



DELIXI
ELECTRIC

CDM6Li Residual current operated circuit breaker

User Manual



Standard: GB/T 14048.2 IEC 60947-2

☐ Please read this User Manual carefully before installing and using the device and keep it properly for future reference.

Safety Notice

Make sure to read this manual carefully before installation, operation, maintenance and inspection, and correctly install and use this product according to the manual.

Danger:

- Do not operate the breaker with wet hands;
- Never touch the conductive parts in use;
- Make sure that the product is de-energized during maintenance and care;
- Do not test the product by means of short circuit;

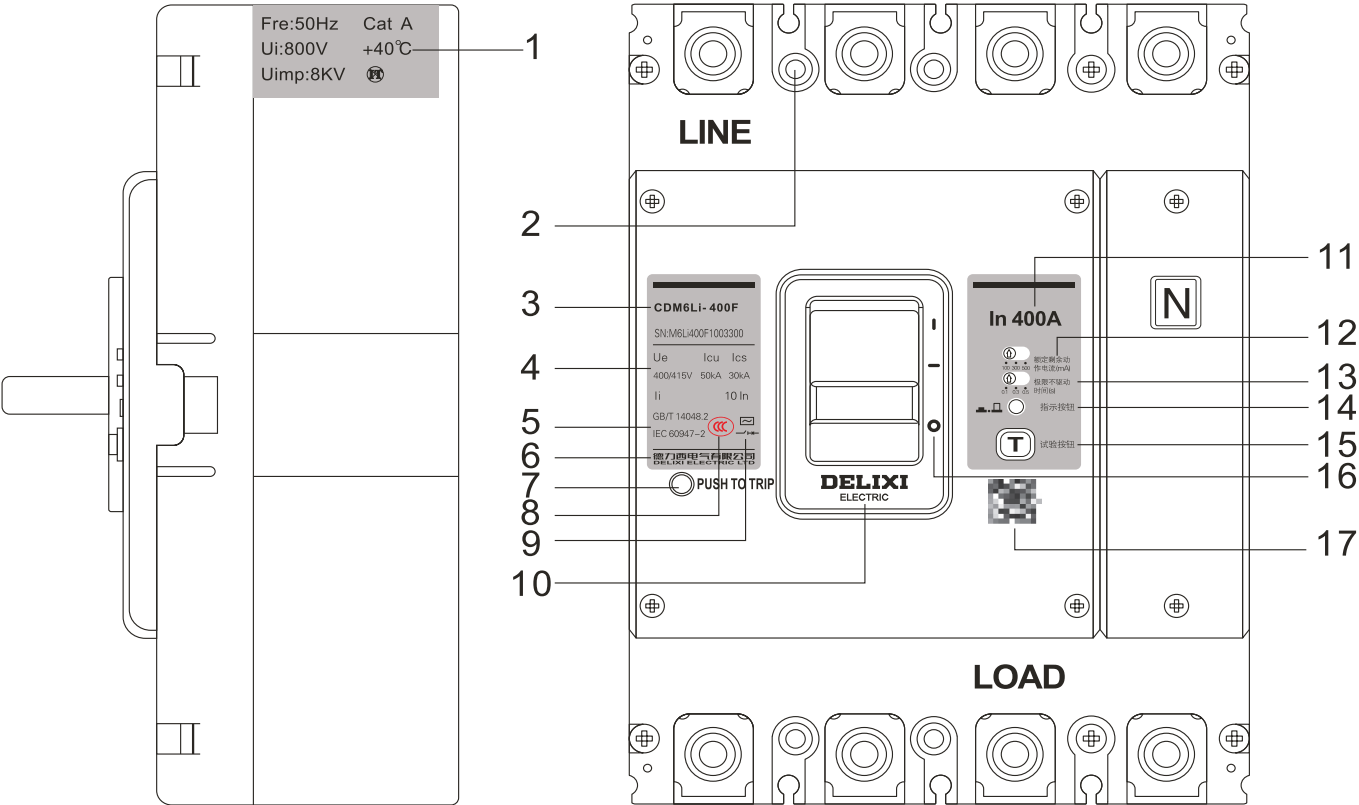
Attention:

- Installation, maintenance, and upkeep should be carried out by personnel with professional qualifications
- The various characteristics of the product have been set before leaving the factory and cannot be adjusted arbitrarily during use
- Please confirm whether the working voltage, rated current, frequency, and characteristics of the product meet the working requirements before use
- To prevent phase to phase short circuits, insulation treatment should be carried out on exposed wires or copper busbars at the terminal. It is strictly prohibited to test the product using phase to ground short circuits or phase to neutral short circuits, otherwise it will seriously affect the product performance
- To test insulation resistance or power frequency withstand voltage, the electronic components between the current circuits must be disconnected first, otherwise the product performance will be damaged
- This product cannot provide leakage protection due to insufficient or incorrect wiring
- If you need to purchase accessories, please choose the matching accessories provided by our company to ensure quality. Our company is not responsible for any adverse consequences caused by users using non company accessories
- If there is damage or abnormal noise when the product is unpacked, it should be immediately stopped and the supplier should be contacted.
- When using plug-in wiring for CDM6L i-250 shell frame products, if the rated current is above 200 A, the capacitance needs to be reduced to 200A for use
- When using plug-in wiring for CDM6Li-400 shell products, the rated current is above 315A and needs to be reduced to 315A for use
- This series of products is only suitable for three-phase power supply and cannot be used as a bipolar product.
- When the product is scrapped, please handle the product waste properly. Thank you for your cooperation.

Understand CDM6Li

Packing list

	Ordered products	Arc separation plate	terminal screw	Installing screw	instructions
quantity	1 set	3 poles 4 pcs	3 poles 6 pcs	3 poles 4 pcs	1 volume
		4 poles 6 pcs	4 poles 8 pcs	4 poles 4 pcs	



1	Technical Parameter	7	Trip button	13	Ultimate no driving time
2	Mounting Hole	8	Certification	14	Leakage indicator button
3	Product model	9	Circuit breaker with isolation function	15	Leakage test button
4	Breaking capacity	10	Manufacturer's trademark	16	Close、trip、open
5	Standard	11	rated current	17	QR code
6	Manufacturer's name	12	Rated residual operating current		

Product use environment and conditions

- This product has a protection level of IP20
 - This product has a pollution level of 3
 - Rated working voltage 400/415V
 - When the normal working temperature range is -5℃ C~+40℃, the average temperature within 24 hours cannot exceed +35℃. If the range is exceeded, please contact the manufacturer
 - The elevation of the installation site shall not exceed 2000m. If it exceeds 2000m, please reduce the capacity and use it
- The relative humidity of the atmosphere does not exceed 50% at the highest ambient temperature of +40℃, and there is a higher relative humidity at lower temperatures, such as 90% at +20℃, taking into account the condensation that occurs on the surface of the product due to temperature changes.

Model explanation								
M6Li	12	C	125	A	3	10	0	
CDM6Li	Frame current	breaking capacity	rated current	poles	tripping method	Product accessory	Protection type	
	12:125A 16:160A 25:250A 40:400A 63:630A	C: 20KA L: 35KA (125 shell frame -250 shell frame) L: 50KA (400 shell frame -630 shell frame) M: 50KA (125 shell frame -250 shell frame) M: 70KA (400 shell frame -630 shell frame)	016:16A — 630:630A	3:3 poles A:4 poles A Type B:4 poles B Type	2:magnetic release 3:Thermal magnetic release	00: No accessory 08: Alarm 10: Shunt 18 Shunt +Alarm 20: Auxiliary 28: Auxiliary alarm 40: Shunt +Auxiliary 48: Shunt +Auxiliary alarm 60: Two sets of auxiliary	0: Distribution protection 2: Motor protection	
default		default	B	A		default	0	
operating mode		Leakage alarm module	Internal accessory voltage		Residual current		Installation method	delay time
No code: Handle operation P: Electric operating mechanism Z: Rotation manual operation		No code: No this module I: Leakage alarm action module U: Leakage alarm no action module	No code: MX AC400V A: MX AC230V B: MX DC24V C MX DC110V D: MX DC220V		A:30/100/300mA(AC Type) B:100/300/500mA(AC Type) C:300/500/1000mA(AC Type) D:30/100/300mA(A Type) E:100/300/500mA(A Type)		No code: Fixed front F: Fixed rear P: Plug-in front R: Plug-in rear	0: No delay type 1:0.1/0.20.3s 2:0.4/0.5/1s 3:0.1/0.3/0.5s

Remark:

1.630 shell frame without flip design

2. Shunt/auxiliary/alarm contacts are divided into two types: terminals and leads

3. Wiring method standard configuration: fixed board front wiring

4. Standard configuration for conventional products: phase partition, installation screws (without wiring copper bar

5. Electrical operation mechanism: If the customer does not require it, CD2 AC electric operation will be provided; Rotating manual operation: If the customer does not require it, H1 circular manual operation will be provided

Accessory

CDM6Li-125 Direct round manual operation

CDM6Li	125	H1
	Frame current	accessory sell alone
	125A 160A 250A 400A	AL1: Alarm release (with lead) AL2: Alarm release (with terminal) MX1: Shunt release (with lead) MX2: Shunt release (with terminal) OF11K1B: Auxiliary contact 1K1B (with lead) OF21K1B: Auxiliary contact 1K1B (with terminal) OF12K2B: Auxiliary contact 2K2B (with lead) OF22K2B: Auxiliary contact 2K2B (with terminal) C3: 3P expansion terminal C4: 4P expansion terminal H1: Direct round handle H2: Direct square handle HL1: Round extended rotating handle HL2: Square extended rotating handle CD2: AC/DC universal electric operating mechanism IB: Phase partition

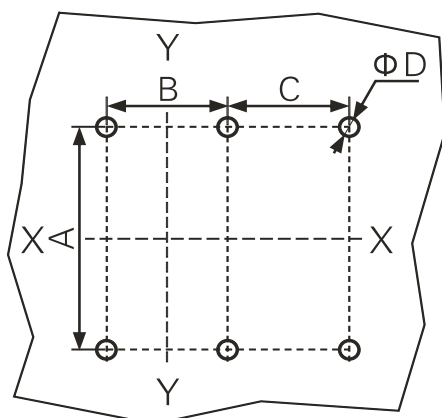
Note

- 1: Expansion terminal, also known as accessory board or wiring copper bar
2. AL/MX/OF has two types of split terminal and lead wire
3. 630 shell frame does not have single selling accessories
4. MX shunt voltage types: DC24, DC110V (customized), DC220V (customized) AC230V, AC400V

Install CDM6Li

First step installation

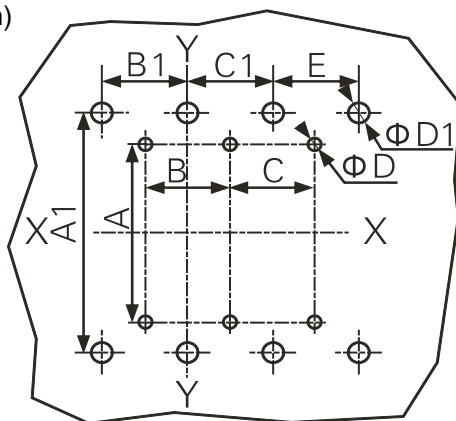
Fixed Front Installation Hole Drawing (mm)



Note: X-X, Y-Y refer to the center of the three-pole circuit breaker

Frame current	poles	A	B	C	D
125	3	129	30	/	5.0
	4	129	30	30	5.0
160/250	3	126	35	/	5.5
	4	126	35	35	5.5
400	3	215	44	/	6.5
	4	215	44	/	6.5
630	3	243	70	/	7.5
	4	243	70	70	7.5

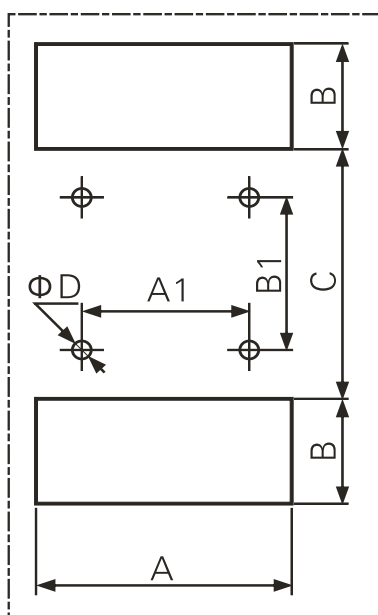
Fixed Rear Installation Hole Drawing (mm)



Note: X-X, Y-Y refer to the center of the three-pole circuit breaker

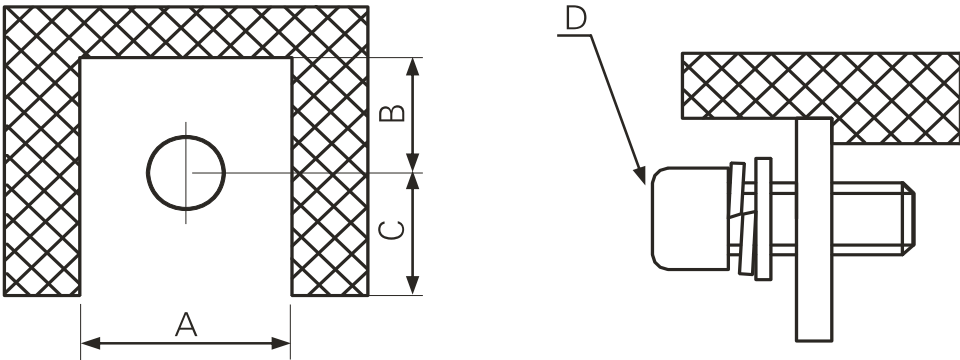
Frame current	poles	A	B	C	ΦD	A1	B1	C1	E	ΦD1
125	3	129	30	--	5.0	132	30	30	--	12
	4	129	30	30	5.0	132	30	30	30	12
160/250	3	126	35	--	5.5	145	35	35	--	15
	4	126	35	35	5.5	145	35	35	35	15
400	3	215	44	--	6.5	225	48	48	--	32
	4	215	44	--	6.5	225	48	48	48	32
630	3	243	70	--	7.5	243	70	70	--	40
	4	243	70	70	7.5	243	70	70	70	40

Plug-in Front/Rear Installation Hole Drawing (mm)



Shell current		poles	A	A1	B	B1	C	D
Plug-in Front	125	3	/	30	/	110	/	5
		4						
	160/250	3	/	35	/	150	/	5
		4						
Plug-in Rear	125	3	94	60	40	67	90	5.5
		4	124	90				
	160/250	3	110	70	45	74	100	6.5
		4	145	105				
	400	3	157	88	60	145	170	8.5
		4	205	132				
	630	3	212	140	62	143	185	11
		4	282	210				

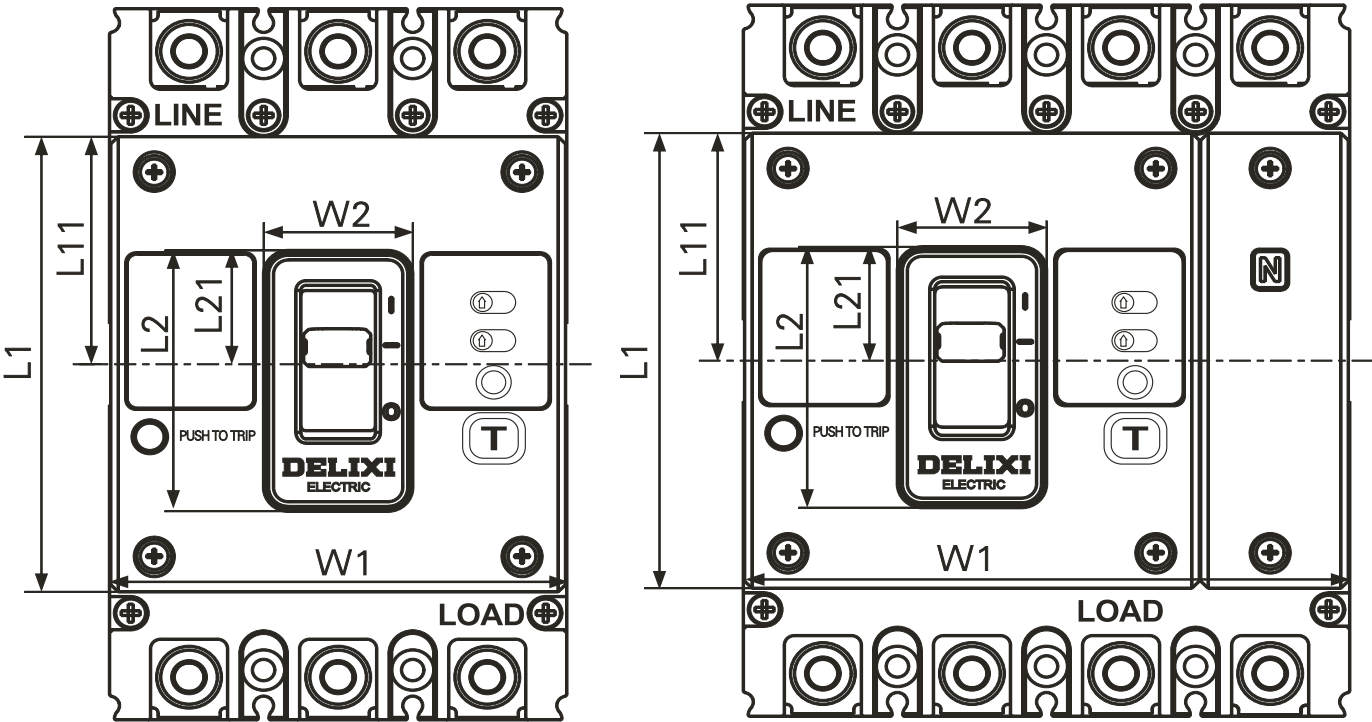
Terminal plate installation hole diagram (mm)



Note:
1. The following models of circuit breakers are compatible with the DIN46235 wiring nose.
2. In case of exceeding the wiring capacity in the table below, you can purchase extension terminal accessories from our company.

Frame current	Maximum wiring capacity of DIN46235 wiring nose	A	B	C	D
125	25mm ²	18	7.5	9	M8 × 16
160/250	70mm ²	25	12.5	9.5	M8 × 20
400	120mm ²	32	14	16	M10 × 25
630	—	44.5	12	16	M12 × 30

CDM6Li-125A~630A fixed and plug-in circuit breaker panel opening size (mm)

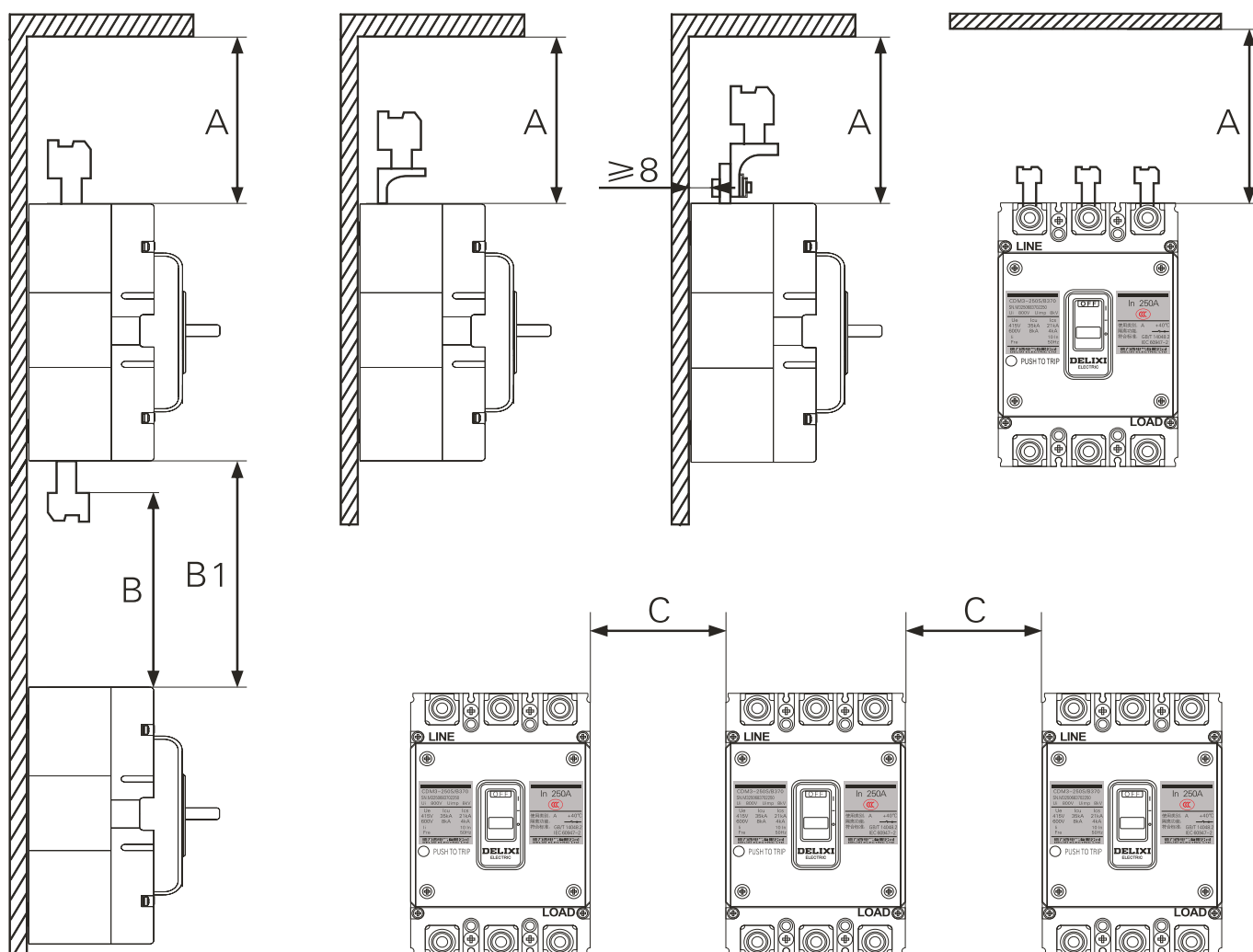


CDM6Li-125A~630A 3P

CDM6Li-125A~630A 4P

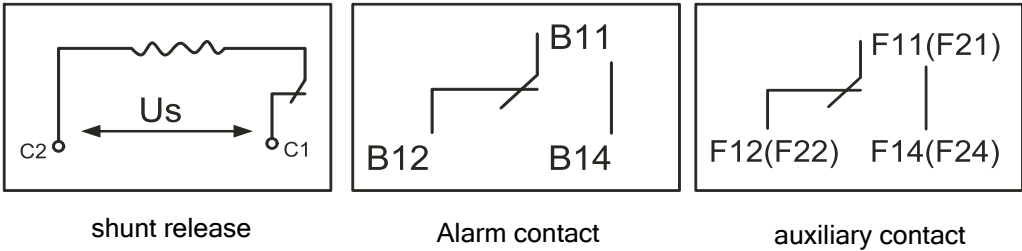
Frame current	poles	Expose the front cover and toggle handle			Expose only the toggle handle		
		W1	L1	L11	W2	L2	L21
125	3P	92	96	48	30	55	24
	4P	122	96	48	30	55	24
160/250	3P	107	102	51	26	54	27
	4P	142	102	51	26	54	27
400	3P	150	150	75	52.5	75.5	41
	4P	198	150	75	52.5	75.5	41
630	3P	210	103	42.5	63	90.7	37.2
	4P	280	103	42.5	63	90.7	37.2

Safe spacing (mm)



Frame current	A(mm)	B(mm)	B1(mm)	C(mm)
125	60	60	Bare wire conductor length+B	30
160/250	60	60	Bare wire conductor length+B	30
400	110	110	Bare wire conductor length+B	70
630	110	110	Bare wire conductor length+B	70

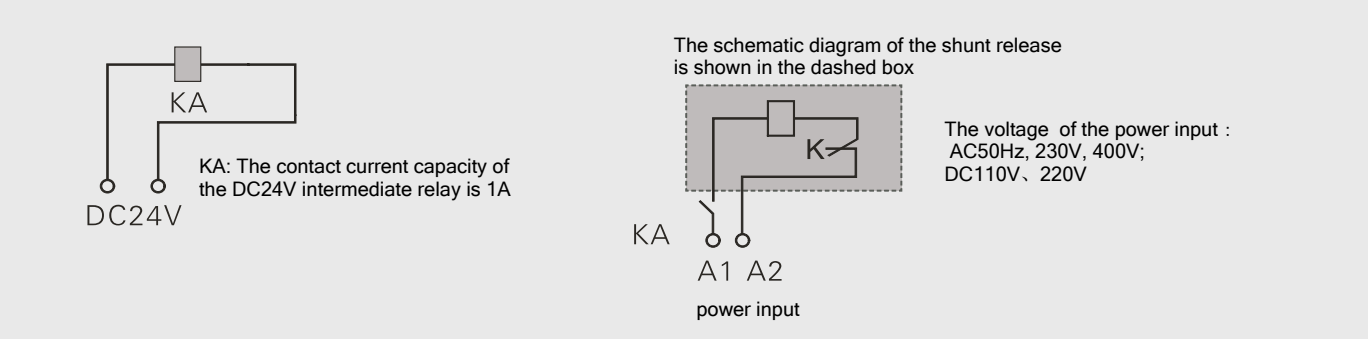
Accessory wiring diagram



When the rated control power supply voltage of the shunt release is DC24V, the maximum length of the copper wire shall not exceed the requirements in the following table

Rated control power supply voltage U_s (DC24V)	Cross section	
	1.5mm ²	2.5mm ²
100% U_s	150m	250m
85% U_s	100m	160m

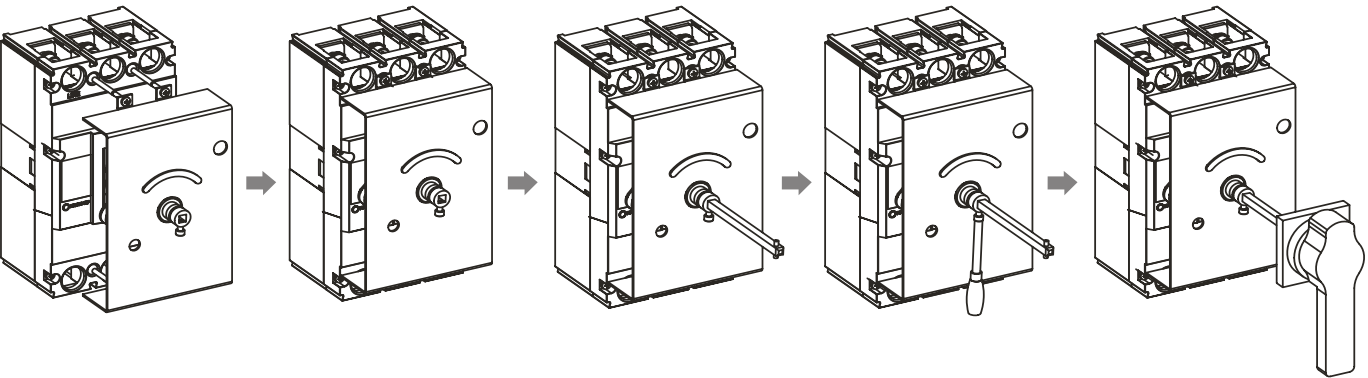
If the requirements in the above table are not met, it is recommended to use the following diagram for the design of the shunt release control circuit



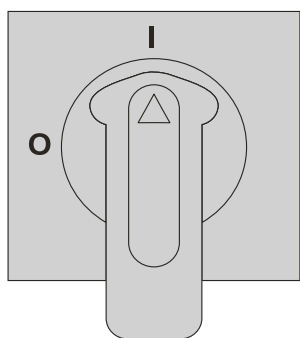
! The continuous power-on time of the shunt release should not exceed 5 seconds, otherwise it will burn out. When using the rated power control voltage DC24 V, the rated current of the control circuit should reach 4.5A~5.5A

Accessory Installation Drawing

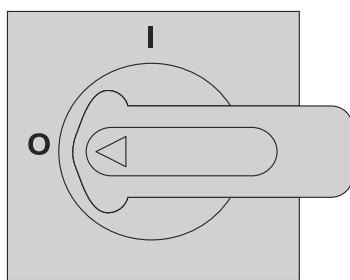
Manual operation



The extended rotating handle can clearly indicate the status of the circuit breaker

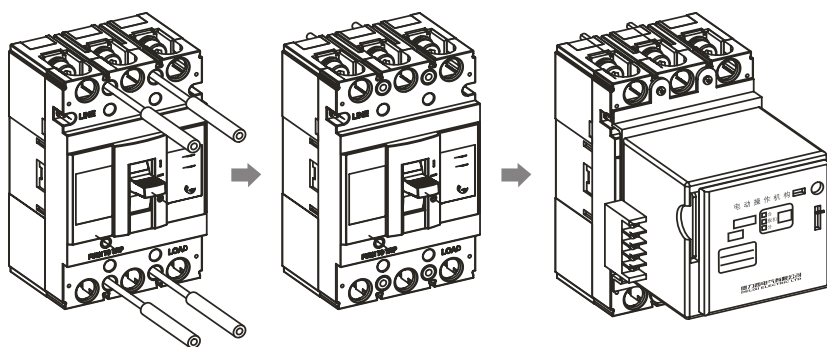


Close position



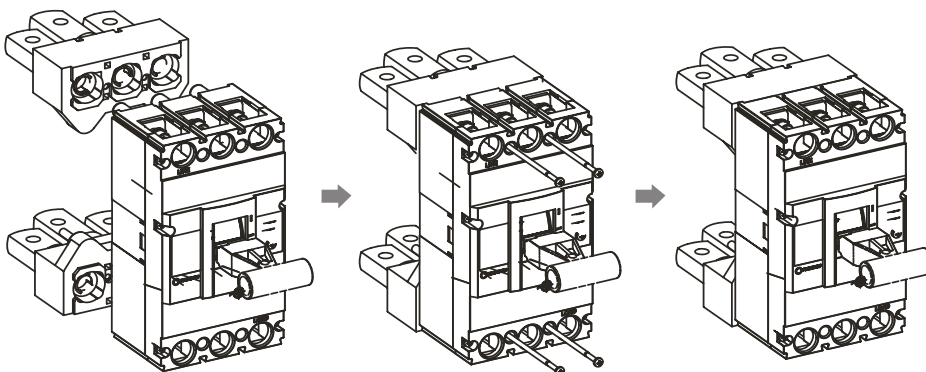
Open position

Electric operation



⚠ After the circuit breaker of the electric operating mechanism trips, the electrical operating mechanism must first open before close

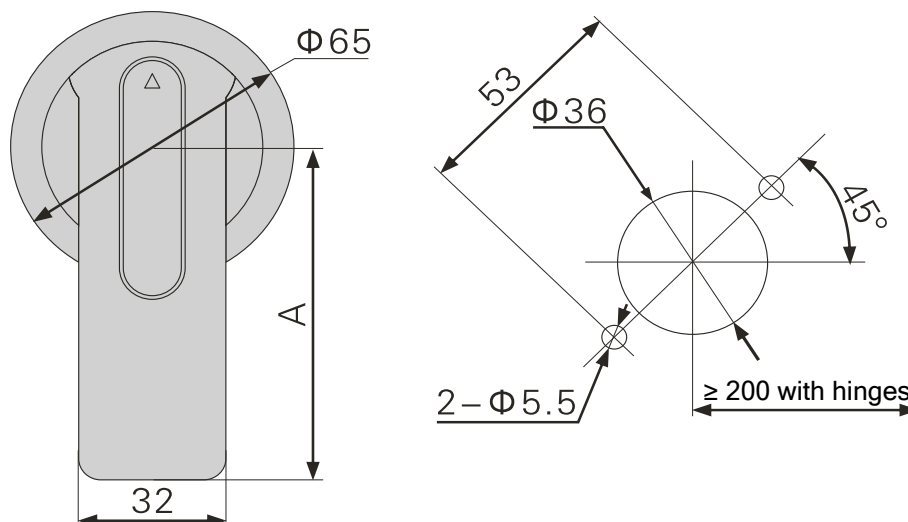
Plug-in



Accessory size

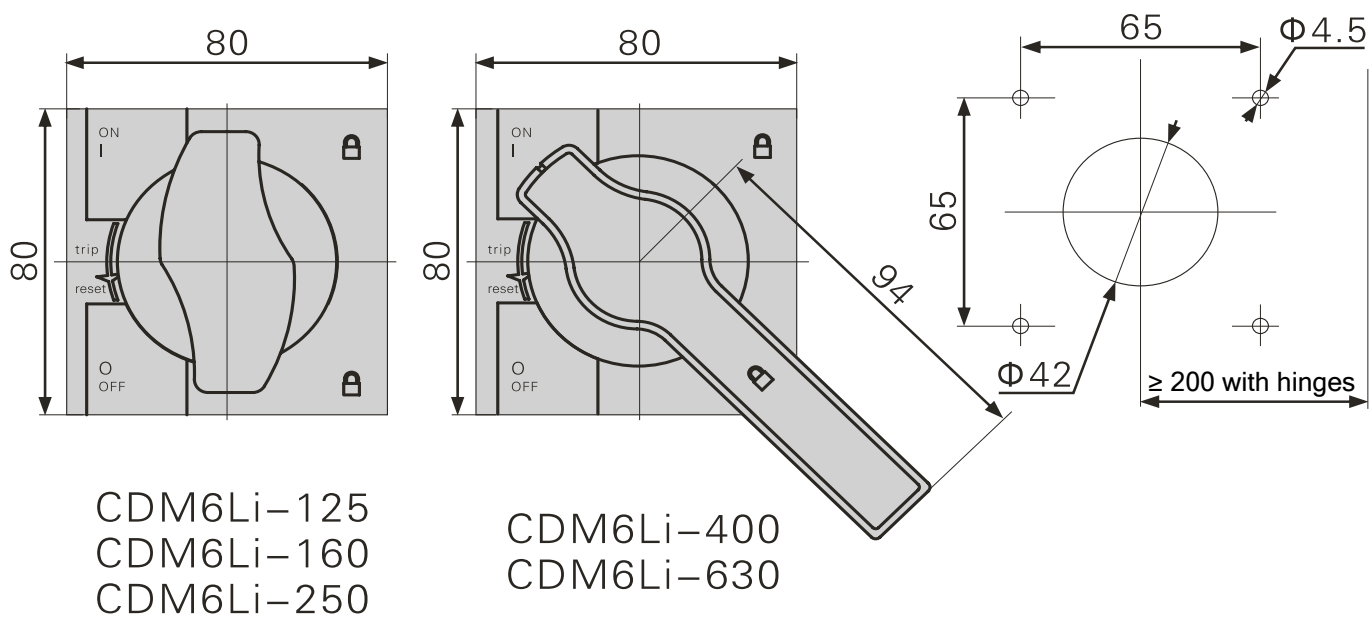
● CDM6Li-125~630A extended rotating handle (mm)

Round

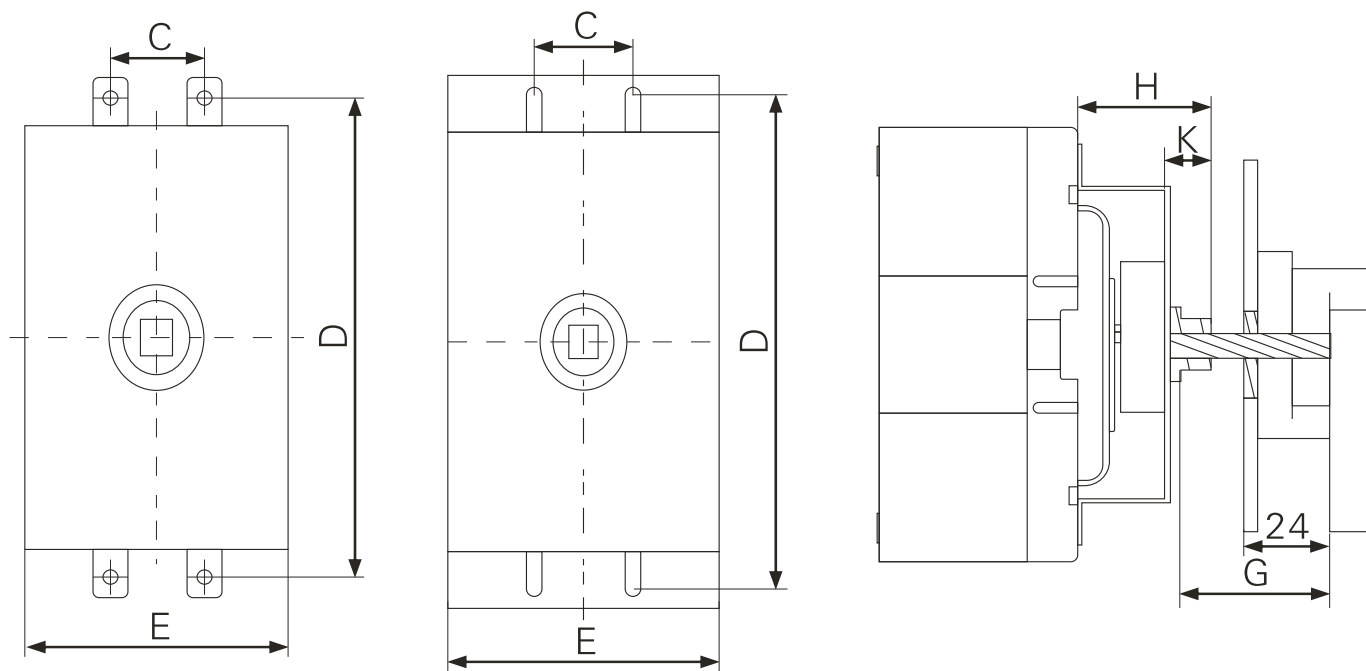


CDM6Li-125~250A size is 65 or 95 optional, default 65
CDM6Li-400~630A size is 95 or 125 optional, default 95

Square



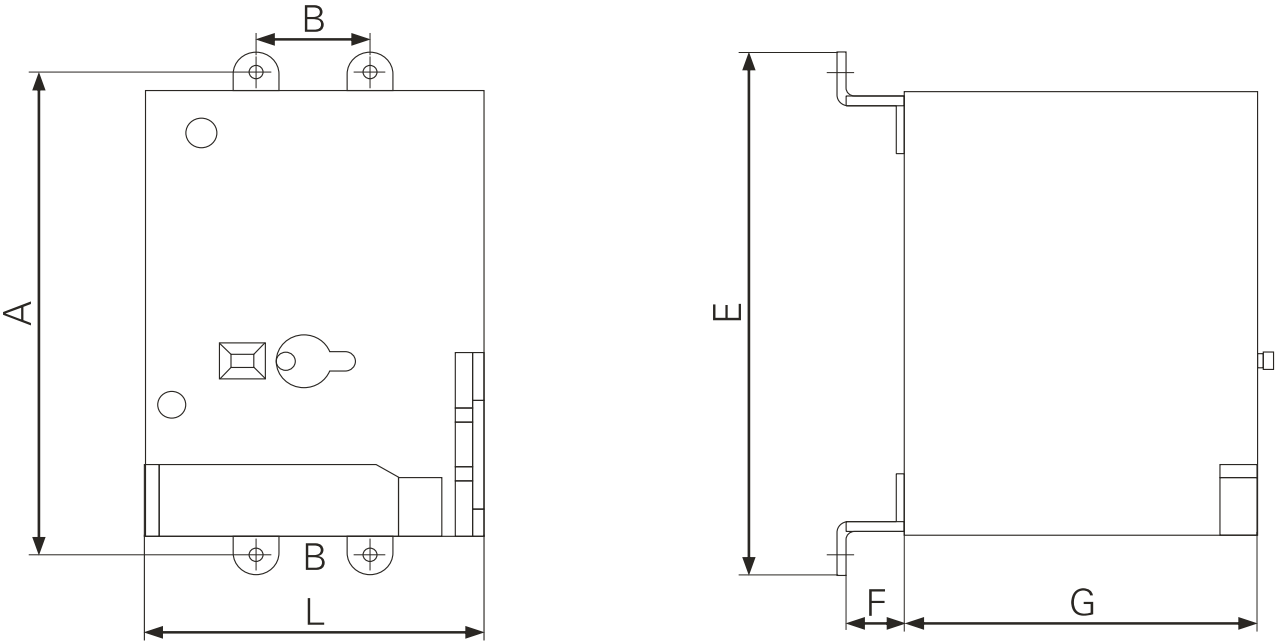
CDM6Li-125~630 Extension Rotating Handle Base Plate Dimensions (mm)



Note: The factory standard configuration of the connecting rod at G is 150mm. If you need special customization, please contact the factory.

Frame Current	C	D	E	H	K
125	30	129	92	57	20
160/250	35	143	100	54	20
400	44	215	150	78	20
630	70	243	--	76	20

Electric operation installation diagram (mm)



Frame current	A	B	E	F	G	L
125	129	30	140	14	77	90.5
160/250	126	35	140	17	77	90.5
400	215	44	232	32	115	130
630	243	70	—	16	112	150

Step 1: Tighten the installation screws

Step 2: Connect the incoming line at the Line end and the outgoing line at the Load end of the circuit breaker, and then tighten the installation screws.

Step 3: Install the arc isolation plate

Note: For the wiring method, please refer to the electrical operation side wiring diagram

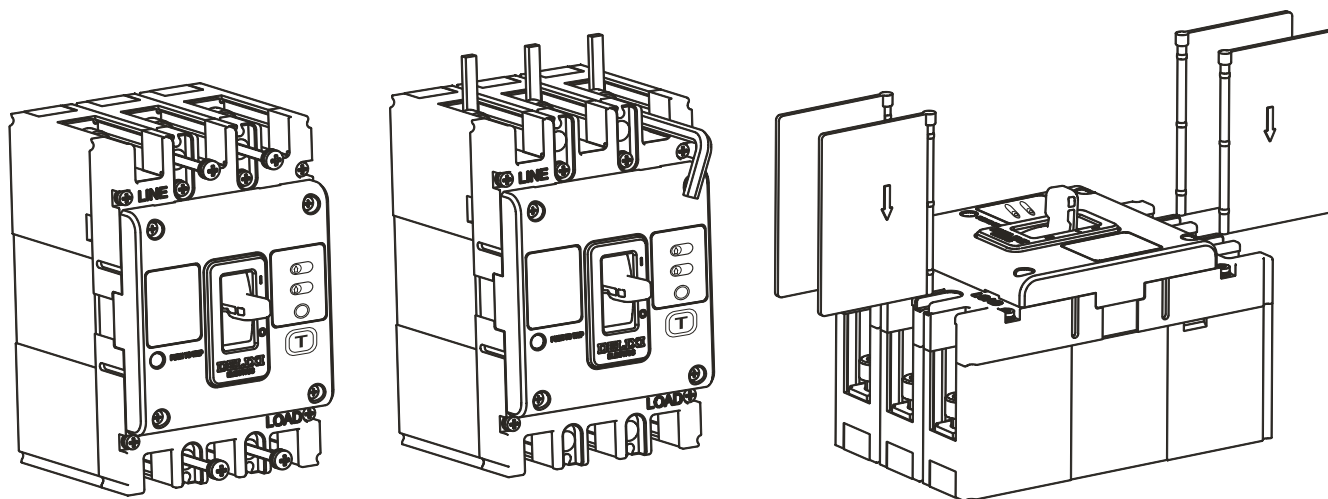


The N-phase of a quadrupole product has a 50% phase line area and can only be connected to 50%;

Not wiring according to standard wires can lead to misoperation or refusal to operate;

The product must be equipped with a phase to phase partition to prevent short circuits between phases.

When wiring the product, reverse wiring is prohibited. 'LINE' refers to the incoming terminal (power supply terminal), and 'LOAD' refers to the outgoing terminal (load terminal)



Attached torque table and connecting wire table

Frame current	Hexagon	Torque force N.m
125	M8	9.5 ~ 10.5
160/250	M8	9.5 ~ 10.5
400	M10	19.5 ~ 20.5
630	M12	29.5 ~ 30.5

Connecting wire (mm²)

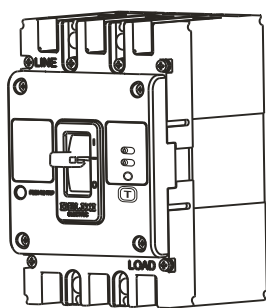
Rated current A	16 20	25	32	40 50	63	80	100	125 140	160	180 200 225	250	315 350	400
Wire cross-section mm ²	3	4	6	10	16	25	35	50	70	95	120	185	240

Rated current A	quantity	Copper wire or insulated copper wire	Copper busbar
		cross-section mm ²	size:mmXmm
500	2	150	30 × 5
630	2	185	40 × 5

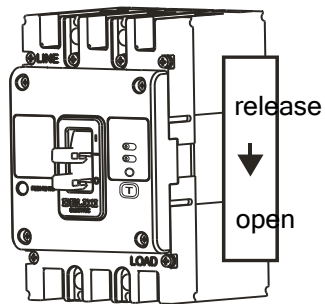
Operating and debugging CDM6Li

Step 1: Check the status of the circuit breaker handle.

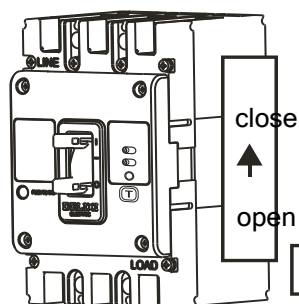
- (1) When the circuit breaker leaves the factory, the handle is in the "tripped" position.
- (2) Operate the handle to the "opened" position for re tripping.
- (3) Close the circuit breaker to the closed position.
- (4) Press the tripping button, and the circuit breaker handle should return to the "tripped" position.
- (5) The leakage test button needs to be pressed once a month to verify whether the leakage function of the product is ineffective



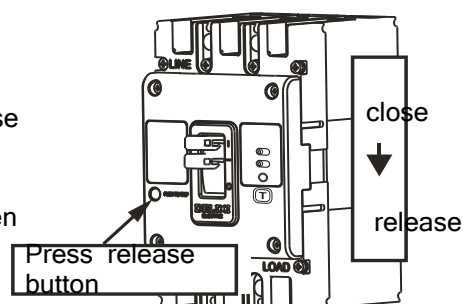
(1)



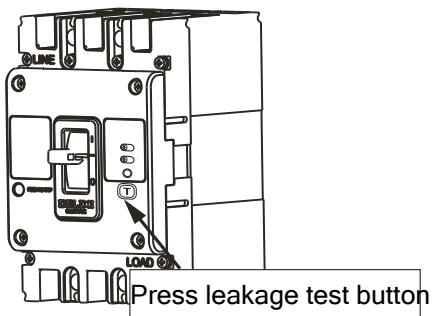
(2)



(3)

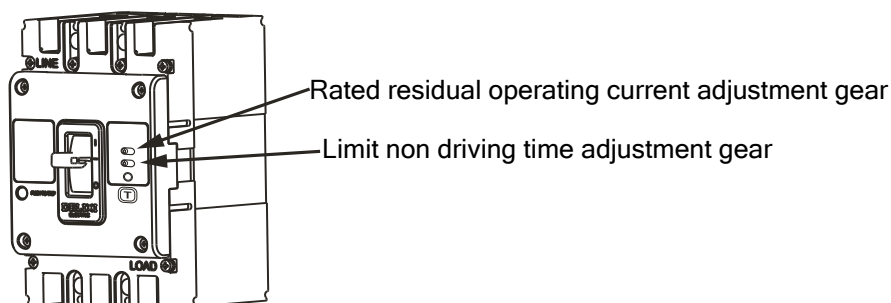


(4)

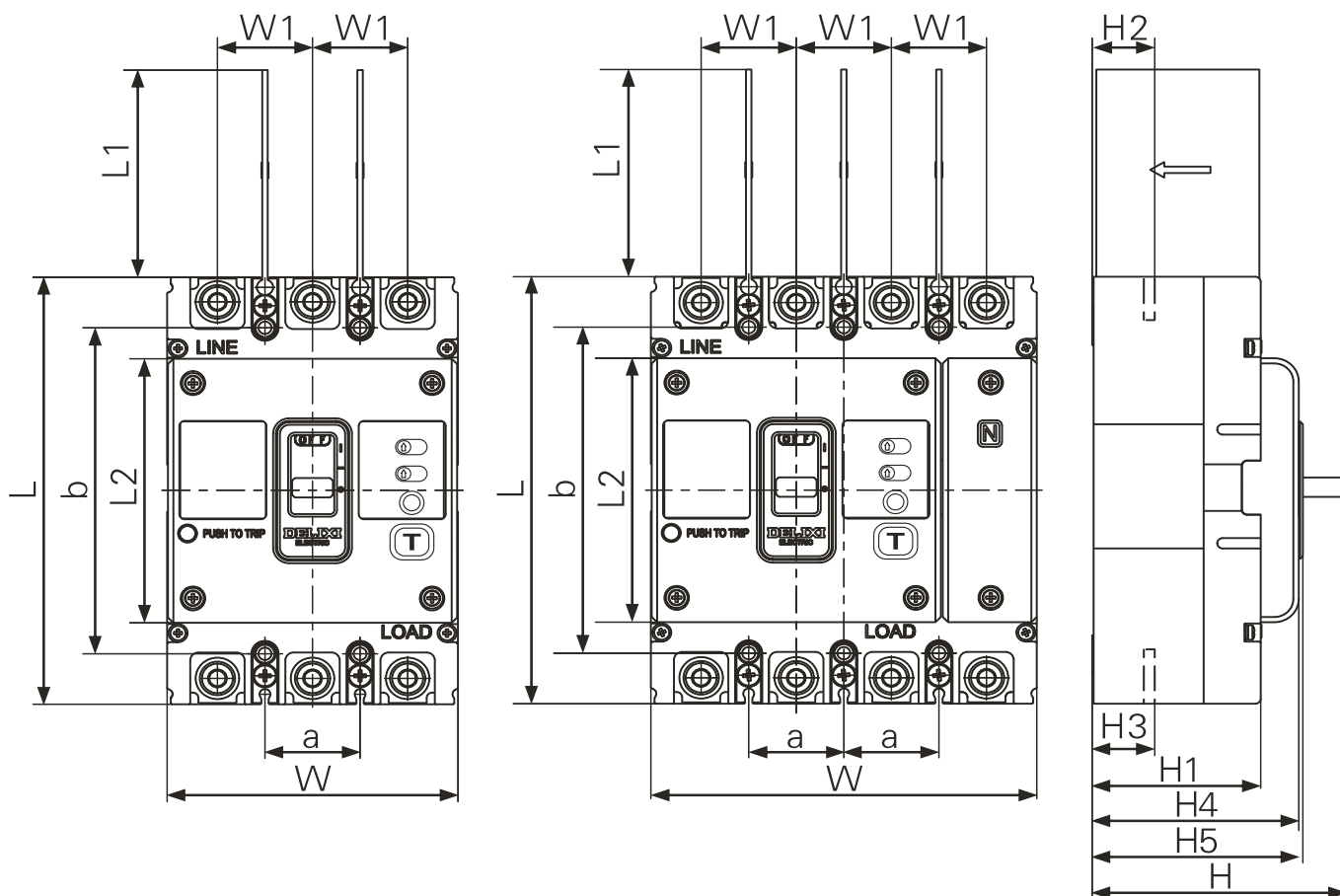


(5)

Step 2: Select the correct gear for rated residual operating current and maximum non driving time



CDM6Li series appearance and installation dimensions



frame current	poles	Size											installation Size	
		L	L1	L2	W	W1	H	H1	H2	H3	H4	H5	a	b
125	3P	150	50	96	92	30	111.5	81	28.5	28	93.5	95.5	30	129
	4P				122									
160/250	3P	165	80	102	107	35	112.5	80	23	23	94	95.5	35	126
	4P				142									
400	3P	257	104.5	150	150	48	145.9	96.2	36	36/36.5	107.5	112.5	44	215
	4P				198									
630	3P	280	100	103	210	70	152	108	32.5	35.5	111	119	70	243
	4P				280									

Maintenance

- During maintenance and upkeep, it must be operated by personnel with professional qualifications.
- The superior power supply must be cut off to ensure that the incoming line is not live (except for the leakage test button test items).
- Under normal operating conditions, maintenance and upkeep should be carried out once a year. The maintenance content is as follows

Type	project	content
Leakage molded case circuit breaker	appearance	No dust or condensation, clean if necessary
		No damage
		The color of the shell and connecting terminals should not change color
	Arc plate	Insert the arc baffle in place according to the instructions in the diagram
	connecting terminals	Tighten according to the torque table without loosening
	connection handle	The operation should be flexible
	Tripping button	After the product is tripped, the handle indicates that it is in the tripped position
	Insulation test	Conduct testing according to the product testing requirements on the homepage
	Test with leakage test button	Press the leakage test button once a month, and the circuit breaker should be able to open and close normally. The test button should not be pressed for too long. If the product does not open, do not repeatedly press it. You need to contact your local dealer for assistance.
Circuit breaker with accessories	Equipped with shunt release	The release is connected to the rated voltage, the circuit breaker should be reliably disconnected, and the handle should indicate the release position
	Equipped with auxiliary contacts	The switching signals of the opening and closing circuit breakers and auxiliary contacts should be normal
	Equipped with alarm contacts	Close and release the circuit breaker (press the release button), and the alarm contact conversion signal should be normal

Company commitment

If the product is damaged or cannot be used normally due to manufacturing quality issues within 36 months from the production date, provided that the user complies with the usage and storage conditions and the product seal is intact, our company is responsible for free repair or replacement. If it exceeds the warranty period, it needs to be repaired for a fee. However, if damage is caused by the following circumstances, paid repairs will be made even during the warranty period

- (1) Due to improper use, maintenance, or storage
- (2) Self modification and improper maintenance
- (3) Due to falling or damage during installation after purchase
- (4) For force majeure such as earthquakes, fires, lightning strikes, abnormal voltages, and secondary disasters, if you have any questions, please contact the dealer or our company's customer service department. Customer service hotline: 400-826-8008



合格证

德力西电气有限公司
DELIXI ELECTRIC LTD

名 称: 剩余电流动作断路器

型 号: CDM6Li系列

本产品经检验合格准予出厂。

执行标准: GB/T 14048.2

检 验 员: 检 01

出厂日期: 见内盒标签

德力西电气有限公司
DELIXI ELECTRIC LTD

浙江省乐清市柳市镇德力西高科技工业园区 邮编: 325604

电话:(86-577)6177 8888

传真:(86-577)6177 8000

客服热线:400-826-8008

www.delixi-electric.com

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