RDCM1L(CM1L) Series

Application

RDCM1L(CM1L) series leakage MCCB is mainly used in the circuit of AC 50/60Hz, rated working voltage up to 400V, and rated current from 16A-630A in distribution line for distributing power, protecting line, overload, short-circuit and leakage protections. It also can be used for infrequently starting of motor for overload and short-circuit protections.

It is small size, high breaking capacity and short arcing and adjustable residual operating current.And it can with alarm contact, shunt release and auxiliary contacts.

The products can be installed vertically and horizontally.

The product meets the standards of GB14048.2 and IEC60947-2.

Model

RD CM 1 L – □ □ □ / □ □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①	Company Code
②	Moulded Case Circuit Breaker
③	Design Number
④	Derived Code:(Electronic Type residual current circuit breaking)
⑤	Frame Class Rated Current
⑥	Breaking Capacity Code: L : Standard Type M: Relatively high Type
⑦	Operation Type Code: Handle Operation (without code); Electric (P); Rotary handle (Z)
⑧	Number Of Pole (2:two poles;3:three poles;4:four poles;3N:three poles four wires)
⑨	Release Type and Accessories Code (find the accessories cable)
⑩	Utilization Category : power distribution protection (Without Code); motor protection (Code:2)

Accessories Cable

Accessory	Accessory Code		Accessory installation and mode of wirings		
	Electromagnetic release	Double Release	RDCM1L-100, RDCM1L-225, RDCM1L-400, RDCM1L-630		
			3P three poles four wires	three poles four wires	4P Three poles four wires
No Accessory	200	300			
Alarm contact	208	308			
Shunt release	210	310			
Auxiliary contact	220	320			
Auxiliary contact alarm contact	228	328			

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Product Classification

- Breaking Capacity: a Standard Type (L type) b Relatively high Type (M type)
- Connection Type: a Front connection b Rear connection c Plug-in connection;
- Operation Type: a handle directly operation; b Rotary handle operation; c Electrical operation;
- Residual acting current: a Non adjustable residual operating current b adjustable residual operating current
- Number Of Pole: two poles; three poles; three poles four wires;four poles
- Utilization Category : power distribution protection; motor protection
- Accessory: Alarm contact, auxiliary contact, shunt release, under-voltage release

Normal Working Condition

- Altitude: not exceed 2000m
- Ambient air temperature:

  1) Temperature: -5° C~+ 40°C

  2) 24 hours average air temperature shall not exceed +35°C

  3) If the air temperature is more than +40°C, it need remark the special ordering.
- Air conditions:

  At mounting site, relative humidity not exceed 50% at the max temperature of +40°C, higher relative humidity is allowable under lower temperature.For example, RH could be 90% at +20°C, special measures should be taken to occurrence of dews.
- Pollution grade:Grade 3
- Installation: III
- Protection Grade: IP20

Main Technical Parameters

Rated Value									
Model	Frame class rated current Inm(A)	Rated current In(A)	Rated working voltage (V)	Rated residual operating current I △ n(mA)	Rated residual non operating current I △ no(mA)	Rated ultimate short-circuit breaking capacityIcu(kA)	Rated operating short circuit breaking capacityIcs(kA)	Number of pole	Arcing over distance mm
RDCM1L-100L	100	16, 20, 25, 32, 40 50, 63, 80, 100	230	30, 50, 100 200, 300	15, 25, 50 100, 150	30	15	2	≤50
RDCM1L-100M			400			35	22	3 4, 3N	
RDCM1L-225L	225	100, 125, 160, 180, 200, 225	400	50, 100 200, 300, 500	25, 50 100, 150, 250	30	15	3 4, 3N	≤50
RDCM1L-225M						35	25		
RDCM1L-400	400	225, 250 315, 350, 400	400	100, 200 300, 500	50, 100 150, 250	50	25	4, 3N	≤100
RDCM1L-630	630	400, 500, 630	400	100, 200, 300 500, 1000	50, 100, 150 250, 500	65	32	4, 3N	≤100

Characteristics of thermo protection operation of thermo-magnetic release for power distribution.			
Test Current	I/In	Conventional time	Initial Status
Conventional non tripping current	1.05	2h(In>63A), 1h(In≤63A)	cold status
conventional tripping	1.30	2h(In>63A), 1h(In≤63A)	thermal status

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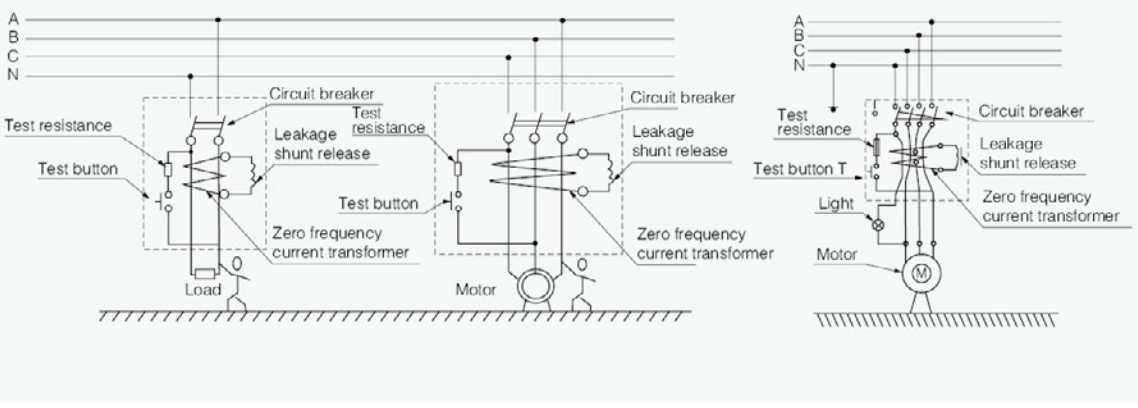
Characteristics of thermo protection operation of thermo-magnetic release for motor protection.				
Rated Current(A)	Conventional time			Initial status
	Inm=100A	Inm=225A, 400A	Inm=630A	
1.05In	>2h(In>63A), 1h(In≤63A)	>2h	>2h	cold status
1.2In	≤2h(In>63A), 1h(In≤63A)	≤2h	≤2h	thermal status
1.5In	≤4min	≤4min	≤8min	thermal status
7.2In	T≥1s	4s<T≤10s	6s<T≤20s	cold status

Leakage circuit breaker residual current breaking time					
General type leakage circuit breaker residual current breaking time					
I △ n (mA)	In (mA)	Maximum breaking time(s)			
		I △ n	2I △ n	0.25A	5I △ n
≤30	Value	≤0.1	-	≤0.04	-
>30	Value	≤0.2	≤0.1		≤0.04
Delay type leakage circuit breaker residual current breaking time					
conventional delay time(s)	Breaking time(s)				
	I △ n		5I △ n		
0.2	<0.4		0.1~0.24		
0.4	<0.6		0.2~0.44		
0.6	<0.8		0.3~0.64		

- Instantaneous operation characteristics of power distribution protection circuit breaker: 10In±20%
- Instantaneous operation characteristics of motor protection circuit breaker:12In±20%

Structure And Working Principle

- The leakage is consist of zero frequency transformer, leakage shunt release and overload and short-circuit protective circuit breaker.
- When protective loop is overload or short-circuit, the double type shunt release is delay tripping or instantaneous tripping to cut off the power supply.



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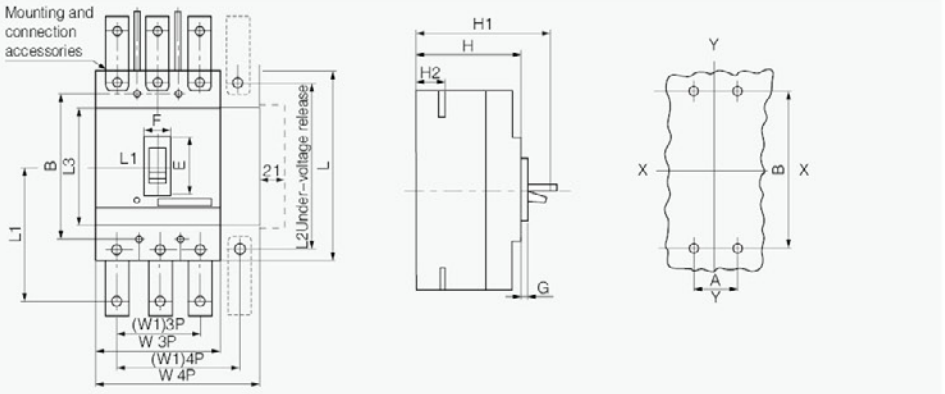
Overall And Mounting Dimensions (mm)

Model	Overall Dimension																						Mounting dimension			plug-in plate size		
	Front connection											Rear connection				plug-in connection													
	W	L	H	W1	L1	L2	H1	H2	E	F	G	L2	L3	H3	ΦD	L4	L5	H4	H5	H6	C	D	ΦD	A	B	Φd	A	B	H
RDCM1L-100L, M 3P	92	150	92	60	100	132	110	28.5	51	23	4.5	132	90	93	22	168	92	50	64	76	56	60	6.5	30	129	4.5	90	94	41
RDCM1L-100L 4P	122	150	92	90	100	132	110	28.5	51	23	4.5	132	90	93	22	168	92	50	64	76	56	60	6.5	30	129	4.5	90	125	41
RDCM1L-225 3P	107	165	90	70	133	144	110	22	62	22	4.0	144	93	100	24	183	94	50	71.5	86.5	54	70	6.5	35	126	4.5	88	110	51
RDCM1L-225L, M 4P	142	165	90	105	133	144	110	22	62	22	4.0	144	93	100	24	183	94	50	71.5	86.5	54	105	6.5	35	126	4.5	88	145	51
RDCM1L-400L 3P	150	257	106.5	96	221	227	149	38	89	65	6.0	224	164	108.5	32	279	-	60	83.5	106.5	129	60	8.5	44	194	7.0	166	152	58
RDCM1L-400L 4P	198	257	106.5	144	221	227	149	38	89	65	6.0	224	164	108.5	32	279	-	60	83.5	106.5	129	108	8.5	44	194	7.0	166	200	58
RDCM1L-630M/800L3P	210	280	115.5	140	240	240	157	43	81	66	4.5	243	158	84	48	296	-	61	97	148	143	140	10	70	243	7.0	183	213	58
RDCM1L-630M/800L4P	280	280	115.5	213	240	240	157	43	81	66	4.5	243	158	84	48	296	-	61	97	148	143	210	10	70	243	7.0	183	183	58

RDCM1L Front connection

Front connection plate size

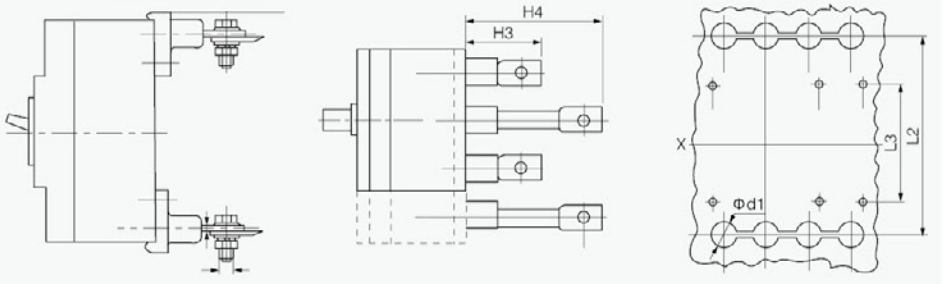
Three poles circuit breaker center



RDCM1L Rear connection

Rear connection plate size

Three poles circuit breaker center



RDCM1L Plug-in connection

Plug-in connection plate size