DELIXI
ELECTRIC
德力西电气

领航者系列
NAVIGATOR

CDM3S塑壳断路器

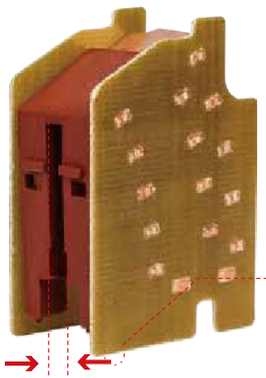
The CDM 3S series products are a new generation of products that inherit the classic technology platform and are newly created , including CDM 3S thermal magnetic molded case circuit breaker , CDM 3LS residual current action circuit breaker and CDM3G isolating switch.

The new series of products fully cover frame currents from 63 to 1600A, with stronger structural design and more diverse accessories. The innovative thermal magnetic molded case circuit breaker communication function improves wiring capabilities and creates higher cost performance and reliability for customers. products to meet the application needs of various customers.

tructural design, stronger

The reinforced rib design of the 160-degree shell frame is stronger and can withstand a load of more than 2000N.

CDM3LS electronic circuit board innovative closed design, stronger protection capability



Patented arc extinguishing chamber design and narrow gap arc extinguishing technology, safe and reliable

领航者系列 NAVIGATOR | CDM3S
Molded case circuit breaker

Interconnected and smarter

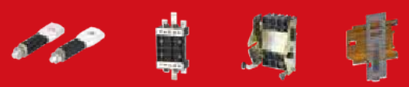
Innovative thermal magnetic circuit breaker, communication function, simpler and more economical

Accessory specifications more complete

7 electrical accessories, supporting dual-cavity installation

5 operating accessories

4 types of installation accessories



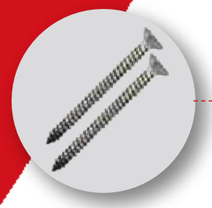
7 other accessories

Installation and wiring are more convenient

The terminal opening size is increased by up to 20 % to improve wiring capabilities . All series are equipped with hexagon socket screws for greater wiring torque and tighter connection.

63/100 shell frame adds guide rail installation method

New protruding countertop design, optimized panel structure supports installation of large and small panels



250 and below frame supports self-tapping screw installation

Product description

■ Product introduction

CDM 3S series plastic case circuit breaker (hereinafter referred to as: CDM 3S), in low -voltage distribution lines, can connect, carry and break current under normal circuit conditions, and can also connect and carry a certain amount of current under specified abnormal circuits . A mechanical switch that time and breaks current , providing protection to lines and equipment when overload , short circuit, or undervoltage occur on distribution lines (accessory function). It is widely used in low -voltage power consumption places such as electric power, construction, industry, and OEM.

- Frame grade：63AF、125AF、160AF、250AF、400AF、630AF、800AF、1250AF、1600AF
- Rated working voltage Ue：400/415V, 500V, 690V
- Breaking capacity: covers common breaking in the power distribution field：25kA、35kA、50KA、70KA 75KA(See the parameter table for details of the specific divisions of each shell frame)
- Number of poles: including 2-pole, 3-pole and 4-pole products
- Release type: single magnetic type, thermal magnetic type
- Installation method: fixed, plug-in, drawer

■ Standards compliant

Product meets standards:

- GB/T 14048.1 General provisions
- IEC 60947-1 General principles
- GB/T 14048.2 Circuit breaker
- IEC 60947-2 circuit breaker

Extreme environment usage standards:

- IEC 60068-2-1 (low temperature) GB/T 2423.1
- IEC 60068-2-2 (high temperature) GB/T 2423.2
- IEC 60068-2-30 (alternating damp heat) GB/T 2423.2

■ Ambient temperature

Normal working conditions: -5~40℃ For -40℃~-5℃, 40℃~70℃, please contact us.

If the working environment temperature exceeds 40℃, please refer to the temperature derating coefficient table for use;

Storage temperature: Storage temperature: -40~70℃

(If the storage temperature is lower than normal working conditions, the product should be returned to working conditions and left to stand for at least 24 hours before being put into use)

■ Pollution level

The operating pollution level of CDM3S is Level 3

In the environment defined by the IEC 60947-1 and 60664-1 standards (industrial environment).

■ Humidity

Normal operating humidity : When the ambient air humidity is +40°C, the relative humidity of the atmosphere cannot exceed 50%;

If the temperature is lower, it can be used under higher relative humidity conditions ; for example : at +20 °C, up to 90 %. Special measures should be taken for condensation that occasionally occurs due to temperature changes;

Reliable contact indication with isolation function conforms to the isolation defined in IEC standard GB/T 14048.2

- The isolation position corresponds to the O (OFF) position
- Only when the contacts are truly open can the operating handle indicate the "OFF" position
- Rotating handles or electric operating mechanisms do not alter the reliability of the contact indication system

■ Protection level

The CDM3S body complies with IP protection level: IP30 (except wiring terminals)

CDM3S circuit breaker installed in switch cabinet:
circuit breaker with toggle handle: IP40
Circuit breaker with rotary handle: IP40
Circuit breaker with electric operating mechanism: IP40

■ Altitude

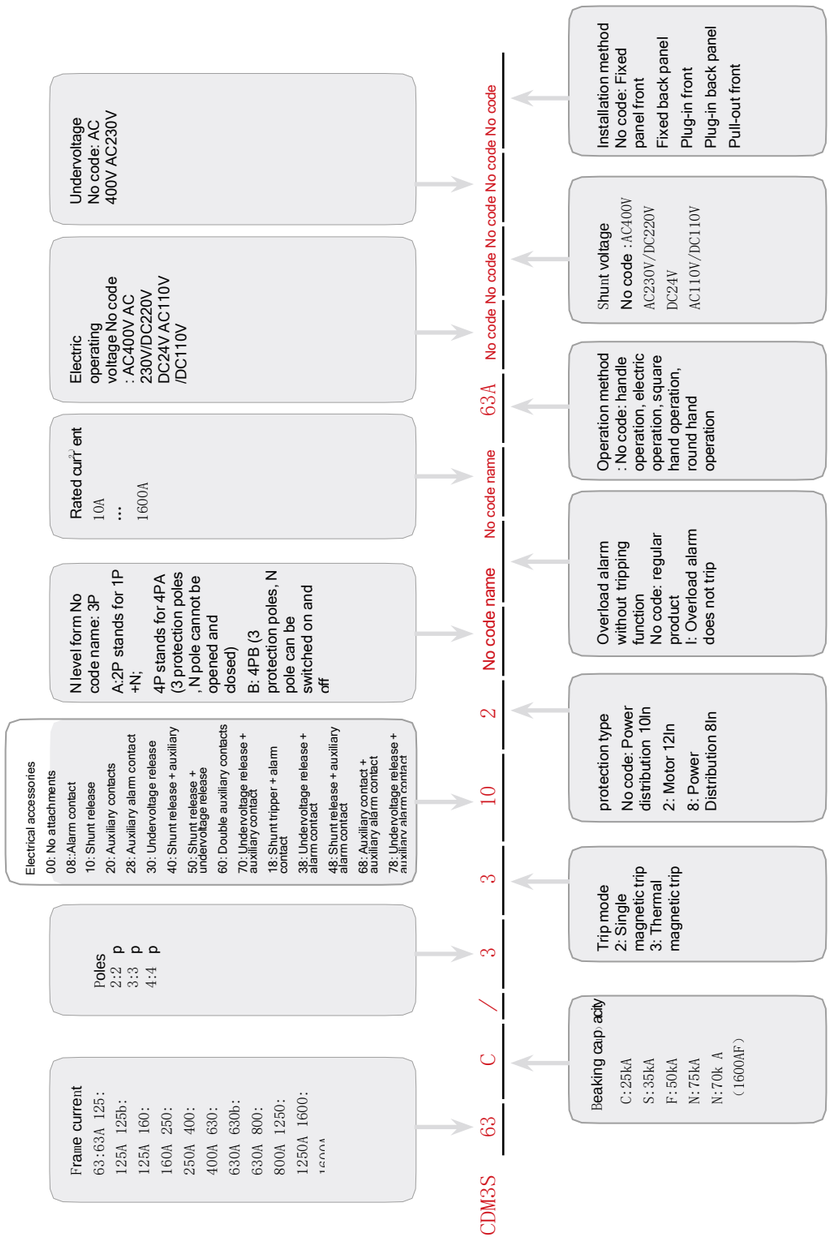
Normal working altitude: ≤2000m

If it needs to be installed at an altitude of more than 2000m, the change in dielectric strength and the drop in air temperature must be taken into consideration.

Please refer to the altitude derating coefficient table for use, or please contact us

Product model

■ Item Description



Remarks: 1: Please refer to the technical parameter page for the corresponding breaking capacity of each frame.

2: Please refer to the technical parameter page for details of the rated current corresponding to each frame.

Technical Parameters

Frame current		CDM3S-63			CDM3S-125			CDM3S-125b			CDM3S-160			
Rated working voltage Ue（V）50/60Hz		230/240/400/415			230/240/400/415			400/415/500V/690V			230/240/400/415/500/690			
Rated current In（A）		10/16/20/25/32/40/50/63			10/16/20/25/32/40/50/63/80/100/125			40/50/63/80/100/125	16/20/25/32/40/50/63/80/100/125		100/125/140/160			
Rated insulation voltage Ui（V）		800			800			800			800			
Rated impulse withstand voltage Uimp（kV）		8			8			8			8			
Poles（1P+N，2P，3P，4PA，4PB）		2/3/4	3/4		2/3/4	3/4		3/4			2/3/4	3/4		3
Short circuit breaking capacity level		C	S	F	C	S	F	S	F	N	S	F	N	H
Ultimate breaking capacity Icu（KA）	AC 230/240V（1P+N，2P）	36	–	–	36	–	–	–	–	–	50	–	–	–
	AC 400/415V（2P/3P/4P）	25	35	50	25	35	50	35	50	75	35	50	75	85
	AC 500V（3P/4P）	–	–	–	–	–	–	8	8	8	8	8	8	–
	AC 690V（3P/4P）	–	–	–	–	–	–	8	8	8	8	8	8	–
Operational breaking capacity Ics（KA）	AC 230/240V（1P+N，2P）	25	–	–	25	–	–	–	–	–	35	–	–	–
	AC 400/415V（2P/3P/4P）	15	21	36	15	21	36	21	36	50	21	36	50	65
	AC 500V（3P/4P）	–	–	–	–	–	–	4	8	8	4	8	8	–
	AC 690V（3P/4P）	–	–	–	–	–	–	4	8	8	4	8	8	–
Mechanical life (times)	Machinery is maintained	40000			40000			40000			40000			
	Mechanical maintenance-free	20000			20000			20000			20000			
Electrical life (times)	AC 415V	10000			10000			10000			10000			
Protection type	Power distribution protection (8/10In) (2P without 8In)	■ Products below 40A are rated as 400A			■ Products below 40A are rated as 400A			■ Products below 40A are rated as 400A			■			
	Motor starting protection (12In) (2P None)	■ Products below 40A are rated as 400A			■ Products below 40A are rated as 400A			■ Products below 40A are rated as 400A			■			
Trip mode	Thermal magnetic trip	■			■			■			■			
	Single magnetic trip	■			■			■			■			
Wiring	Fixed front panel wiring	■			■			■			■			
	Fixed rear panel wiring (2P not available)	■			■			■			■			
	Plug-in rear panel wiring (2P not available)	■			■			■			■			
	Plug-in rear panel wiring (2P not available)	■			■			■			■			
	Pull-out rear panel wiring (2P not available)	–			–			–			–			
Installation method	Screw/nut installation (8-12mm) (standard)	■			■			■			■			
	Self-tapping screw installation (optional)	■			■			■			■			
	Guide rail installation (TH35) (optional)	■			■			–			–			
Product accessories (optional)	Undervoltage release	■			■			■			■			
	Shunt tripper	■			■			■			■			
	Alarm contact	■			■			■			■			
	Auxiliary alarm contact	■			■			■			■			
	Auxiliary contacts	■			■			■			■			
	Electric operating mechanism CD2 (not available on 2P)	■			■			■			■			
	Manual operation (not available on 2P)	■			–			■			■			
	Extended handle (not available on 2P)	–			■			–			■			
Product accessories (standard product)	Interphase partition board (standard configuration)	■			■			■			■			
Derived function: overload alarm, no tripping (2P not available)		–			–			–	■	■	–	■	■	
Isolation function		■			■			■			■			
Selective categories		A type			A type			A type			A type			
Certification		CCC/CE			CCC/CE			CCC/CE			CCC/CE			
Dimension （mm）	Width（2P/3P/4P）	56/75/100	77/102		56/75/100	77/102		92/122	92/122		79/107/142	107/142		
	Heigh	132	132		132	132		150	150		165	165		
	Long	66	78.5		68（2P）/66	78.5		75	93		77	94		

CDM3S-250				CDM3S-400			CDM3S-630			CDM3S-630b			CDM3S-800			CDM3S-1250		CDM3S-1600	
230/240/400/415/500/690				400/415/500V/690V			400/415/500V/690V			400/415/500V/690V			400/415/500V/690V			400/415/500V/690V		400/415/500/690V	
100/125/140/160/180/200/225/250				200/225/250/315/350/400			400/500/630			400/500/630			630/700/800			1000/1250		800/1000/1250/1600	
800				800			800			800			1000			1000		1000	
8				8			8			8			12			12		12	
2/3/4	3/4		3	3/4		3	3/4		3	3/4		3	3/4		3	3/4		3	
S	F	N	H	F	N	R	F	N	R	F	N	R	F	N	R	F	N	F	N
50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35	50	75	85	50	75	100	50	75	100	50	75	100	50	75	100	50	70	50	70
8	8	8	–	10	10	–	–	10	–	10	10	–	10	10	–	15	15	30	30
8	8	8	–	10	10	–	–	10	–	10	10	–	10	10	–	15	15	30	30
35	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21	36	50	65	36	50	75	36	50	75	36	50	75	36	50	75	36	50	36	50
4	8	8	–	5	10	–	–	10	–	10	10	–	10	10	–	15	15	20	20
4	8	8	–	5	10	–	–	10	–	10	10	–	10	10	–	15	15	20	20
40000				20000			20000			10000			10000			10000		10000	
20000				10000			10000			8000			8000			5000		5000	
10000				8000			8000			5000			5000			2500		2500	
■				■			■			■			■			■		■	
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■				■			■			■			■			■		■	
–	■	■		■			–			■			–			–		–	
■				■			■			■			■			■		■	
A type				A type			A type			A type			A type			A type		A type	
CCC/CE				CCC/CE			CCC/CE			CCC/CE			CCC/CE			ccc		CCC	
79/107/142	107/142			150/198			150/198			182/240			210/280			210/280		223	
165	165			257			257			257			280			275.5		408	
77	94			108			108			110			118.5			103		149	

Note: * 4PA: TheN pole is not equipped with an overcurrent tripping component. TheN pole is always connected and does not close and open togetherwith theotherthreepoles.
4PB: TheN pole is not equipped with an overcurrent tripping component. TheN pole starts to be closed togetherwith theotherthreepoles. Divide (N poles are combined first and thendivided)

■ Derating factor table

Altitudes below 2000 meters have no effect on circuit breaker performance. Beyond this 2000m, the reduction in air insulation properties and cooling capacity must be considered; corrections must be made according to the coefficients given in the table below.

Altitude (m)	2000	2500	3000	3500	4000	4500	5000
Insulation voltage Ui (V)	800	728	728	664	664	616	616
Impulse withstand voltage Uimp (kV)	8	7	7	6.5	6.5	6	6
Maximum operating voltage Ue (V)	690	690	690	660	600	600	550
Power frequency withstand voltage (V)	2000	1820	1820	1660	1660	1540	1540
Rated operating current value In (A) in 40℃ environment	1In	0.98In	0.94In	0.92In	0.88In	0.86In	0.85In

■ Temperature derating coefficient table

The environmental operating temperature of the product is: -5℃~40℃. When the temperature exceeds 40℃, the high temperature will have an impact on the performance of the release, and the overload protection will undergo a small change. In the time/current curve of the release, The Ir setting value of the circuit breaker must be corrected according to the following coefficients. If used between -40℃ ~-25℃, please contact us.

Name	Circuit breaker model	Ambient temperature℃														
		-40℃	-35℃	-30℃	-25℃	-20℃	-15℃	-10℃	-5℃	0℃	40℃	45℃	50℃	55℃	60℃	70℃
CDM3S	63C/S	1.36	1.34	1.33	1.32	1.3	1.29	1.25	1.2	1.15	1	0.96	0.95	0.93	0.91	0.87
	125S	1.35	1.34	1.33	1.32	1.3	1.29	1.25	1.2	1.15	1	0.96	0.95	0.93	0.91	0.86
	125C/S	1.35	1.33	1.31	1.3	1.29	1.19	1.16	1.14	1.12	1	0.96	0.95	0.93	0.91	0.86
	63F/125F/125bF/125bN	1.36	1.35	1.33	1.31	1.3	1.2	1.17	1.15	1.13	1	0.97	0.96	0.94	0.92	0.88
	160S	1.36	1.35	1.34	1.33	1.31	1.25	1.21	1.19	1.15	1	0.92	0.94	0.94	0.91	0.85
	160F/N/H	1.4	1.38	1.37	1.36	1.33	1.27	1.23	1.2	1.16	1	0.93	0.95	0.94	0.93	0.86
	250S	1.43	1.42	1.36	1.32	1.28	1.24	1.17	1.16	1.14	1	0.92	0.96	0.93	0.91	0.81
	250F/N/H	1.48	1.46	1.39	1.35	1.3	1.26	1.19	1.17	1.15	1	0.93	0.95	0.93	0.91	0.88
	400F/N/H	1.59	1.58	1.55	1.52	1.44	1.42	1.4	1.32	1.28	1	0.94	0.94	0.92	0.87	0.87
	630F/N/R	1.41	1.39	1.35	1.31	1.29	1.24	1.21	1.15	1.13	1	0.94	0.93	0.92	0.9	0.86
	630bF/N/R	1.41	1.39	1.35	1.31	1.29	1.24	1.21	1.15	1.13	1	0.94	0.93	0.92	0.9	0.86
	800F/N/R	1.4	1.37	1.35	1.33	1.31	1.29	1.24	1.22	1.18	1	0.95	0.94	9.93	0.91	0.79
	1250F/N	—	—	—	—	—	—	—	—	1.18	1	0.96	0.89	0.83	0.75	—
	1600F/N	—	—	—	—	—	—	—	—	1.16	1	0.98	0.96	—	—	—

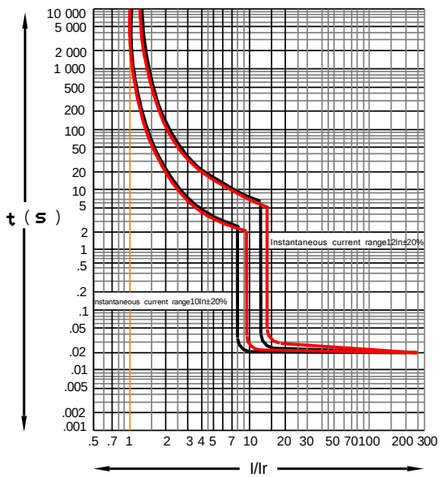
* Note that the correction coefficient is an expression of the action value and does not mean that the product can be used for upflow.

■ Trip curve diagram

CDM3S -63AF

CDM3S-63AF 40A-63AThe black wire is power distribution protection, and the red wire is motor starting protection;

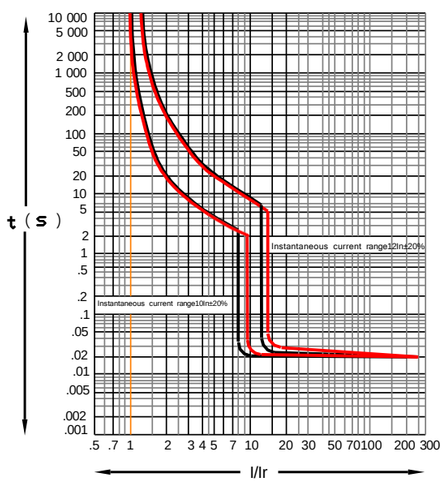
10A-32AInstantaneous operating current is 400A±20%



CDM3S-63F、125AF

CDM3S-63F、125AF 10~125AThe black wire is power distribution protection, and the red wire is motor starting protection;

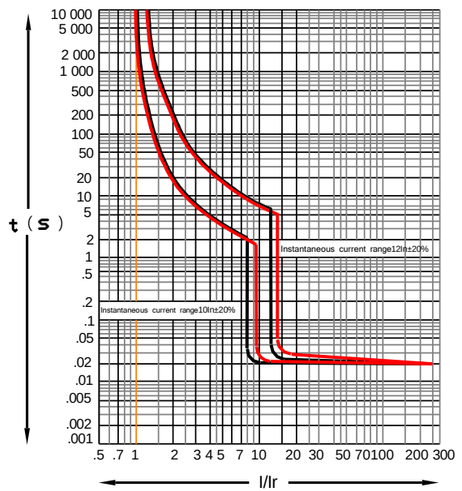
10~32AInstantaneous operating current is 400A±20%



CDM3S-125bAF

CDM3S-125bAF 40A-100AThe black wire is power distribution protection, and the red wire is motor starting protection;

16A-32AInstantaneous operating current is 400A±20%



CDM3S-160/250AF

CDM3S-160AF 100A-160AThe black wire is power distribution protection , and the red wire is motor starting protection;

CDM3S-250AF 100A-250AThe black wire is power distribution protection , and the red wire is motor starting protection;