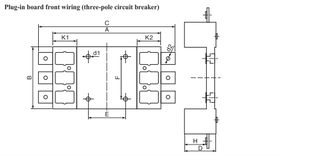
- **Plug-in board front wiring (three-pole circuit breaker)**

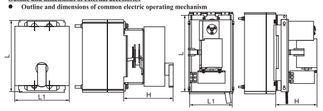


Product model	Outline mounting dimensions										
	A	B	C	D	E	F	H	K1	K2	d1	d2
CDM1-63	139	78	171	43	61	50	19	干	干	4.5	Φ5.5
CDM1-125	172	96	217	50	60	66	13	38	38	7	Φ8
CDM1-250	183	110	261	51.5	64	70	45	44	44	7	Φ8
CDM1-400	282	144	360	80	145	88	21	47	47	8.5	Φ11
CDM1-630	300	182	408	84	123	100	21	65	65	8.5	Φ12
CDM1-800	305	210	409	87	144	90	13	62	62	11	Φ12

Note: The plug-in board rear wiring of CDM1-125 is derated to 100A, and of CDM1-250 is derated to 225A.

Outline and dimensions of external accessories

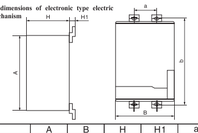
- **Outline and dimensions of common electric operating mechanism**



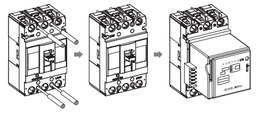
CDM1－63、125、250　　CDM1－400、630、800、1250

Product model	Outline dimensions		
	L	L1	H
CDM1-63	116	92	95
CDM1-125	118	90	103.5
CDM1-250	156	105	101
CDM1-400	254	141	132
CDM1-630	254	140.5	129
CDM1-800	226	132	122
CDM1-1250	354	208	158

- **Outline and dimensions of electronic type electric operating mechanism**

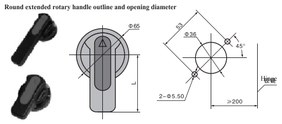


Model	A	B	H	H1	a	b
CDM1-63	102	74	79	11.5	25	117
CDM1-125	116	90	77	12.5	30	129
CDM1-250	116	90	77	15	35	126
CDM1-400	176	130	115	27	44	215
CDM1-630	176	130	115	28	58	200
CDM1-800	176	130	115	31	70	243

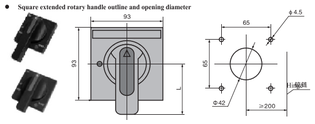


⚠ After the circuit breaker with the electric operating mechanism trips, open the electric operating mechanism, and then close it.

- **Round extended rotary handle outline and opening diameter**

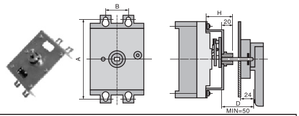


- **Square extended rotary handle outline and opening diameter**



Size L:　CDM1－63, 125; 65 or 95 is optional; the default is 65.
CDM1－250; 65 or 95 is optional; the default is 95.
CDM1－400, 630, 800、95 or 125 is optional; the default is 125.

- **Central extended rotary handle outline and opening diameter**



Outline and installation dimensions of the central rotary handle operating mechanism			
型号 Model	A	B	H
CDM1-63	100	25	51
CDM1-125	103	30	52
CDM1-250	143	35	56
CDM1-400	215	129.5	88
CDM1-630	199.5	171.5	88
CDM1-800	243	198	88

At size "20"：CDM1－15mm for 63, 125 and 250 types
CDM1－22mm for 400, 630 and 800 types

Commissioning and operation of CDM1 moulded case circuit breaker

- **Before installing the circuit breaker:**

(1) Check that the technical parameters listed on the nameplate meet the use requirements;
(2) Check that the handle is at the "Trip" position;
(3) With opened and closed three times, the action shall be reliable without any blocking, and the handle shall be turned to the "OFF" position.

- **When installing the circuit breaker:**

(1) The ends marked with"1"、"3"、"5", and "N" of the circuit breaker are as power end, and the ends marked with "2"、"4"、"6" and "N" are load ends to prevent reverse installation.

(2) It is recommended that the cross-sectional area of the connected copper lead or the copper bar specification shall match with the rated current of the relauseto ensure the normal operation of the circuit breaker, as shown in Table 2;
(3) The torques of the wiring screws are listed in Table 3.

Table 2 Rated current (≤400A) and cross-sectional areas of the connecting copper lead

Rated current A	6 10	16 20	25	32	40 50	63	80	100	125	160	180 200 225	250	315 350	400
Cross-sectional area of lead	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

Table 2 Rated current (>400A), cross-sectional areas of the connecting copper lead and copper bar specification

Rated current A	Copper lead		Copper bar	
	Qty.	Cross-sectional area mm²	Qty.	Size mm x mm
500	2	150	2	30×5
630	2	185	2	40×5
700、800	2	240	2	50×5
1000	–	–	2	60×5
1250	–	–	2	80×5

Table 3 Torque

Product model	Screw	Torque N.m
63AF	M5	6.3－7.3
125AF、250AF	M8	9.5－10.5
400AF	M10	19.5－20.5
630AF、800AF、1250AF	M12	29.5－30.5

Maintenance and service of CDM1 moulded case circuit breaker

- **Maintenance and service must be performed by a professional;**
- **Live product is not allowed;**

Yearly maintenance and service is required under the normal operating conditions, with the maintenance contents listed in Table 4.

Table 4 Maintenance and service

Type	Item	Content
Product	Appearance	No dust and condensation; cleaning is required if necessary; the housing is free of damage, and the wiring terminal is not discolored.
	Terminal connection	Tightened according to the Table 3 Torque without any looseness
	Phase partition	Plugged in the proper position without any damage
	Handle closing / open action	Flexible action
	Tested through the test button	The handle indicator is at the trip position when the product is tripped
With accessories such as circuit breaker (if available)	With a under-voltage release	When the under-voltage release power supply is turned off, the circuit breaker shall work to make the handle indicator reliably leave the trip position
	With a shunt release	With the rated voltage applied on the release, the circuit breaker shall work to make the handle indicator reliably leave the trip position
	With an auxiliary contact	The circuit breaker opening and closing actions, and the auxiliary contact conversion signal shall be normal
	With an electric operating mechanism	The electric operating mechanism can open and close the circuit breaker reliably at the rated work voltage.
	With a manual operating mechanism	The manual operating mechanism can open and close the circuit breaker reliably.

Company commitment

Under the conditions that the user complies with the use and storage conditions and that the product is sealed properly, our company will repair or replace the defective product that is damaged or cannot be used normally due to poor manufacturing quality within 36 months from the production date free of charge. A paid repair will be provided if the warranty period expires. A paid repair is available even within the warranty period for any damage caused by one of the following situations:
(1) Poor use, maintenance, and storage;
(2) Changed without permission, or improper repair;
(3) Damaged due to falling-off or during installation process after purchased;
(4) Force majeure such as earthquake, fire, lightning strike, abnormal voltage and secondary disaster.
Please contact the dealer or our company's client service department for any problem.
Client service hotline: 400-826-8008

DELIXI ELECTRIC 德力西电气

Certificate

Name: Moulded case circuit breaker

Model: CDM1 series

This product is allowed to be shipped because of passing the inspection.

Available standard: GB/T 14048.2

Inspector: Inspection 01

Factory date: See the label inside the box

DELIXI ELECTRIC LTD

DELIXI ELECTRIC LTD
Delixi Electric Industrial Park, Liushi Town, Leqing City, Zhejiang　Zip: 325604
Tel: (86-577)6177 8888
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Client service hotline: 400-826-8008

www.delixi-electric.com

The first version of this User Manual was issued in April 2019.

DELIXI ELECTRIC 德力西电气

CDM1 Series Moulded Case Circuit Breaker
User Manual

Available standard: GB/T 14048.2, IEC 60947-2

□ Carefully read this User Manual before installing and using this product, and keep this Manual properly for further reference.

CDM1 Series Moulded Case Circuit Breaker Safety Notice

Carefully read this manual before installing, operating, running, maintaining and checking this product, and install and use this product in accordance with this manual.

⚠ Danger:
- Do not operate the circuit breaker with wet hands;
- Do not touch the live part in use;
- Ensure the product is de-energized during maintenance and repair;
- Do not conduct the product test using the short-circuit method.

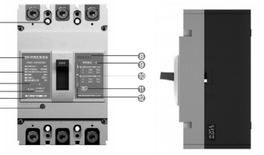
⚠ Attention:
- The installation, maintenance and service shall be performed by a professional;
- Because all features of the product have been set in the factory, do not dismantle the product or adjust the product without permission during use;
- In order to prevent short circuit between phases, the exposed lead of the terminal or the copper busbar shall be insulated.
- To test the insulation resistance or power frequency withstand voltage, the electronic components between the current circuit shall be disconnected; Otherwise, damage to the product performance;
- To purchase accessories, please select the supporting accessories provided by our company to ensure good quality. Our company will not bear any bad consequence due to the use of the other company's parts;
- For the product with an under-voltage release, the rated voltage must be applied onto the under-voltage release before power-on.
- If found damage or abnormal sound when unpacking, stop the product immediately and contact the supplier.
- When scrapping the product, the proper product waste disposal procedure is required. Thanks for your cooperation.

Understanding of CDM1 Series Moulded Case Circuit Breaker

- **Packing list**

No.	Name	Unit	Qty.
1	Product itself	Pcs	1
2	User Manual	Copy	1
3	Mounting screw	Set	1 (two pieces for two-pole type, and four pieces for three-pole and four-pole types respectively)
4	Partition between phases	Set	1 (two pieces for two-pole type, and three pieces for three-pole type and six pieces for four-pole type)

- **Introduction to panel**



1	Mounting hole	5	Available standard	9	Use category
2	Product name	6	Manufacturer name	10	ON/OFF capacity
3	Technical parameters	7	Test button	11	Certification mark
4	Sign of circuit breaker with the isolation function	8	Manufacturer trademark	12	Closed, trip, and open

- **Main technical parameters**

Model	Rated current A	Number of poles	Short-circuit breaking capacity kA (effective value)		Flashover distance
			Ics/COSΦ	Icu/COSΦ	
			400V	400V	
CDM1-63L	10、16、20、25、32、40、50、63	3、4	18/0.3	25/0.25	50
CDM1-63M		3、4	30/0.25	50/0.25	
CDM1-125L	10、16、20、25、32、40、50、63、80、100、125	3、4	26/0.25	35/0.25	
CDM1-125M		2、3、4	30/0.25	50/0.25	
CDM1-250L	100、125、160、180、200、225、250	3、4	26/0.25	35/0.25	
CDM1-250M		2、3、4	30/0.25	50/0.25	

Model	Rated current A	Number of poles	Short-circuit breaking capacity kA (effective value)		Flashover distance
			Ics/COSΦ	Icu/COSΦ	
			400V	400V	
CDM1-400C	200、225、250、315、350、400	3、4	20/0.3	35/0.25	100
CDM1-400L		3、4	30/0.25	50/0.25	
CDM1-400M		3、4	40/0.25	70/0.20	
CDM1-400H		3	50/0.25	100/0.2	
CDM1-630C	400、500、630	3、4	20/0.3	30/0.25	
CDM1-630L		3、4	30/0.25	50/0.25	
CDM1-630M		3、4	40/0.25	70/0.2	
CDM1-800C	400、500、630、700、800	3、4	20/0.3	35/0.25	
CDM1-800L		3、4	30/0.25	50/0.25	
CDM1-800M		3、4	40/0.25	70/0.2	
CDM1-800H		3	50/0.25	100/0.2	
CDM1-1250	700、800、1000、1250	3	45/0.25	85/0.2	

- **Normal use and installation conditions**

(1) The ambient air temperature cannot be higher than +40℃ and below than -5℃. The average within 24h cannot exceed +35℃;
(2) The altitude at the installation site cannot exceed 2000m;
(3) The atmosphere relevant humidity cannot exceed 50% at the maximum ambient temperature +40℃. The higher relevant humidity is allowed at the lower temperature, such as 90% at 20℃. The protection measures are taken for condensation occurred occasionally due to temperature changes.
(4) The installation position shall be vertical, with the tilt angle of not exceeding 10° in each direction;
(5) The product is installed at the place where there is no impact vibration and no rain and snow invasion.
(6) Pollution level: Level 3;
(7) Installation category: III

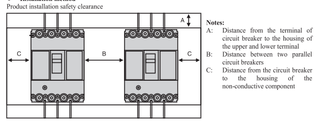
- **Normal storage and transport conditions**

(1) Temperature: -25℃~+55℃;
(2) Relative humidity: ≤95%;
(3) Handle the product gently during transport, and do not reversely place them to prevent violent collision.

Install CDM1 moulded case circuit breaker

- **Installation method**

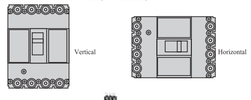
Product installation safety clearance



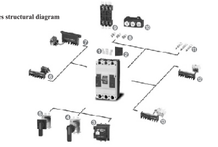
Notes:
A: Distance from the terminal of circuit breaker to the housing of the upper and lower terminal
B: Distance between two parallel circuit breakers
C: Distance from the circuit breaker to the housing of the non-conductive component

Model	A	C	B (with accessories)	B (without accessories)
CDM1-63	60	30	60	30
CDM1-125	60	30	60	30
CDM1-250	60	30	60	30
CDM1-400	110	35	70	35
CDM1-630	110	35	70	35
CDM1-800	110	35	70	35
CDM1-1250	110	35	70	35

- **The circuit breaker can be installed vertically or horizontally.**

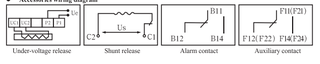


- **Accessories structural diagram**



1	Expansion terminal	6	Shunt release
2	Phase partition	7	Under-voltage release
3	AC electric operating mechanism	8	Plug-in wiring terminal
4	Round extended rotary handle	9	Plug-in plate, front
5	Square extended rotary handle	10	Plug-in plate, rear
11	Fixed board, rear		
12	Alarm contact		
13	Auxiliary contact		

- **Accessories wiring diagram**

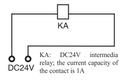


Under-voltage release　Shunt release　Alarm contact　Auxiliary contact

When the rated control power voltage of the shunt release is DC24V, the maximum length of the copper lead meets the following requirements:

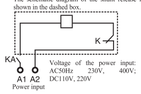
Rated control power voltage (DC24V) \ Lead sectional area	1.5mm²	2.5mm²
100%Us 85%Us	150m 100m	250m 160m

It is recommended to design the control circuit of the shunt release as shown in Figure below if the requirements of the above table is not met.



KA: DC24V intermedia relay, the current capacity of the contact is 1A

The schematic diagram of the shunt release is shown in the dashed box.



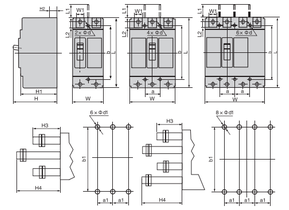
Voltage of the power input: AC50Hz　230V、400V; DC110V, 220V

Power input

⚠ The duration of pressing the shunt release shall not exceed 5s, otherwise this may cause the shunt release burnt. When shunt release with the rated power control voltage DC24V is used, the rated current shall be ranged 4.5A to 5.5A.

Outline and installation dimensions of product

- **Outline and installation dimensions before and after the fixed board**

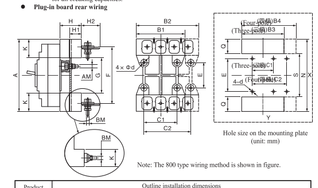


Note: The plug-in board rear wiring of CDM1-125 is derated to 100A, and of CDM1-250 is derated to 225A.

Model	Wiring mode	Outline dimensions											Installation dimensions		Board rear wiring dimensions					
		L	L1	L2	W	W1	H*	H1*	H2*	a	b	d	a1	b1	d1	H3	H4
CDM1-63	3	135	52	6	76	14	100	82	28	25	117	3.5	25	117	18	52	65
	4	135	52	6	101	14	100	82	28	25	117	3.5	25	117	18	52	65
CDM1-125	2	150	51	7	65	17.5	103.5	87	24	-	129	4.5	30	132	22	65	100
	3	150	51	7	92	17.5	103.5	87	24	30	129	4.5	30	132	22	65	100
	4	150	51	7	122	17.5	103.5	87	24	30	129	4.5	30	132	22	65	100
CDM1-250	2	165	64	9	74	23	124.5	104	24.5	-	126	5.5	35	144	24	85	115
	3	165	64	9	107	23	124.5	104	24.5	35	126	5.5	35	144	24	85	115
	4	165	64	9	142	23	124.5	104	24.5	35	126	5.5	35	144	24	85	115
CDM1-400	3	257	104.5	13	140	31	146	100	36.5	44	215	6.5	44	225	32	85	120
	4	257	104.5	13	184	31	146	100	36.5	44	215	6.5	44	225	32	85	120
CDM1-630	3	270	118	18	182	44	149	108	41	58	200	7	58	234	40	70	103
	4	270	118	18	240	44	149	108	41	58	200	7	58	234	40	70	103
CDM1-800	3	280	102	12	210	44	146.5	100	34.5	70	243	7	70	243	48	75	110
	4	280	102	12	280	44	146.5	100	34.5	70	243	7	70	243	48	75	110
CDM1-1250	3	406	104	-	210	-	190	140.5	58.5	70	375	10	-	-	-	-	-

Notes: 1. The grade of the housing frame is 63AF, 125AF, and 250AF. For the circuit breaker with the breaking capacity L, H/H1/H2: 95/73/9, 87/68/24. 108/87/24.5
2. The grade of the housing frame is 400AF, 630AF, and 800AF. The H, H1and H2 have the same value for all breaking capacities.

- **Plug-in board rear wiring**



Hole size on the mounting plate (unit: mm)

Note: The 800 type wiring method is shown in figure.

Product model	Outline installation dimensions																				
	A	B1	B2	C1	C2	E	F	G	K	H	H1	H2	N	S	Q	B3	B4	AM	BM	4-d
CDM1-63	135	75	100	50	75	60	117	100	18	28	18	16	145	89	28	85	110	M5	M5	Φ5.5
CDM1-125	169	91	125	60	90	56	132	92	38	50	33	28	179	83	48	101	135	M6	M8	Φ6.5
CDM1-250	186	107	145	70	105	54	145	94	46	50	33	37	196	84	56	117	155	M6	M8	Φ6.5
CDM1-400	282	144	188	88	133	145	234	181	50	60	38	46	292	172	60	154	198	M8	M12	Φ8.5
CDM1-630	300	182	242	100	158	123	234	170	65	60	39	50	310	160	75	192	252	M8	M12	Φ8.5
CDM1-800	305	210	280	90	162	143	243	178	62	87	60	22	315	171	72	220	290	M10	M14	Φ11

Note: The plug-in board rear wiring of CDM1-125 is derated to 100A, and of CDM1-250 is derated to 225A.