Molded Case Circuit Breakers (MCCB)

Model Code Explanation

TAX □□□ □ — □ □ □□□ □ □□□

1 2 3 4 5 6 7 8

Series

TAX – Molded Case Circuit Breaker

Frame Size

125
250
400
630
800

Breaking Capacity Level

L: Standard
M: Medium
H: High

Motor Protection Function

P: Distribution Protection
M: Motor Protection

Number of Poles

3: 3P

4P Configurations:
A: Thermal-magnetic trip unit; neutral pole is not protected and remains closed(not switched before other poles)
B: Thermal-magnetic trip unit; neutral pole is not protected and opens/closes simultaneously with other poles
C: Thermal-magnetic trip unit; neutral pole is not protected and remains closed(not switched before other poles)
D: Thermal-magnetic trip unit; neutral pole is not protected and remains closed(not switched before other poles)

Rated Current

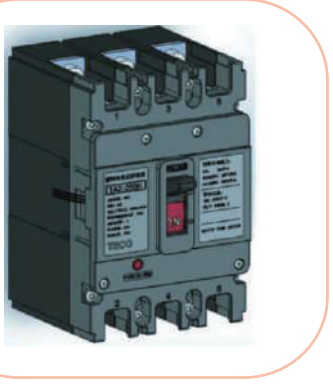
016=16A
020=20A
025=25A
032=32A
040=40A
050=50A
063=63A
080=80A
100=100A
125=125A
140=140A
160=160A
180=180A
200=200A
225=225A
250=250A
315=315A
400=400A
500=500A
630=630A
700=700A
800=800A

Installation Type

2: Fixed
3: Plug-in / Draw-out

Internal Accessories

Blank: None
080 = L
101 = S (AC230V)
102 = S (AC400V)
103 = S (AC110V)
104 = S (AC24V)
105 = S (DC24V)
301 = U (AC230V)
302 = U (AC400V)
200 = X
181 = L+S (AC230V)
182 = L+S (AC400V)
183 = L+S (AC110V)
184 = L+S (AC24V)
185 = L+S (DC24V)
280 = L+X
381 = L+U (AC230V)
382 = L+U (AC400V)
401 = S (AC230V) +X
402 = S (AC400V) +X
403 = S (AC110V) +X
404 = S (AC24V) +X
405 = S (DC24V) +X
701 = U (AC230V) +X
702 = U (AC400V) +X
481 = A+S (AC230V)
482 = A+S (AC400V)
483 = A+S (AC110V)
484 = A+S (AC24V)
485 = A+S (DC24V)
780 = U (AC230V) +A
781 = U (AC400V) +A
600 = X (左) +X (右)
680 = X+A
800 = A
880 = A+A



Model	Breaking Capacity		Number of Poles	Rated Current (A)
	AC400V Icu/Ics	AC690V Icu/Ics		
TAX125L	35/25	20/15	3 / 4	16,20,25,32,40,50,63,80,100,125
TAX125M	65/50			
TAX125H	85/65			
TAX250L	45/35	20/15	3 / 4	100,125,140,160,180,200,225,250
TAX250M	65/50			
TAX250H	85/65			
TAX400L	50/35	30/20	3 / 4	225,250,315,350,400
TAX400M	65/50			
TAX400H	100/65			
TAX630L	65/42	30/20	3 / 4	400,500,630
TAX630M	85/65			
TAX630H	100/85			
TAX800L	65/42	30/20	3 / 4	630,700,800
TAX800M	85/65			
TAX800H	100/85			

Note:
L: AUX (Auxiliary Contact)
A: ALT (Alarm Contact)
S: SHT (Shunt Trip)
U: UVT (Undervoltage Release)

Only one of SHT or UVT can be selected.

Example: TAX125L/31253405
Indicates a TAX series molded case circuit breaker with a frame size of 125A, breaking capacity level L, 3 poles, rated current 125A, thermal-magnetic trip unit, fixed type, equipped with DC24V shunt trip, and no internal accessories.

TAX Molded Case Circuit Breaker Ordering Code (Thermal Magnetic Type)

TAX-□□□□ | □ | □ | □□□ | □□□□

Basic Frame Size	Function	Number of Poles	Rated Current	Internal Accessories
125L 125M 125H 250L 250M 250H 400L 400M 400H 630L 630M 630H 800L 800M 800H	Blank: Power distribution M: Motor protection	3 = 3P 4P options: A: N pole without overcurrent release, always ON (not switching together) B: N pole without overcurrent release, switches together (N closes first, opens last) C: N pole with overcurrent release, switches together (N closes first, opens last) D: N pole with overcurrent release, always ON (not switching together)	016=16A 020=20A 025=25A 032=32A 040=40A 050=50A 063=63A 080=80A 100=100A 125=125A 140=140A 160=160A 180=180A 200=200A 225=225A 250=250A 315=315A 350=350A 400=400A 500=500A 630=630A 700=700A 800=800A	**First digit:** 2: Shunt release (standard) 3: Shunt release + auxiliary **Last 3 digits (optional):** Blank: No accessories Accessory Codes 080=L 101=S (AC230V) 102=S (AC400V) 103=S (AC110V) 104=S (AC24V) 105=S (DC24V) 301=U (AC230V) 302=U (AC400V) 200=X 181=L+S (AC230V) 182=L+S (AC400V) 183=L+S (AC110V) 184=L+S (AC24V) 185=L+S (DC24V) 280=L+X 381=L+U (AC230V) 382=L+U (AC400V) 401 =S (AC230V) +X 402=S (AC400V) +X 403=S (AC110V) +X 404=S (AC24V) +X 405=S (DC24V) +X 701=U (AC230V) +X 702=U (AC400V) +X 481=A+S (AC230V) 482=A+S (AC400V) 483=A+S (AC110V) 484=A+S (AC24V) 485=A+S (DC24V) 780=U (AC230V) +A 781=U (AC400V) +A 600=X (左)+X (右) 680=X+A 800=A 880=A+A

Notes
X = AUX (Auxiliary contact)
L = ALT (Alarm contact)
A = AUX + ALT
S = SHT (Shunt release)
U = UVT
(Undervoltage release)

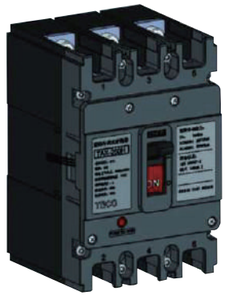
Application and Scope

TAX series molded case circuit breakers (hereinafter referred to as circuit breakers) are newly developed products based on internationally advanced design and manufacturing technologies.

With a rated insulation voltage of 1000V, they are suitable for AC 50Hz systems with a rated working voltage up to 690V and rated current up to 800A. They are used for infrequent switching of circuits and infrequent starting of motors.

The circuit breakers provide protection against overload, short circuit, and undervoltage, ensuring the safety of circuits and power supply equipment.

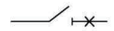
The products feature compact structure, reliable performance, high breaking capacity, and complete internal and external accessories.



Standards:

IEC 60947-1 / GB/T 14048.1 – General rules
IEC 60947-2 / GB/T 14048.2 – Circuit breakers
IEC 60947-4 / GB/T 14048.4 – Contactors and motor starters
IEC 60947-5-1 / GB/T 14048.5 – Control circuit devices

Normal Operating and Installation Conditions

- Altitude ≤ 2000 m
- Ambient temperature: -5°C to +40°C, with 24-hour average ≤ +35°C
- Relative humidity:
  - ≤ 50% at +40°C
  - Higher humidity permitted at lower temperatures
  - Monthly average minimum temperature ≤ +25°C
  - Monthly average maximum relative humidity ≤ 90%
  - Condensation due to temperature variation should be considered
- Pollution degree: 3
- Installation category:
  - Main circuit: Category III
  - Auxiliary and control circuits: Category II
- Applicable environment: A
- Resistant to humid air, salt spray, oil mist, mold, and nuclear industrial environments
- Maximum installation inclination: 22.5°
- Withstands normal ship vibration
- Withstands seismic conditions up to 4g
- Installation site must be free from explosion hazards, conductive dust, and corrosive gases
- No rain or snow exposure
- With isolation function 

Conductor Cross-sectional Area and Corresponding Rated Current

Rated Current (A)	16、20	25	32	40、50	63	80	100	125、140	160	180、200 225	250	315、 350	400
Conductor (mm^2)	2.5	4	6	10	16	25	35	50	70	95	120	185	240

Rated Current (A)	Cable		Busbar	
	No.	Cross-sectional area per conductor	No.	Cross-sectional area per busbar
500	2	150 mm^2	2	30x5 mm^2
630	2	185 mm^2	2	40x5 mm^2
700	2	240 mm^2	2	50x5 mm^2
800	2	240 mm^2	2	50x5 mm^2

Technical Parameters

Frame Size (AF)		125			250			400			630			800		
Model		TAX-125			TAX-250			TAX-400			TAX-630			TAX-800		
Breaking Capacity Class		L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
Number of Poles		3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4	3 4
Rated Current (A) @ 40°C		16,20,25,32,40,50,63, 80,100,125			100,125,140,160,180, 200,225,250			225,250,315,350,400			400,500,630			630,700,800		
Rated Impulse Withstand Voltage (Uimp kV)		12			12			12			12			12		
Rated Insulation Voltage (Ui VAC)		1000			1000			1000			1000			1000		
Rated Operational Voltage (Ue VAC)		400/690			400/690			400/690			400/690			400/690		
Rated Ultimate Short-Circuit Breaking Capacity (Icu, kA)	AC690V	20	20	20	20	20	20	30	30	30	30	30	30	30	30	30
	AC400V	35	65	85	45	65	85	50	65	100	65	85	100	65	85	100
Rated Service Short-Circuit Breaking Capacity (Ics, kA)	AC690V	15	15	15	15	15	15	20	20	20	20	20	20	20	20	20
	AC400V	25	50	65	35	50	65	35	50	65	42	65	85	42	65	85
Overload Trip Type		Thermal-Magnetic			Thermal-Magnetic			Thermal-Magnetic			Thermal-Magnetic			Thermal-Magnetic		
Service Life	Mechanical	20000			20000			10000			10000			10000		
	Electrical	8000			8000			7500			7500			7500		
Connection Method	Front	Compression Terminal			Compression Terminal			Compression Terminal			Compression Terminal			Compression Terminal		
	Rear	★			★			★			★			★		
	Plug-in	★			★			★			★			★		

★ indicates optional

Note: For 4-pole products, the neutral pole (N) is located on the right

Protection Characteristics

The circuit breaker thermal-magnetic release features inverse time-delay characteristics, while the magnetic release operates instantaneously. Details are shown below.

◆ **For Power Distribution**

Frame Rating (A)	Thermal Release (40°C)		Magnetic Release Operating Current (A)
	1.05 In (cold), non-trip time (h)	1.3 In (hot), trip time (h)	
16≤ In≤ 63	≥ 1	≤ 1	10In±20%
63 < In <800	≥ 2	≤ 2	

◆ **For Motor Protection**

Frame Rating (A)	Thermal Release (40°C)					Magnetic Release Operating Current (A)
	1.0 In (cold), non-trip time (h)	1.2 In (hot), trip time (h)	1.5 In (hot), Trip Time (min)	7.2 In (hot), Trip Time (s)	Trip Class	
125, 250	>2	≤ 2	≤ 4	4 < Tp ≤ 10	10	12In±20%
400, 630			≤ 8	6 < Tp ≤ 20	20	

◆ **Power Loss Table**

Model	Rated Current (A)	Total Power Loss (W) (3P/4P)	
		Front / Rear Connection	Plug-in Connection
TAX-125 (Thermal type, 16–25A)	25	1.7	1.8
TAX-125 (Thermal type, 32–125A)	125	27	27.2
TAX-250	250	33.4	33.6
TAX-400	400	48	48.2
TAX-630	630	107.2	107.4
TAX-800	800	96	73.7(In=700A)

◆ **Temperature Derating (Thermal Release)**

Model	Ambient Temperature				
	+40 ℃	+45 ℃	+50 ℃	+55 ℃	+60 ℃
TAX-125	1.0In	0.95In	0.89In	0.84In	0.76In
TAX-250	1.0In	0.96In	0.91In	0.87In	0.82In
TAX-400	1.0In	0.94In	0.91In	0.81In	0.73In
TAX-630	1.0In	0.93In	0.88In	0.83In	0.76In
TAX-800	1.0In	0.88In	0.83In	0.79In	0.76In

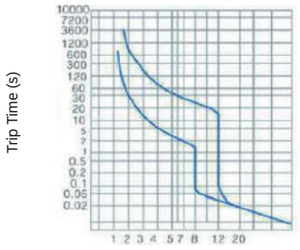
◆ **Temperature Derating (Thermal Release)**

For altitudes above 2000 m, the power frequency withstand voltage shall be corrected according to the table below.

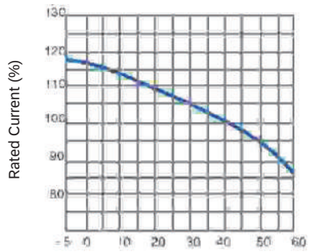
Altitude (m)	2000	3000	4000	5000
Power Frequency Withstand Voltage (V)	3000	2500	2000	1800
Operating Current Correction Factor	1	0.94	0.88	0.83
Breaking Capacity Correction Factor	1	0.83	0.71	0.63

Characteristic Curves

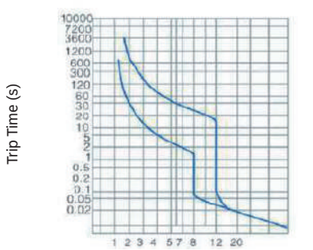
Note: The characteristic curves are measured under cold conditions with three-phase load.



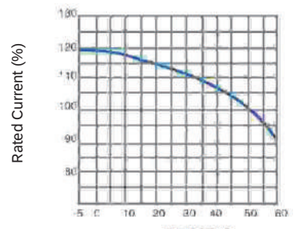
TAX-125 (16–32A)
Time-Current Characteristic Curve



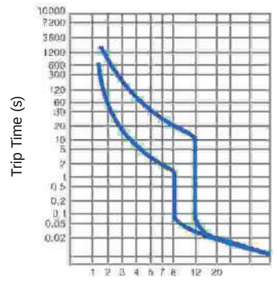
TAX-125 (16–32A)
Temperature Derating Curve



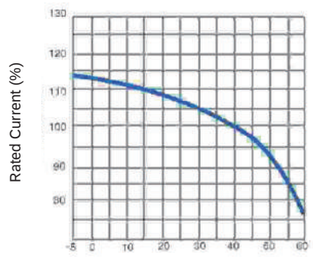
TAX-125 (40–125A)
Time-Current Characteristic Curve



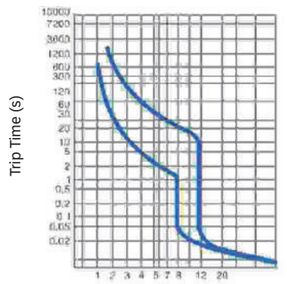
TAX-125 (40–125A)
Temperature Derating Curve



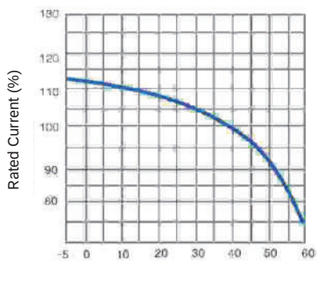
TAX-250 Time-Current Characteristic Curve



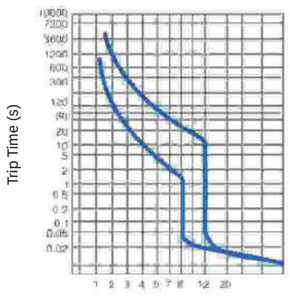
TAX-250 Temperature Derating Curve



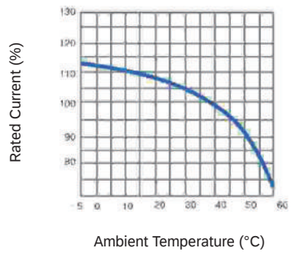
TAX-400
Time-Current Characteristic Curve



TAX-400 Temperature Derating Curve



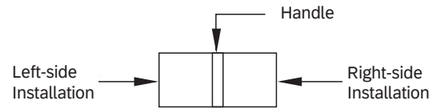
TAX-630/800
Time-Current Characteristic Curve



TAX-630/800 Temperature Derating Curve

Internal Accessories

Electrical accessories inside the circuit breaker.
According to user requirements, accessories can be directly wired out (standard lead length: 50 cm; special requirements to be specified), or connected via terminal blocks.



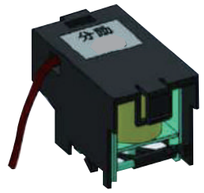
L — Alarm Switch
X — Auxiliary Switch
A — Alarm Auxiliary Switch
S — Shunt Release
U — Undervoltage Release

Code	Accessory Name	Applicable Circuit Breaker Models				
		TAX-125	TAX-250	TAX-400	TAX-630	TAX-800
208 308	Alarm Switch	L	L	L	L	L
210 310	Shunt Release Undervoltage Release	S	S	S	S	S
230 330	Auxiliary Switch	U	U	U	U	U
220 320	Alarm Switch + Shunt Release	X	X	X	X	X
218 318	Auxiliary Switch + Alarm Switch	L S	L S	L S	L S	L S
228 328	Alarm Switch + Undervoltage Release	X L	X L	L X	L X	L X
238 338		U A	U A			
240 340	Shunt Release + Auxiliary Switch	S X	S X	S X	S X	S X
270 370	Undervoltage Release + Auxiliary Switch	U X	U X	U X	U X	U X
248 348	Alarm Auxiliary Switch + Shunt Release	A S	A S	A S	A S	A S
278 378	Alarm Auxiliary Switch + Undervoltage Release	U A	U A			
260 360	Auxiliary Switch (Left) + Auxiliary Switch (Right)	X X	X X	X X	X X	X X
268 368	Alarm Auxiliary Switch + Auxiliary Switch	A X	A X	A X	A X	A X
280 380	Alarm Auxiliary Switch	A	A	A	A	A
288 388	Alarm Auxiliary Switch + Alarm Auxiliary Switch	A A	A A			

The first digit of the code indicates the release type:
2 = Magnetic release,
3 = combined release.The last two digits represent internal accessory codes.Leave blank if no accessory is installed.

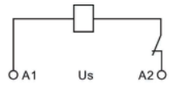
MCCB

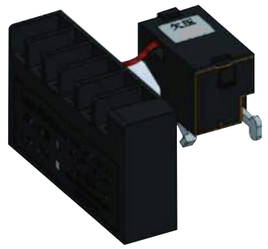
Accessories and Functions (Internal)



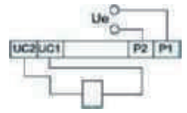
Shunt Release
Enables remote tripping of the circuit breaker.

Note:
When using a DC 24V shunt release, the power supply capacity at the terminals must be ≥ 50W.

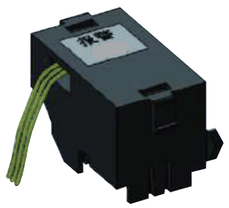




Undervoltage Release
- Trips the breaker when supply voltage drops to 35–70% of rated voltage (Ue).
- Prevents closing when voltage is < 35% Ue.
- Ensures reliable closing when voltage is ≥ 85% Ue.
- Must be energized; otherwise, the breaker cannot be closed.



Auxiliary Switch
- Indicates ON/OFF status of the breaker.
- 1 NO + 1 NC: for Inm 125, 250
- 2 NO + 2 NC: for Inm 400, 630, 800



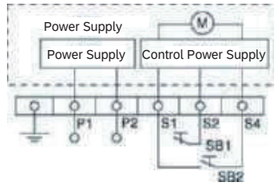
Alarm Switch
- Indicates trip (fault) status of the breaker.
- Remains inactive during normal ON/OFF operation.
- Operates only when the breaker trips (fault condition).
- Automatically resets after the breaker is reclosed.

TECO

CD2 Motor Operating Mechanism

Enables electrical ON/OFF operation of the circuit breaker.

Control Voltage (Us)	AC230V 50Hz	AC400V 50Hz
	DC24V、110V. 220V	
Frame Size (Inm)	125-250	400-800
Starting Power (W)	14	35
Mechanical Life (operations)	20000	10000
Operating Voltage Range: 85%-110% Us		

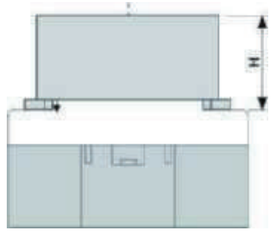


CD2 Motor Operating Mechanism Wiring Diagram

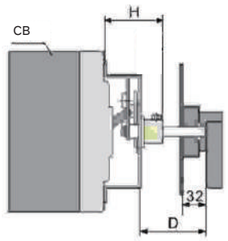
Note:
The dashed-line box indicates the internal accessory wiring of the circuit breaker.

Wiring Notes
P1–P2: External power supply input
SB1, SB2: Operation push buttons (by user)
Terminal X: Connection terminal
Control voltage options: AC 50/60Hz 110V, 230V / DC 24V, 110V, 220V

Frame Size (Inm)	125	250	400	630	800
Height H (mm)	90	92	143	143	147

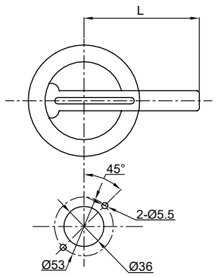


Rotary Handle Mechanism

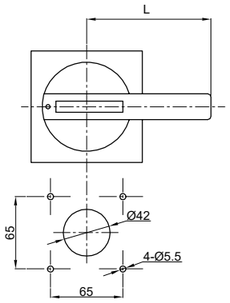


Minimum shaft extension: 50 mm

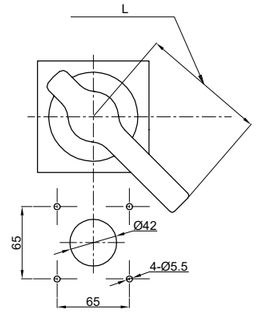
Type A: Round handle



Type B: Square handle



Type C: IP65 handle



Model	125	250	400	630	800
Mounting Height H (mm)	55	56	88	88	87
Handle Length L (Type A/B)	65	65	125		
Handle Length L (Type C)	45		94		

1. Standard shaft length: 150 mm (customizable upon request)
2. Same parameters apply for 3P and 4P breakers