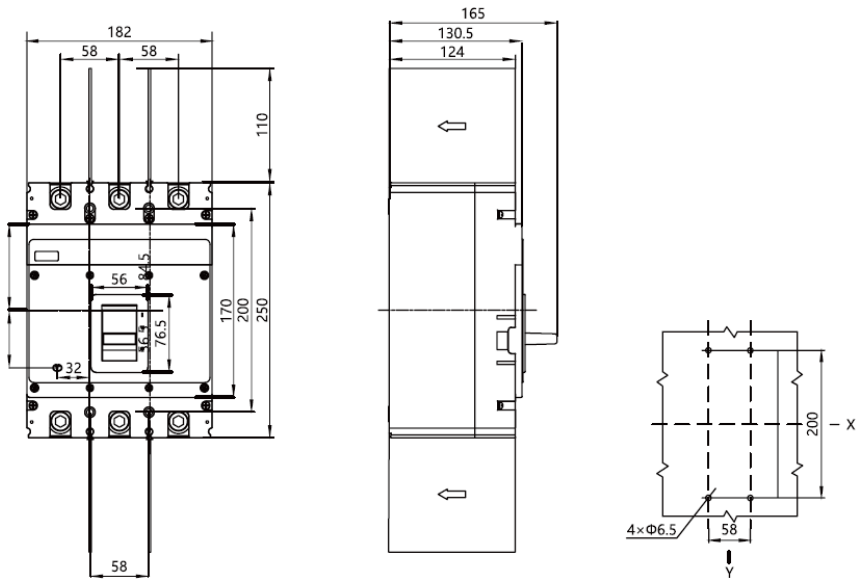


**7. APPEARANCE AND INSTALLATION DIMENSIONS**

**7.1. CMM-HU-250/320**

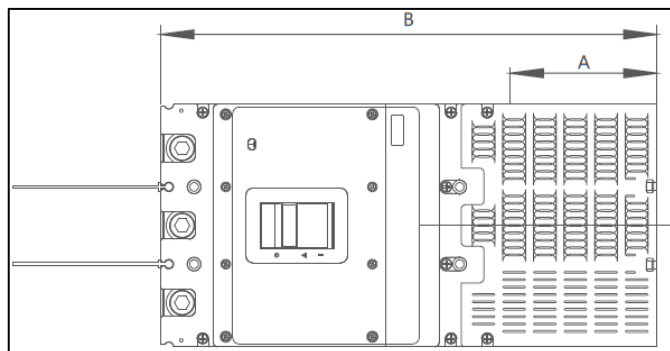


**7.2. CMM-HU-400/630/800**

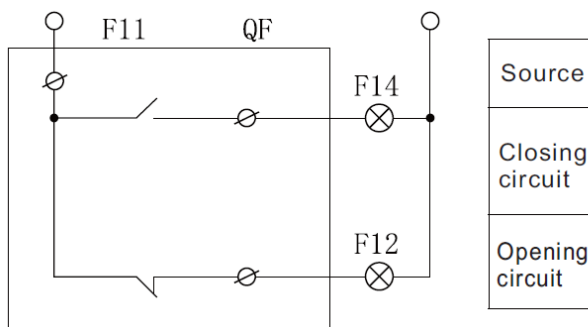


### 7.3. Installation Drawing of CMM-HU with arcing cover

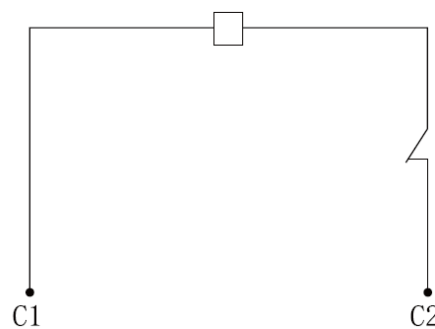
Model	Arcing cover length A	Total length B
CMM-HU-250/320	64	245
CMM-HU-400/630/800	64	314



### 8. ATTACHMENT INFORMATION



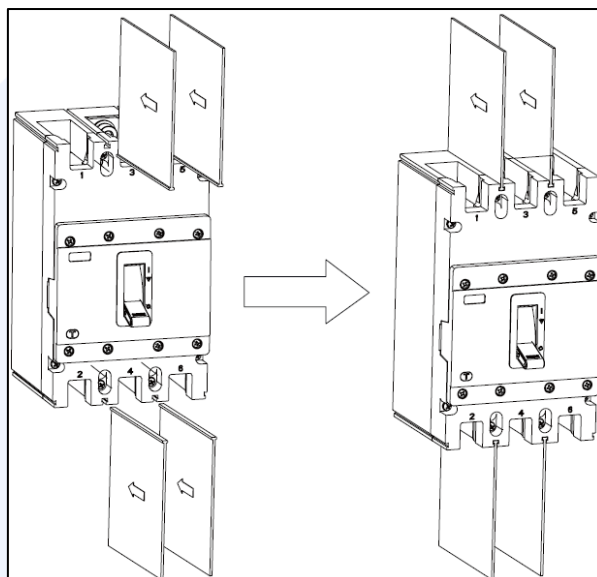
Auxiliary contact wiring diagram



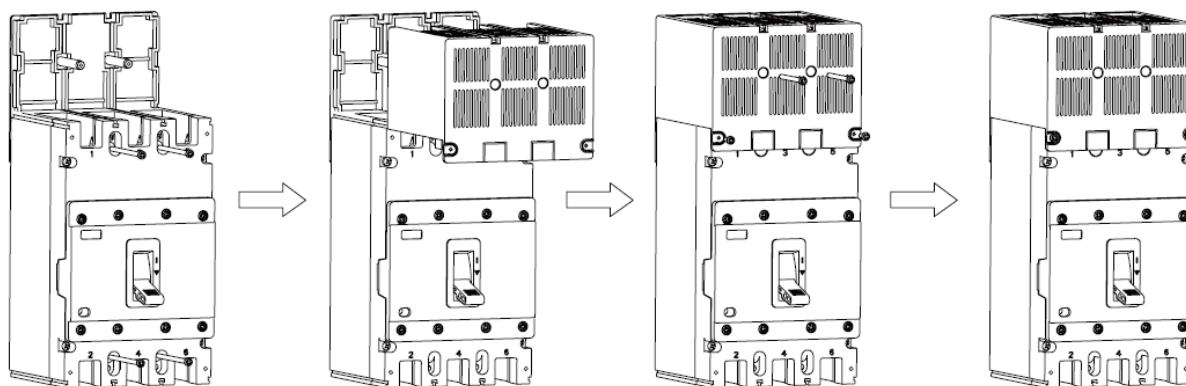
Wiring diagram of release

#### 8.1. Installation of interphase arc separation plate

- Be sure to install it before running the product "Protective Cover";
- Check if the product wiring is correct;
- Insulation resistance to ground after installation. The inspection should not be less than 10MΩ.



## 8.2. Installation of Partitions and Shields



## 9. SAFETY TIPS

- a) The product is strictly prohibited from being installed in environments containing flammable and explosive gases or damp condensation, and it is strictly prohibited to operate the product with wet hands;
- b) During product operation, it is strictly prohibited to touch conductive parts of the product;
- c) When installing, maintaining, and maintaining products, it is necessary to ensure that the circuit is powered off;
- d) Do not install in areas where gas media can corrode metals and damage insulation;
- e) To avoid dangerous accidents, the installation and fixation of the product must strictly follow the requirements of the manual.

## 10. WARRANTY TERMS

- I) Upon receiving the product, the customer must verify that it is intact and free of visible damage. If any component appears to be damaged, Montê must be contacted immediately.
- II) Montê warrants all of its products against manufacturing defects, provided that, after analysis by Montê's authorized technical department, the defect is confirmed under normal operating/installation conditions.
- III) All costs related to installation, removal, transportation, freight, and insurance are the responsibility of the customer.
- IV) Products must be returned with a copy of the invoice, identifying the customer and the date of issue, in order to validate the product's warranty period.
- V) The warranty period is one (1) year from the date of issuance of the purchase invoice.
- VI) Transferring the product to third parties does not void the validity of this warranty.
- VII) The limitations of these warranty terms include:
  - Expiration of the warranty period as specified above;
  - Connecting the controller to a power supply subject to excessive voltage variations or outside the specified standards;
  - Use contrary to the operation manual and regulatory standards;
  - Damage caused by natural agents (lightning, flooding, salt spray, among others) or excessive heat exposure;
  - Use of the product in environments with corrosive gases, excessive humidity, dust, acidity, high or low temperatures, etc.;
  - Damage caused by accidents;
  - Damage resulting from transport or inadequate packaging provided by the customer;
  - Evidence of the product having been opened, adjusted, repaired, altered, or modified by unauthorized persons not approved by Montê;

- Damage or malfunction caused by software or hardware incompatible with Montê specifications;
- Natural wear of parts (product lifespan).

**VIII)** Replacement of defective parts and warranty-related services will only be provided within Brazilian territory and by a professional authorized by Montê.

**IX)** This warranty is valid only within the national territory of Brazil.

**X)** In case of loss of warranty due to any of the reasons listed in this document, repair or replacement of the equipment will be subject to a prior quotation.

**XI)** Limitations of liability:

- Under no circumstances shall Montê be held liable for any direct or indirect damages, including but not limited to lost profits, special, incidental, or consequential damages, whether based on contract, tort, negligence, or any other legal theory;
- Equipment sent for technical assistance or replacement may have its configuration settings and stored data restored to factory defaults (due to repair, updates, or adjustments). Therefore, the user must ensure data and configuration backup prior to sending the product;
- Montê shall not be held responsible for any loss or theft of equipment during transit.

## 11. SUPPORT

- **Support by e-mail:** suporte1@monte.rs

- **Technical Support Montê:** (51) 3062-0809

- **Technical Support (Whatsapp):** (51) 98019-7809 or (51) 99461-6186

## 12. DOCUMENT CONTROL

REVIEW	DATA	AUTHOR	DESCRIPTION	APPROVAL
REV_0	04/08/2025	Guilherme Bassani	Elaboração do Manual	Giuli Tavares