

## MOD 1 - three-pole, four pole

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- 40 A - 100 A
- Adjustable or fixed type
- Standard rated short capability
- Three- and four-pole version
- KEMA, CE

## MOD 2 - three-pole, four-pole

Page 7-2



- 125 A - 250 A
- Adjustable or fixed type
- Standard rated short capability
- Three- and four-pole version
- KEMA, CE

## MOD 3 - three-phase, four-pole

Page 7-2



- 250 A - 400 A
- Adjustable or fixed type
- Middle rated short capability
- Three- and four-pole version
- KEMA, CE

## MOD 4 - three-pole, four-pole

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- 500 A - 630 A
- Adjustable, fixed or electronic type
- Middle rated short capability
- Three- and four-pole version
- KEMA, CE

## MOD 5 - three-phase, four-pole

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- 800 A
- Adjustable or fixed type
- Middle or high rated short capability
- Three-pole version
- KEMA, CE

## MOD 6 - three-pole, four-pole

Page 7-2



- 1000 A - 1250 A
- Fixed or electronic type
- Middle rated short capability
- Three- and four-pole version
- KEMA, CE

MOD SERIES MOLDED CASE CIRCUIT BREAKERS ARE USED FOR SWITCHING AND PROTECTING LOW-VOLTAGE INSTALLATIONS IN LARGE RESIDENTIAL PROPERTIES AND BUSINESS AS WELL AS INDUSTRIAL BUILDINGS. THEY ENSURE RELIABLE PROTECTION AGAINST OVERLOAD AND SHORT CIRCUITS AND THEY CAN BE USED AS A MAIN DISCONNECTION SWITCH, TOO.

# MOLDED CASE CIRCUIT BREAKERS - MOD



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## BENEFITS

- Rated currents range from 40 to 1250 A
- Three- or four-pole versions
- High short-circuit breaking capacity (up to 85 kA)
- Easy adjustable overload and short-circuit release
- Micro-processor release (e-version)
- Compact mechanical design
- They can be installed vertically or horizontally
- Many additional accessories

## ISOLATING FUNCTION

## STANDARDS

- IEC 60947-2
- IEC 60947-5-1

## ORDERING DATA

Moulded case circuit breakers 40 A to 1250 A .....	page 7-3
Accessories .....	page 7-6
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Dimensions .....	page 7-11

# MOLDED CASE CIRCUIT BREAKERS - MOD

## MOD 1 - Three-pole, adjustable type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 3NL 40	40	3	786.103.493	1.2	1
MOD1 3NL 50	50	3	786.103.494	1.2	1
MOD1 3NL 63	63	3	786.103.495	1.2	1
MOD1 3NL 80	80	3	786.103.496	1.2	1
MOD1 3NL 100	100	3	786.103.497	1.2	1



## MOD 1 - Three-pole, fixed type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 3FL 40	40	3	786.103.539	1.2	1
MOD1 3FL 50	50	3	786.103.540	1.2	1
MOD1 3FL 63	63	3	786.103.541	1.2	1
MOD1 3FL 80	80	3	786.103.566	1.2	1
MOD1 3FL 100	100	3	786.103.520	1.2	1

## MOD 1 - Four-pole, adjustable type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 4NL 63	63	4	786.103.588	1.2	1

## MOD 1 - Four-pole, fixed type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 4FL 100	100	4	786.103.525	1.2	1

## MOD 2 - Three-pole, adjustable type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD2 3NL 125	125	3	786.103.498	1.8	1
MOD2 3NL 160	160	3	786.103.499	1.8	1
MOD2 3NL 200	200	3	786.103.500	1.8	1
MOD2 3NL 250	250	3	786.103.501	1.8	1



## MOD 2 - Three-pole, fixed type

Standard rated short capability

Type	Rated current $I_n$ (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD2 3FL 125	125	3	786.103.521	1.8	1
MOD2 3FL 160	160	3	786.103.522	1.8	1
MOD2 3FL 200	200	3	786.103.523	1.8	1
MOD2 3FL 250	250	3	786.103.524	1.8	1

# MOLDED CASE CIRCUIT BREAKERS - MOD

## MOD 2 - Four-pole, fixed type

Standard rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD2 4FL 125	125	4	786.103.526	1.2	1
MOD2 4FL 160	160	4	786.103.527	1.2	1
MOD2 4FL 200	200	4	786.103.528	1.2	1
MOD2 4FL 250	250	4	786.103.529	1.2	1

## MOD 3 - Three-pole, adjustable type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD3 3NM 250	250	3	786.103.517	5.1	1
MOD3 3NM 315	315	3	786.103.502	5.1	1
MOD3 3NM 400	400	3	786.103.503	5.1	1

## MOD 3 - Three-pole, fixed type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD3 3FM 250	250	3	786.103.517	5.1	1
MOD3 3FM 315	315	3	786.103.615	5.1	1
MOD3 3FM 350	350	3	786.103.767	5.1	1
MOD3 3FM 400	400	3	786.103.616	5.1	1

## MOD 3 - Four-pole, adjustable type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD3 4NM 250	250	4	786.103.517	5.1	1
MOD3 4NM 315	315	4	786.103.537	5.1	1
MOD3 4NM 400	400	4	786.103.631	5.1	1

## MOD 4 - Three-pole, adjustable type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD4 3NM 500	500	3	786.103.504	6.9	1
MOD4 3NM 630	630	3	786.103.505	6.9	1

## MOD 4 - Three-pole, fixed type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD4 3FM 500	500	3	786.103.635	6.9	1
MOD4 3FM 630	630	3	786.103.636	6.9	1



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ORDERING DATA

# MOLDED CASE CIRCUIT BREAKERS - MOD

## MOD 4 - Three-pole, electronic type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD4 3EM 630	630	3	786.103.765	6.9	1
MOD4 3EM 800	800	3	786.103.766	6.9	1

## MOD 4 - Four-pole, adjustable type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD4 4NM 500	500	4	786.103.536	6.9	1
MOD4 4NM 630	630	4	786.103.646	6.9	1

## MOD 5 - Three-pole, adjustable type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD5 3NM 800	800	3	786.103.507	8.0	1

## MOD 5 - Three-pole, adjustable type

High rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD5 3NH 800	800	3	786.103.535	8.0	1

## MOD 5 - Three-pole, fixed type

High rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD5 3FH 800	800	3	786.103.650	8.0	1

## MOD 6 - Three-pole, fixed type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD6 3FM 1000	1000	3	786.103.650	15.8	1
MOD6 3FM 1250	1250	3	786.103.650	15.8	1

## MOD 6 - Three-pole, electronic type

Middle rated short capability

Type	Rated current I <sub>n</sub> (A)	Number of poles	Ordering No.	Weight (kg)	Packaging (pcs)
MOD6 3EM 1000	1000	3	786.103.542	15.8	1
MOD6 3EM 1250	1250	3	786.103.543	15.8	1

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ORDERING DATA

# MOLDED CASE CIRCUIT BREAKERS - ACCESSORIES

## MOD

### Electric motor mechanism

Type	Rated voltage $U_n$ (V)	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 3N ACM	230	786.103.549	1.2	1
MOD2 3N ACM	230	786.103.530	1.2	1
MOD3 3N ACM	230	786.103.550	3.4	1
MOD4 3N ACM	230	786.103.531	3.4	1
MOD5 3N ACM	230	786.103.532	3.8	1



### Extended rotary handle

Type	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 3N ERH	786.103.544	0.3	1
MOD2 3N ERH	786.103.545	0.3	1
MOD3 3N ERH	786.103.546	0.3	1
MOD4 3N ERH	786.103.547	0.3	1
MOD5 3N ERH	786.103.548	0.3	1



### Tripper (Shunt relay)

Type	Rated voltage $U_n$ (V)	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 A230 SHT	230	786.103.508	0.032	1
MOD2 A230 SHT	230	786.103.509	0.108	1
MOD3 A230 SHT	230	786.103.510	0.175	1
MOD4 A230 SHT	230	786.103.552	0.250	1
MOD5 A230 SHT	230	786.103.553	0.250	1



### Undervoltage relay

Type	Rated voltage $U_n$ (V)	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 U230 QT38	230	786.103.511	0.075	1
MOD2 U230 QT38	230	786.103.512	0.172	1
MOD3 U230 QT38	230	786.103.513	0.250	1
MOD4 U230 QT38	230	786.103.556	0.250	1
MOD5 U230 QT38	230	786.103.557	0.250	1



### Alarm contacts

Type	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 AL11	786.103.558	0.06	1
MOD2 AL11	786.103.559	0.06	1
MOD3 AL11	786.103.560	0.06	1
MOD4 AL11	786.103.561	0.06	1
MOD5 AL11	786.103.562	0.06	1



### Auxiliary contacts

Type	Ordering No.	Weight (kg)	Packaging (pcs)
MOD1 PS11 OF	786.103.514	0.06	1
MOD2 PS11 OF	786.103.506	0.06	1
MOD3 PS11 OF	786.103.515	0.12	1
MOD4 PS11 OF	786.103.554	0.12	1
MOD5 PS11 OF	786.103.555	0.12	1



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ORDERING DATA

# MOLDED CASE CIRCUIT BREAKERS - MOD

Type	Symbol	Unit	MOD 1	MOD 2	MOD 3	MOD 4	MOD 5	MOD 6						
Size			up to 100 A	up to 250 A	up to 400 A	500 A, 630 A	800 A	1000 A, 1250 A						
Standard			IEC 60947-2, IEC 60947-5-1											
Approvals			KEMA, CE											
Rated current (at 40 °C)	$I_n$	A	40, 50, 63, 80, 100	125, 160, 200, 250	250, 315, 400	630	800	1000, 1250						
Number of poles			3 and 4											
Rated operational voltage	$U_e$	V	415											
Rated insulation voltage	$U_i$	V	800											
Rated impulse withstand voltage	$U_{imp}$	kV	8											
Pollution degree			III											
Rated frequency	f	Hz	50/60											
Altitude		m	<2000											
Breaking capacity level *			L	M	L	M	M	H	M	H	M	H	M	H
Rated ultimate short-circuit breaking capacity	$I_{cu}$	kA	36	50	36	50	65	85	65	85	65	85	65	85
400 V			6	20	6	20	20	20	20	20	20	20	20	30
Rated ultimate short-circuit breaking capacity	$I_{cs}$	kA	36	36	36	36	50	50	50	50	50	50	50	50
400 V			6	10	6	10	10	15	10	15	10	15	10	20
Storage temperature		°C	-40 ... +70											
Mechanical durability		op. c.	$20 \times 10^3$	$20 \times 10^3$	$15 \times 10^3$	$15 \times 10^3$	$15 \times 10^3$	$15 \times 10^3$	$15 \times 10^3$	$10 \times 10^3$	$10 \times 10^3$	$10 \times 10^3$	$10 \times 10^3$	
Electrical durability		op. c.	$8 \times 10^3$	$8 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$7 \times 10^3$	$5 \times 10^3$	
Instantaneous tripping $0.8-1.0 \times I_n$	F						fixed							
	N						adjustable							
	E						electronic							
Screws			M8	M8	M10	M12								
Head			M8	M8	M10	M12								
Width of cooper connection		mm	16	22	24	35								

## ACCESSORIES

### ELECTRIC MOTOR MECHANISM

Motor operators MOD ACM

Type		MOD 1	MOD 2	MOD 3	MOD 4	MOD 5
Rated operating voltage	220-240 V AC	•	•	•	•	•
Operation current/ Starting current - Peak value (A)	220-240 V AC	0.17/1.05	0.23/1.5	0.33/2.09	0.47/2.15	0.44/2.32
Operation method		Direct drive				
Operation time (s)	ON	0.31	0.36	0.63	0.56	0.62
	OFF	0.27	0.25	0.51	0.45	0.51
	Reset	0.27	0.25	0.51	0.45	0.51

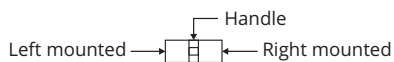
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TECHNICAL DATA

# MOLDED CASE CIRCUIT BREAKERS - ACCESSORIES

## MOD

### Accessory installation position and wiring direction



- - Alarm contact
- - Auxiliary contact
- - Shunt release
- - Under voltage release
- ← - Wiring direction

Accessory type	MOD 1 - 100	MOD 2 - 250	MOD 3 - 400	MOD 4 - 630	MOD 5 - 800	MOD 6 - 1250
Alarm contact						
Shunt release						
Auxiliary contact						
Under voltage release						
Auxiliary contact, Shunt release						
Shunt release, Under voltage release						
Two group auxiliary contact						
Auxiliary contact, Under voltage release						
Shunt release, Alarm contact						
Auxiliary contact, Alarm contact						
Under voltage release, Alarm contact						
Shunt release, Auxiliary contact, Alarm contact						
Two group auxiliary contact, Alarm contact						
Auxiliary contact, Under voltage release, Alarm contact						



# MOLDED CASE CIRCUIT BREAKERS - ACCESSORIES

## MOD

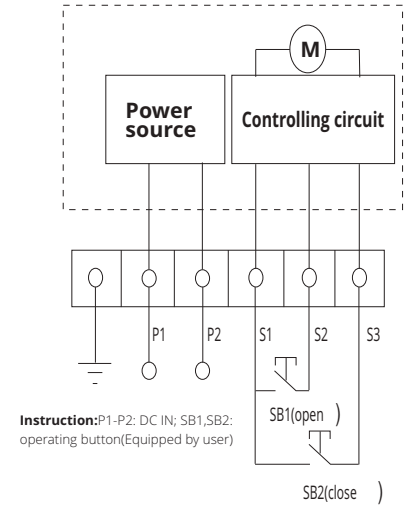
### ELECTRIC OPERATING SYSTEM



- Remote operation of MCCBs
- Motor mounts directly on MCCB with screws (included) without removal of midcover
- Manual operation possible
- Clear ON/OFF/TRIP indication
- Trip function

Rated voltages: AC: 230 V, 400 V  
DC: 24 V, 100 V, 220 V

### Wiring diagram



NOTES: in the dotted box is the circuit breaker inner wiring diagram.

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### EXTENDED ROTARY HANDLE



- Rotary handle mounts directly on MCCB with screws (included) without removal of midcover
- Clear ON/OFF/TRIP indication
- Direct access to push to trip button with rotary handle mounted

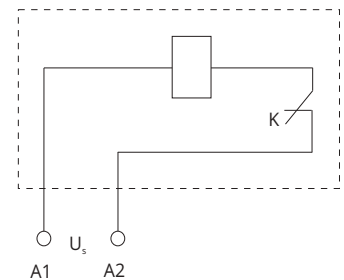
### SHUNT RELEASE



Rated supply voltages  $U_s$ : AC: 230 V, 400 V  
DC: 24 V, 100 V, 220 V

Operation voltages: 0.7 - 1.1  $U_s$

### Wiring diagram



NOTES: K-the microswitch in series with coil in the shunt release is the normally closed contact, when circuit breaker opening the contact disconnect automatically, switch on when closing; in the dotted box is the circuit breaker inner wiring diagram.

TECHNICAL DATA

# MOLDED CASE CIRCUIT BREAKERS - ACCESSORIES

MOD

## UNDER VOLTAGE RELEASE

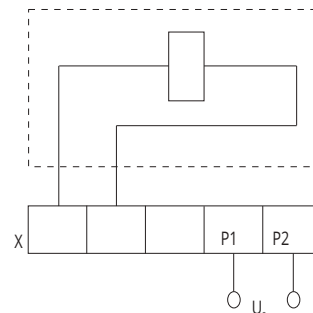


Rated supply voltages  $U_n$ : AC: 230 V, 400 V

Operation voltages:

When the voltage is 35%-70% of rated operational voltage, make the circuit breaker tripped stably; When 85%-110%, guarantee the circuit breaker switched on, when lower than 35% should prevent switch on.

## Wiring diagram



NOTES: X-terminal blocks in the dotted box is the circuit breaker inner wiring diagram.

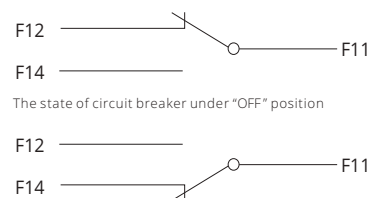
## AUXILIARY CONTACT



Conventional thermal current  $I_{th}$ : 3 A / 230 V

Rated operational current  $I_e$ :  $I_n \leq 225 \text{ A}: 0.26 \text{ A}$   
 $I_n \geq 400 \text{ A}: 0.3 \text{ A}$

## Wiring diagram



The state of circuit breaker under "ON" position

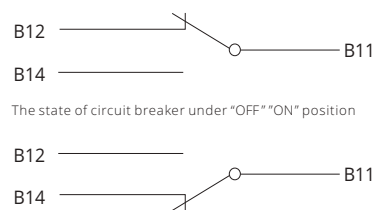
## ALARM CONTACT



Conventional thermal current  $I_{th}$ : 3 A / 230 V

Rated operational current  $I_e$ :  $I_n \leq 225 \text{ A}: 0.26 \text{ A}$   
 $I_n \geq 400 \text{ A}: 0.3 \text{ A}$

## Wiring diagram



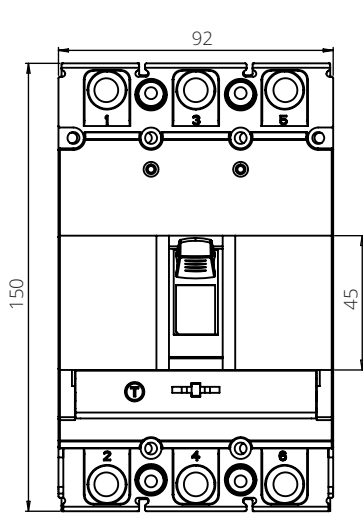
The state of circuit breaker under trip free position(alarm)

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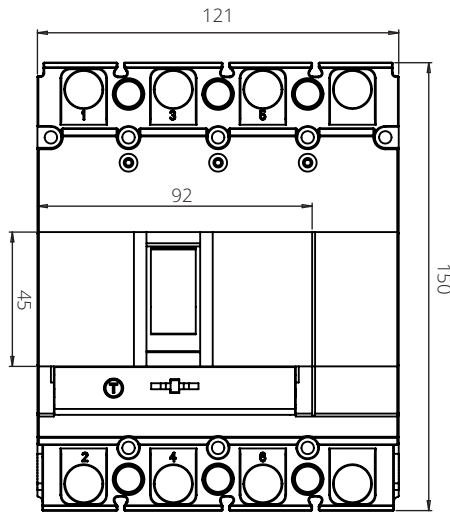
TECHNICAL DATA

# MOLDED CASE CIRCUIT BREAKERS - MOD

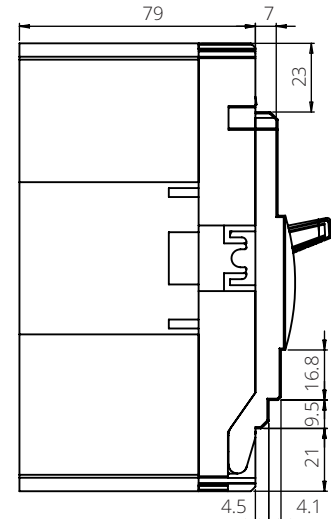
## MOD1 : 100 A



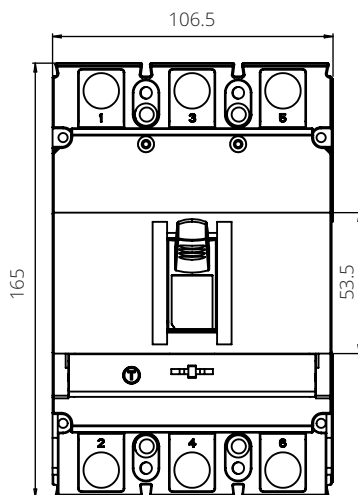
3-pole



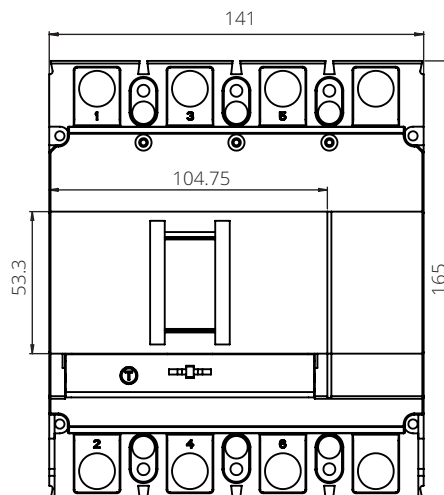
4-pole



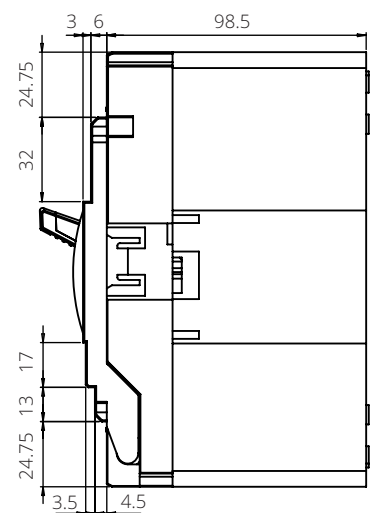
## MOD2: 250 A



3-pole

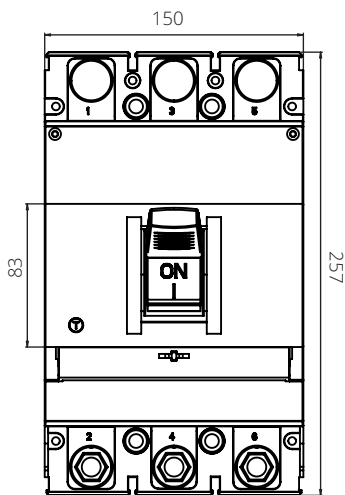


4-pole

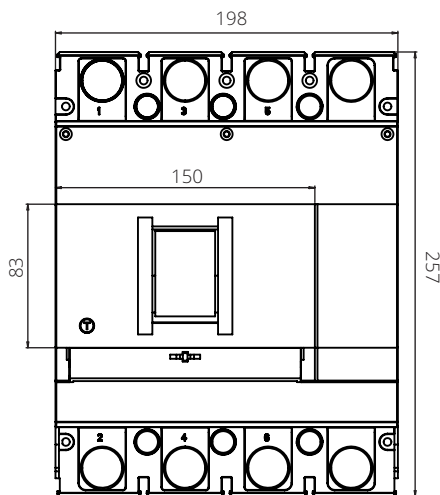


# MOLDED CASE CIRCUIT BREAKERS - MOD

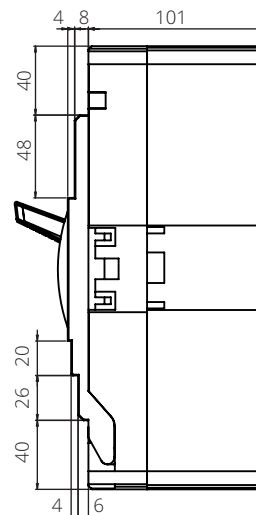
## MOD3 : 400 A



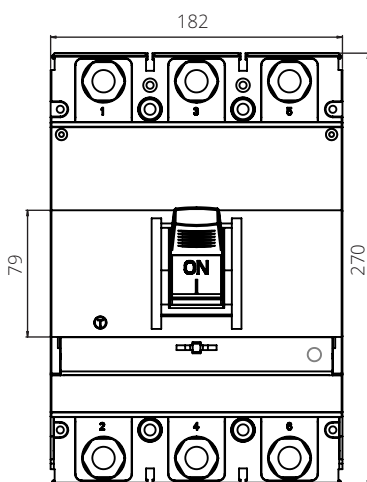
3-pole



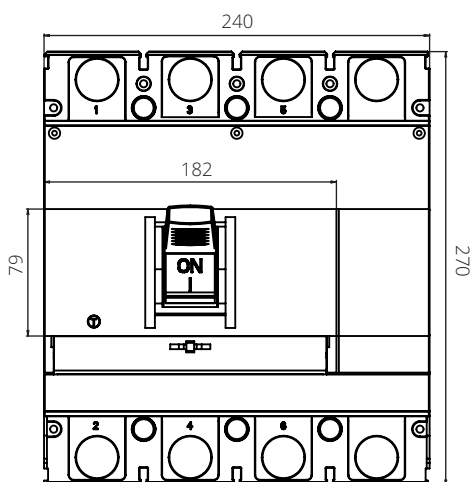
4-pole



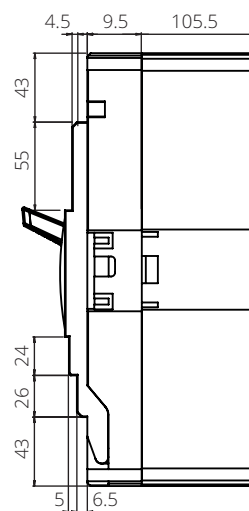
## MOD4: 630 A



3-pole

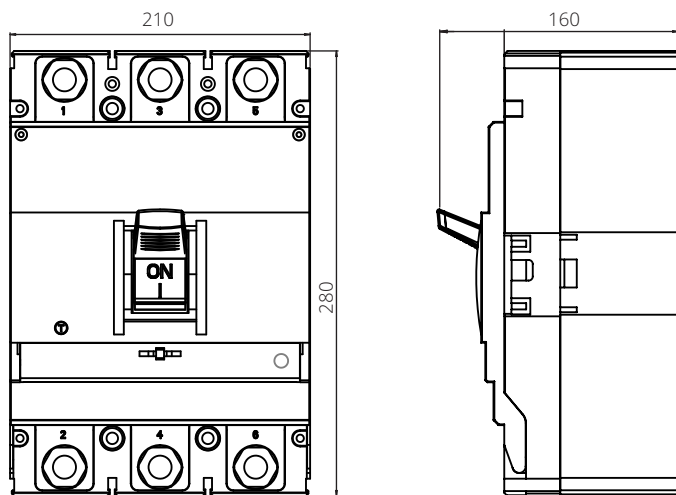


4-pole



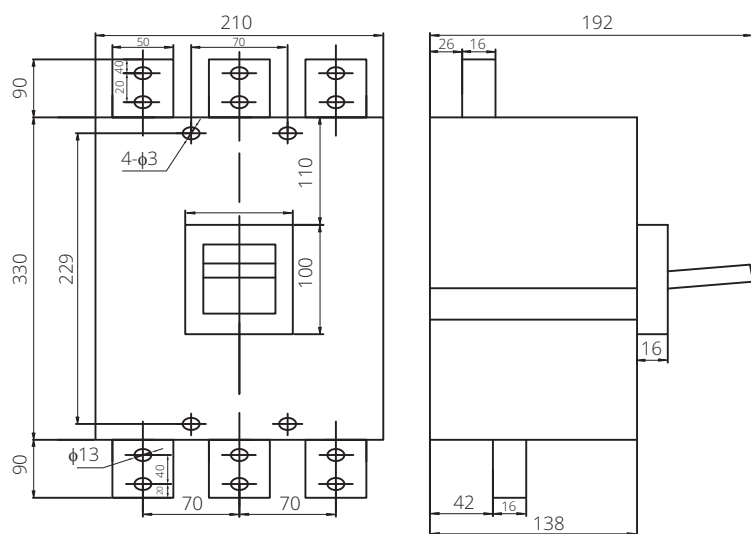
# MOLDED CASE CIRCUIT BREAKERS - MOD

## MOD5 : 800 A



3-pole

## MOD6: 1250 A

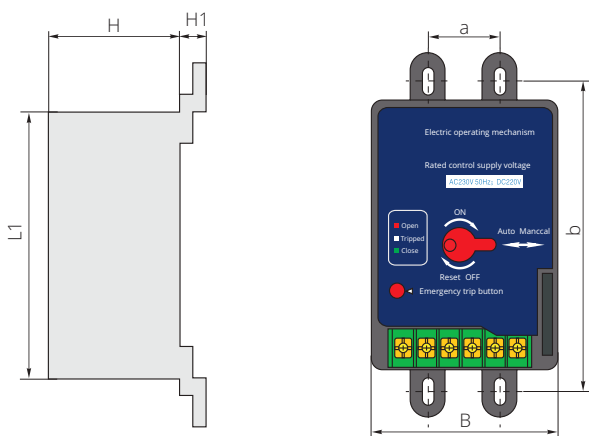


3-pole

# MOLDED CASE CIRCUIT BREAKERS - ACCESSORIES

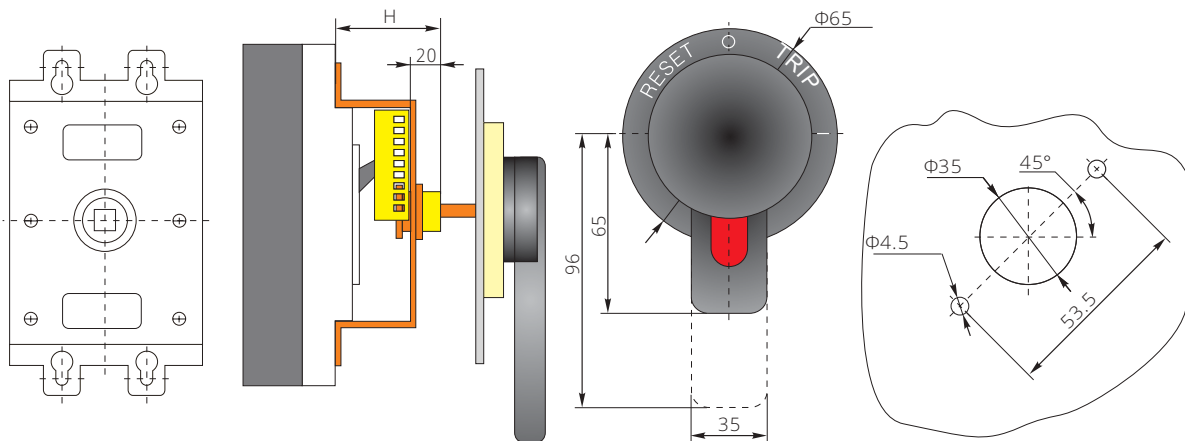
## MOD

### ELECTRIC OPERATING SYSTEM



	Shape size (mm)				Installation size (mm)	
	L1	B	H	H1	a	b
<b>MOD1-100</b>	116	90	77	12.5	30	129
<b>MOD2-225</b>	116	90	77	15	35	126
<b>MOD3-400</b>	176	130	115	27	44	215
<b>MOD4-630</b>	176	130	115	31	70	243
<b>MOD5-800</b>	176	130	115	31	70	243

### EXTENDED ROTARY HANDLE



Type	MOD1-100	MOD2-225	MOD3-400	MOD4-630	MOD5-800
Installation size H (mm)	49	55	74	66	66