

CDM1 Molded Case Circuit Breaker

Standard: IEC 60947-2



Function

CDM1 Molded case circuit breaker provide:

- Provide protection for indirect contact.
- To protect power line and equipments against overload, undervoltage and short-circuit faults ($I_n \leq 400A$)
- Under normal circumstances can be as infrequent line conversion and motor frequent start.

Order Information

Type	In A	Reference		
		Type M	Type L	
CDM1-63	3P	10	CDM163M103	CDM163L103
		16	CDM163M163	CDM163L163
		20	CDM163M203	CDM163L203
		25	CDM163M253	CDM163L253
		32	CDM163M323	CDM163L323
		40	CDM163M403	CDM163L403
		50	CDM163M503	CDM163L503
	63	CDM163M633	CDM163L633	
	4P	10	CDM163M104	--
		16	CDM163M164	--
		20	CDM163M204	--
		25	CDM163M254	--
		32	CDM163M324	--
		40	CDM163M404	--
50		CDM163M504	--	
CDM1-100	2P	16	CDM1100M162	--
		20	CDM1100M202	--
		25	CDM1100M252	--
		32	CDM1100M322	--
		40	CDM1100M402	--
		50	CDM1100M502	--
		63	CDM1100M632	--
	80	CDM1100M802	--	
	100	CDM1100M1002	--	
	3P	16	CDM1100M163	CDM1100L163
		20	CDM1100M203	CDM1100L203
		25	CDM1100M253	CDM1100L253
		32	CDM1100M323	CDM1100L323
		40	CDM1100M403	CDM1100L403
50		CDM1100M503	CDM1100L503	
63		CDM1100M633	CDM1100L633	
80	CDM1100M803	CDM1100L803		
100	CDM1100M1003	CDM1100L1003		
4P	16	CDM1100M164	--	
	20	CDM1100M204	--	
	25	CDM1100M254	--	
	32	CDM1100M324	--	
	40	CDM1100M404	--	
	50	CDM1100M504	--	
	63	CDM1100M634	--	
80	CDM1100M804	--		
100	CDM1100M1004	--		



Low-voltage Distribution

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Order Information



Type	In A	Reference		
		Type M	Type L	
CDM1-225	2P	100	CDM1225M1002	--
		125	CDM1225M1252	--
		160	CDM1225M1602	--
		180	CDM1225M1802	--
		200	CDM1225M2002	--
		225	CDM1225M2252	--
	3P	100	CDM1225M1003	CDM1225L1003
		125	CDM1225M1253	CDM1225L1253
		160	CDM1225M1603	CDM1225L1603
		180	CDM1225M1803	CDM1225L1803
		200	CDM1225M2003	CDM1225L2003
		225	CDM1225M2253	CDM1225L2253
	4P	100	CDM1225M1004	--
		125	CDM1225M1254	--
		160	CDM1225M1604	--
180		CDM1225M1804	--	
200		CDM1225M2004	--	
225		CDM1225M2254	--	
CDM1-400	3P	200	CDM1400M2003	CDM1400L2003
		225	CDM1400M2253	CDM1400L2253
		250	CDM1400M2503	CDM1400L2503
		315	CDM1400M3153	CDM1400L3153
		350	CDM1400M3503	CDM1400L3503
		400	CDM1400M4003	CDM1400L4003
	4P	200	CDM1400M2004	--
		215	CDM1400M2254	--
		250	CDM1400M2504	--
		315	CDM1400M3154	--
		350	CDM1400M3504	--
		400	CDM1400M4004	--
CDM1-630	3P	400	CDM1630M4003	CDM1630L4003
		500	CDM1630M5003	CDM1630L5003
		630	CDM1630M6303	CDM1630L6303
	4P	400	CDM1630M4004	--
		500	CDM1630M5004	--
		630	CDM1630M6304	--
CDM1-800	3P	400	CDM1800M4003	CDM1800L4003
		500	CDM1800M5003	CDM1800L5003
		630	CDM1800M6303	CDM1800L6303
		700	CDM1800M7003	CDM1800L7003
	4P	800	CDM1800M8003	CDM1800L8003
		400	CDM1800M4004	--
		500	CDM1800M5004	--
		630	CDM1800M6304	--
CDM1-1250	3P	700	CDM11250M7003	--
		800	CDM11250M8003	--
		1000	CDM11250M10003	--
		1250	CDM11250M12503	--

Note: The connection mode for CDM1 is the fixed type front connection.

Low-voltage Distribution

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Order Information for Accessories

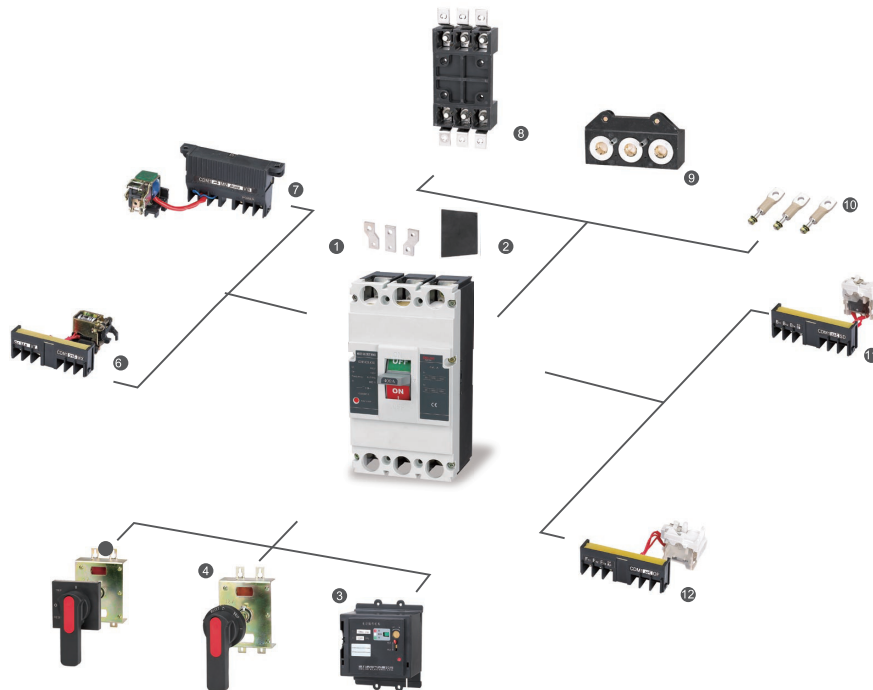
Voltage (V)	Type	Reference					
		MN	MX	OF	SD	TR(Round Handle)	TS(Square Handle)
230V AC	CDM1-63	CDM163MN230*	CDM163MX230*	CDM163OF*	CDM163SD*	CDM163TR	CDM163TS
		CDM163MN400*	CDM163MX400*				
400V AC	CDM1-100	CDM1100MN230*	CDM1100MX230*	CDM1100OF*	CDM1100SD*	CDM1100TR	CDM1100TS
		CDM1100MN400*	CDM1100MX400*				
	CDM1-225	CDM1225MN230*	CDM1225MX230*	CDM1225OF*	CDM1225SD*	CDM1225TR	CDM1225TS
		CDM1225MN400*	CDM1225MX400*				
	CDM1-400	CDM1400MN230*	CDM1400MX230*	CDM1400OF*	CDM1400SD*	CDM1400TR	CDM1400TS
		CDM1400MN400*	CDM1400MX400*				
	CDM1-630	CDM1630MN230*	CDM1630MX230*	CDM1630OF*	CDM1630SD*	CDM1630TR	CDM1630TS
		CDM1630MN400*	CDM1630MX400*				
	CDM1-800	CDM1800MN230*	CDM1800MX230*	CDM1800OF*	CDM1800SD*	CDM1800TR	CDM1800TS
		CDM1800MN400*	CDM1800MX400*				
	CDM1-1250	CDM11250MN230*	CDM11250MX230*	CDM11250OF*			
		CDM11250MN400*	CDM11250MX400*				

Note 1: MN and MX could be sold with CDM1 product and installed by manufactory

2: *means the connecting type;

Blank: terminal connection;

D5: 500mm wire connection



- | | | | | | |
|---|---------------------------|----|---------------------------------|----|---------------------|
| 1 | Connection | 6 | Shunt release contacto | 11 | Alarm contactor |
| 2 | Phase partition | 7 | Undervoltage release | 12 | Auxiliary contactor |
| 3 | Motor mechanism | 8 | Plug-type front connection | | |
| 4 | Round handle mechanism | 9 | Plug-type rear connection | | |
| 5 | Quadrate handle mechanism | 10 | Stationary type rear connection | | |

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Technical Data

- Main technical parameters are shown in the table below

MCCB	CDM1																							
Standard	IEC 60947-2																							
Certificate	KEMA, SEMKO, CE																							
Rated frequency Hz	50/60																							
Type	CDM1-63			CDM1-100				CDM1-225				CDM1-400			CDM1-630			CDM1-800			CDM1-1250			
Rated insulation voltage U_i V	690			800				800				800			800			800			800			
Rated impulse withstand voltage U_{imp} KV	6			8				8				8			8			8			8			
Rated operational voltage U_e V	400			400				400				400			400			400			400			
Breaking capacity	L	M	M	L	M	M	M	L	M	M	M	L	M	M	L	M	M	L	M	M	L	M	M	
Poles	3	3	4	3	2	3	4	3	2	3	4	3	3	4	3	3	4	3	3	4	3	3	4	3
Rated Ultimate short-circuit breaking capacity I_{cu} kA	25	50	50	35	50	50	50	35	50	50	50	50	70	70	50	70	70	50	70	70	50	70	70	85
Rated service short-circuit breaking capacity I_{cs} kA	18	30	30	26	30	30	30	26	30	30	30	30	40	40	30	40	40	30	40	40	30	40	40	45
Mechanical durabilities	8500			8500				7000				4000			4000			2500			2500			
Electrical durabilities	1500			1500				1000				1000			1000			500			500			
Rated current	10/16/20/25/40/50/63			16/20/25/40/50/63/80/100				100/125/160/180/200/225				200/225/250/315/350/400			400/500/630			400/500/630/700/800			700/800/1000/1250			

- Working Conditions

- Protection Level: IP20
- Pollution Level: III
- Correct Range of Working Environment: average temperature less than +35°C within 24 hours for - 5°C ~ + 40°C (please contact the manufacturer when over the range)
- Altitude of installation shall be less than 2000 m, and the capacity reduction is adopted for being used at 2000+ m.
- The relative temperature of the atmosphere is not more than 50% when the highest temperature is + 40°C, and the relative temperature is higher under lower temperature (e.g. 90% at +20°C), and the condensation formed on the surface of the products for temperature change shall be considered.

- Constructional features

- Thermamagnetic release offers instantaneous trip against short-circuit and long time delay trip against overcurrent
- The circuit breaker can be fixed type or plug-in type
- For 4-pole circuit breakers:
N-pole without overcurrent release, it switches on and off with other poles (N-pole lead-make, lag-break)
- Various accessories can be attached to the circuit breaker to extend its functions, such as undervoltage release, shunt release, ON/OFF position indication contact, and tripped position indication contact, for detail see the accessories part

CDM1 Molded Case Circuit Breaker

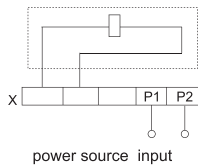
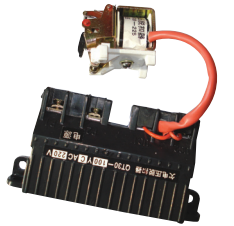
Standard: IEC 60947-2



Accessories

The accessories are fixed into the circuit breaker.

- Remote tripping:
 - MX or MN releases are used to trip the circuit breaker.
- This release trips the circuit breaker when the control voltage drops below the tripping threshold:
 - Tripping threshold between 35% to 70% of the rated voltage
 - Circuit-breaker closing is possible only if the voltage exceeds 85% of the rated voltage.
- Circuit-breaker tripping by an MN release meets the requirements of standard IEC 60947-2.

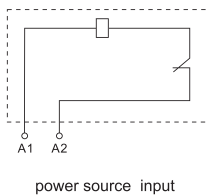
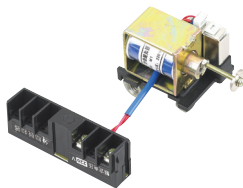


MN (Undervoltage Release)

Technical data

Rated operating voltage U_e (V)	230V, 400V AC
Drop-out voltage(V)	(0.35~0.7) U_e
Pick-up voltage(V)	(0.85~1.1) U_e

- MX shunt release:
 - The MX release trips the circuit breaker when the control voltage rises above $0.7 \times U_n$.
 - Control signals can be of the impulse type ($u \leq 20$ ms) or maintained.

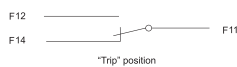
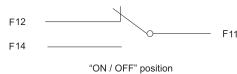


MX (Shunt Release)

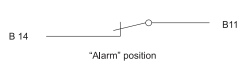
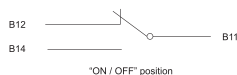
Technical data

Rated control voltage U_s (V)	230V, 400V AC
Operating voltage(V)	(0.7~1.1) U_s

- Indication contacts:
 - These common-point changeover contacts can be used to remotely indicate circuit-breaker status information for indications, electrical locking, relays, etc.
 - They comply with international standard IEC 60947-5.
- Functions:
 - OF (ON/OFF): indicates the position of the circuit-breaker contacts.
 - SD (trip indication): indicates that the circuit-breaker has tripped due to:
 - overload
 - short-circuit
 - operation of a voltage release
 - operation of the "push-to-trip" button
 Returns to de-energised state when the circuit breaker is reset.



Auxiliary Contact wiring diagram



Alarm Switch wiring diagram

OF (Auxiliary Contactor)

Technical data

Rated thermal current I_{th}	3A
Rated operating current	0.4A (400V AC)
1NO+1NC (Change over)	
2NO+2NC (Change over)	

SD (Alarm Contactor)

Technical data

Rated thermal current I_{th}	3A
Rated operating current	0.26A (400V AC) 0.4A (400V AC)
1NO+1NC	

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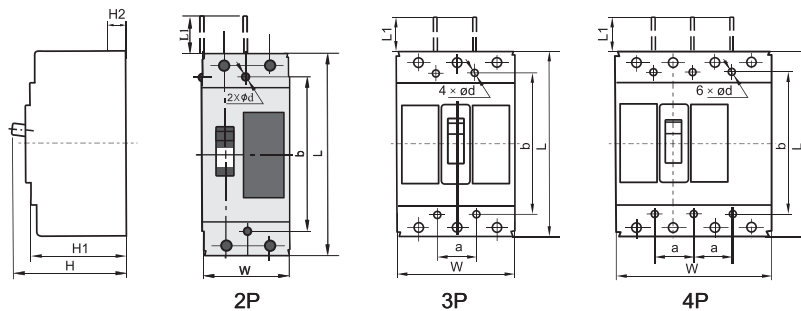


Overall Dimensions

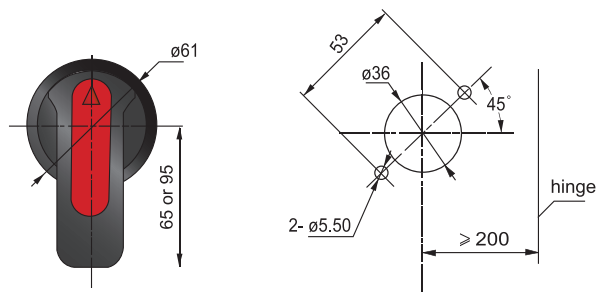
Type	Poles	Overall Dimensions						Install dimensions		
		L	L1	W	H	H1	H2	a	b	Φ d
CDM1-63L	3	135	21	76	89	74	21	25	117	3.5
CDM1-63M	3	135	21	76	99	82	28	25	117	3.5
CDM1-63M	4	135	21	103	99	82	28	25	117	3.5
CDM1-100M	2	150	51	65	103	87	24	--	129	4.5
CDM1-100L	3	150	51	92	87	68	25	30	129	4.5
CDM1-100M	3	150	51	92	103	87	24	30	129	4.5
CDM1-100M	4	150	51	122	103	87	24	30	129	4.5
CDM1-225M	2	165	64	75	124	104	24	--	126	5.5
CDM1-225L	3	165	64	107	108	87	24	35	126	5.5
CDM1-225M	3	165	64	107	124	104	24	35	126	5.5
CDM1-225M	4	165	64	142	124	104	24	35	126	5.5
CDM1-400L,M	3	257	105	140	146	100	36	44	215	6.5
CDM1-400M	4	257	105	184	146	100	36	44	215	6.5
CDM1-630L,M	3	270	118	182	160	108	41	58	200	7
CDM1-630M	4	270	118	240	160	108	41	58	200	7
CDM1-800L,M	3	280	102	210	146	103	34	70	243	7
CDM1-800M	4	280	102	280	146	103	34	70	243	7
CDM1-1250M	3	406	104	210	190	140.5	58	70	375	10

Low-voltage Distribution

Unit:mm



Overall and cut-out diagram of round handle

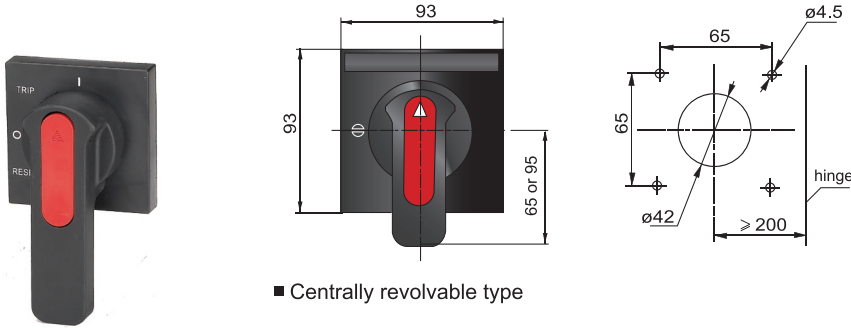


CDM1 Molded Case Circuit Breaker

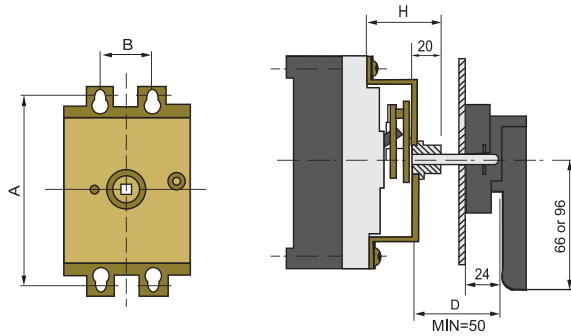
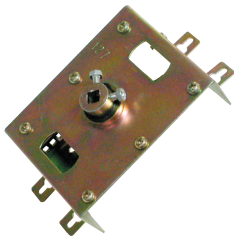
Standard: IEC 60947-2



Overall and cut-out diagram of square handle



Centrally revolvable type



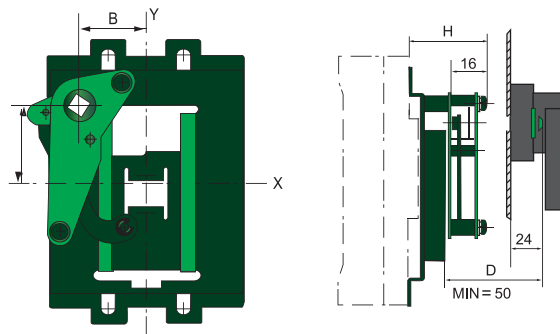
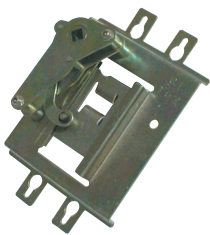
Unit:mm

Dimension for handle mechanism(centrally revolvable type)

Frame	A	B	H
CDM1-63	100	25	51
CDM1-100	103.5	30	52
CDM1-225	144	35	56
CDM1-400	215	44	88
CDM1-630	200	58	99
CDM1-800	242	70	88

Remark:the shortest distance of G connecting rod is 50mm,and ex-factory standard configuration is 150mm,please contact the factory,if the special customization is required.

Eccentrically rotating



Unit:mm

Dimension for handle mechanism(eccentrically revolvable type)

Frame	A	B	H
CDM1-100	35	11.5	46
CDM1-225	35	31	48
CDM1-400	65	15	61
CDM1-630	60	15	61
CDM1-800	48	15	66

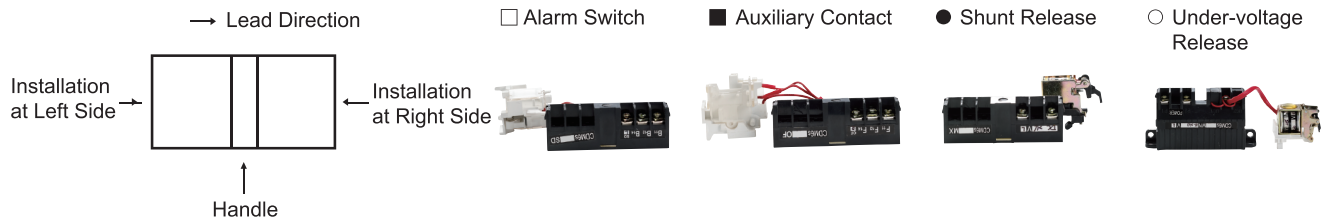
CDM1 Molded Case Circuit Breaker

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Installation Location of Accessories

Installation Method for Tripping Release and Accessories Code



Name of Accessory	Product Type				
	CDM1-63 CDM1-100 CDM1-225	CDM1-400	CDM1-630	CDM1-800	CDM1-1250
Alarm Switch					
Shunt Release					
Auxiliary Contact					
Undervoltage Release					
Auxiliary Contact Shunt Release					
Shunt Release Undervoltage Release					
Two Group Auxiliary Contact					
Auxiliary Contact Undervoltage Release					
Shunt Release Alarm Switch					
Auxiliary Contact Alarm Switch					
Undervoltage Release Alarm Switch					
Shunt Release Auxiliary Contact Alarm Switch					
Two Group Auxiliary Contact Alarm Switch					
Auxiliary Contact Undervoltage Release Alarm Switch					

Low-voltage Distribution

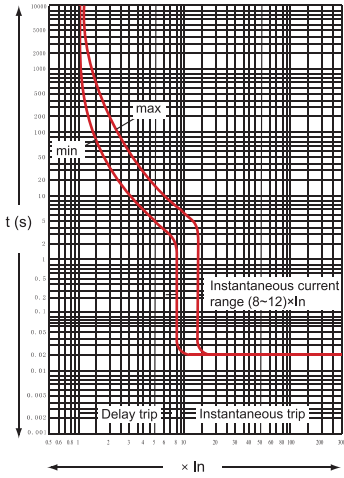
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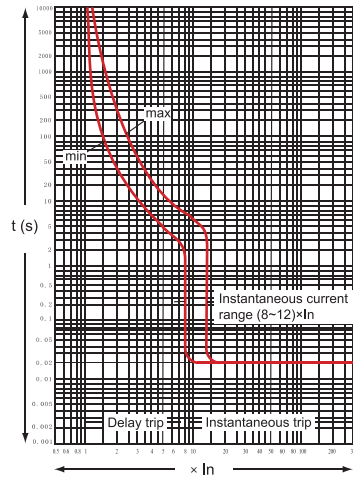
Characteristic Curve of Circuit Breaker

Low-voltage Distribution



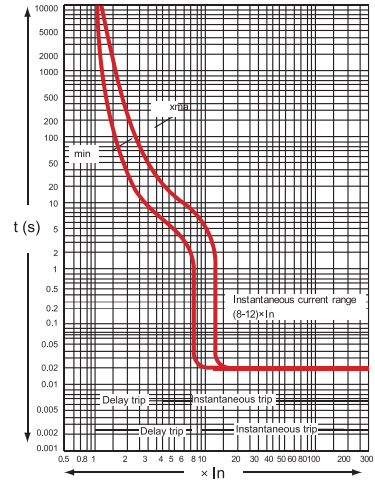
For power distribution

CDM1-63 Time/current characteristic curve



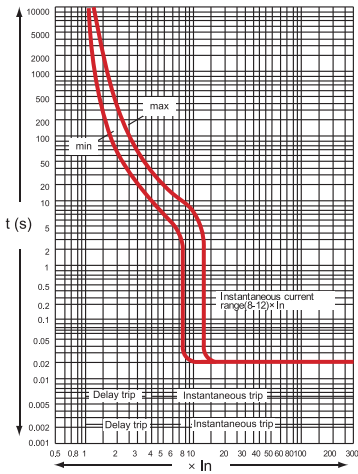
For power distribution

CDM1-100 Time/current characteristic curve



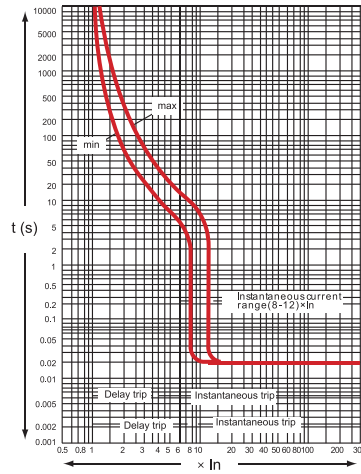
For power distribution

CDM1-225 Time/current characteristic curve



For power distribution

CDM1-400 Time/current characteristic curve



For power distribution

CDM1-630 Time/current characteristic curve