

Moulded Case Circuit Breakers Ex9M DC TM

Version Ex9MD2B up to 250 A, $I_{cu} = 25$ kA

- 2 (up to 500V DC) 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 25$ kA at 1000 V DC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_r can be set in range $(7 - 12) \times I_n$ for 125 A and $(5 - 10) \times I_n$ for other devices up to 250 A
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current i_n	Part no.	Model	Packing
2	125A	852898	Ex9MD2B TM 125 2P IEC	1/8
2	160A	852899	Ex9MD2B TM 160 2P IEC	1/8
2	180A	852900	Ex9MD2B TM 180 2P IEC	1/8
2	200A	852901	Ex9MD2B TM 200 2P IEC	1/8
2	225A		Ex9MD2B TM 225 2P IEC	1/8
2	250A	852902	Ex9MD2B TM 250 2P IEC	1/8
3	125A	852661	Ex9MD2B TM 125 3P IEC	1/8
3	160A	852662	Ex9MD2B TM 160 3P IEC	1/8
3	180A	852663	Ex9MD2B TM 180 3P IEC	1/8
3	200A	852664	Ex9MD2B TM 200 3P IEC	1/8
3	225A	852665	Ex9MD2B TM 225 3P IEC	1/8
3	250A	852666	Ex9MD2B TM 250 3P IEC	1/8
4	125A	852667	Ex9MD2B TM 125 4P4T IEC	1/8
4	160A	852668	Ex9MD2B TM 160 4P4T IEC	1/8
4	180A	852669	Ex9MD2B TM 180 4P4T IEC	1/8
4	200A	852670	Ex9MD2B TM 200 4P4T IEC	1/8
4	225A	852671	Ex9MD2B TM 225 4P4T IEC	1/8
4	250A	852672	Ex9MD2B TM 250 4P4T IEC	1/8

Version Ex9MD2S up to 250 A, $I_{cu} = 36$ kA

- 2 (up to 500V DC) 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 1000 V DC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_r can be set in range $(7 - 12) \times I_n$ for 125 A and $(5 - 10) \times I_n$ for other devices up to 250 A
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current i_n	Part no.	Model	Packing
3	125A	852673	Ex9MD2S TM 125 3P IEC	1/8
3	160A	852674	Ex9MD2S TM 160 3P IEC	1/8
3	180A	852675	Ex9MD2S TM 180 3P IEC	1/8
3	200A	852676	Ex9MD2S TM 200 3P IEC	1/8
3	225A	852677	Ex9MD2S TM 225 3P IEC	1/8
3	250A	852678	Ex9MD2S TM 250 3P IEC	1/8
4	125A	852679	Ex9MD2S TM 125 4P4T IEC	1/8
4	160A	852680	Ex9MD2S TM 160 4P4T IEC	1/8
4	180A	852681	Ex9MD2S TM 180 4P4T IEC	1/8
4	200A	852682	Ex9MD2S TM 200 4P4T IEC	1/8
4	225A	852683	Ex9MD2S TM 225 4P4T IEC	1/8
4	250A	852684	Ex9MD2S TM 250 4P4T IEC	1/8

Technical Data Ex9M2 DC TM

DC TM Moulded Case Circuit Breakers up to 250 A

General parameters

Suitable for commercial as well as industrial applications

I_r can be set in range $(0.7 - 1.0) \times I_n$

I_i can be set in range $(7 - 12) \times I_n$ for 125 A and $(5 - 10) \times I_n$ for other devices up to 250 A

$I_{IN} = I_i$

Internal accessories

Auxiliary contact unit	AX21M	
Alarm contact unit	AL21M	
Shunt trip releases	SHT22	
Undervoltage releases	UVT22	

Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT22 or UVT22)

External accessories

Direct rotary handle	RHD22	
Extended rotary handle	ERH22	
Remote motor operators	MOD22	
Terminal cover, short	TCV22 3P, 4P	
Terminal cover, long	TCE22 3P, 4P	
Phase barrier	PHS22	
Connection terminals	MC22	
DIN-rail adapter	DRA22	
Plug-in base	PIA 22	

Mounting screws, screw type terminals as well as phase barriers in the scope of delivery

Derating coefficient of Tripping Characteristics on accessories combination

Combined accessory	I_n (T) [A]					
	125 A	160 A	180 A	200 A	225 A	250 A
PIA 22	1	1	1	0.95	0.95	0.95

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Electrical parameters

	Ex9M2B	Ex9M2S	Ex9M2N	Ex9M2Q	Ex9M2H
Tested according to	IEC/EN 60947-2				
Rated op. voltage U_e	500 / 750 / 1000 V DC				
Rated insulation voltage U_i	1 000 V				
Rated impulse withstand voltage U_{imp}	8 kV				
Rated frequency	DC				
Rated ultimate short-circuit breaking capacity I_{cu}	25 kA / 1000V	36 kA / 1000V	50 kA / 1000V	70 kA / 1000V	100 kA / 1000V
Rated service short-circuit breaking capacity I_{cs}	25 kA / 1000V	36 kA / 1000V	50 kA / 1000V	70 kA / 1000V	100 kA / 1000V
Rated current	125 / 160 / 180 / 200 / 225 / 250 A				
Utilization category	A				
Mechanical service life	15 000 operation cycles				
Electrical service life	1 500 operation cycles / 1000 V				
Total disconnection time at short circuit	< 2 ms				
Line voltage connection	arbitrary above or below				

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]					
	125 A	160 A	180 A	200 A	225 A	250 A
-40	175	224	252	280	315	35
-35	172	220	247	275	309	343
-25	165	212	238	265	300	332
-15	159	204	229	255	288	319
-5	153	196	220	245	276	306
0	150	192	212	240	270	300
10	144	184	207	230	259	287
20	137	176	198	220	247	275
30	131	168	189	210	236	262
40	125	160	180	200	225	250
50	118	152	171	190	213	237
60	106	136	157	175	196	218
70	96	120	144	166	180	207

Power dissipation characteristics

I_n	125 A	160 A	180 A	200 A	225 A	250 A
Pole resistance (mΩ)	0.7	0.55	0.55	0.55	0.4	0.4
Pole power dissipation (W)	10.9	14.1	17.8	22	20.3	25

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Mechanical parameters

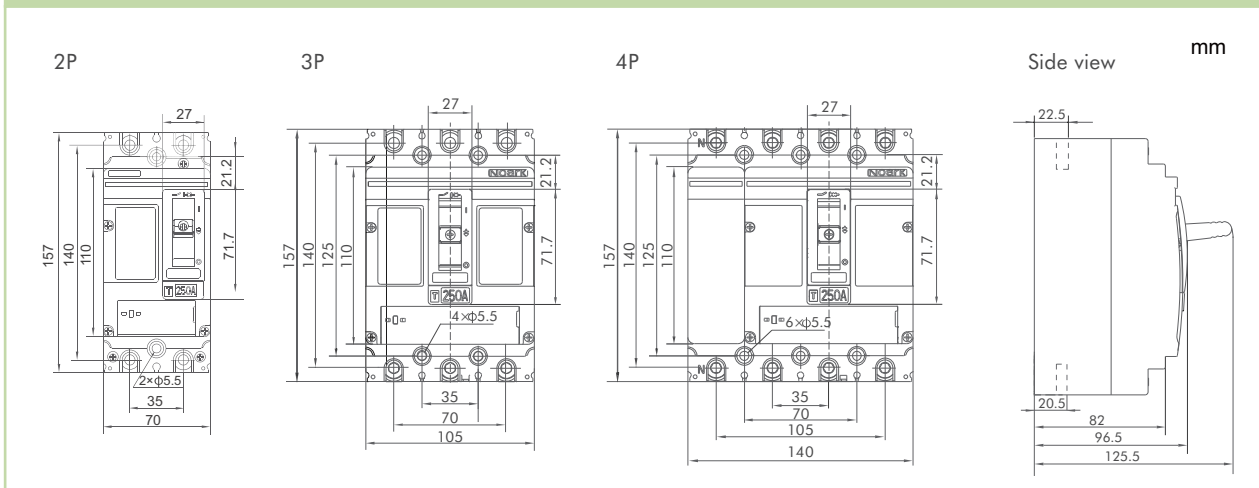
Device width 3P / 4P	105 mm / 140 mm
Device height	157 mm
Device depth	96.5 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	box
Terminal capacity	10 — 120 mm ²
Fastening torque of terminals	25 Nm
Ambient temperature	-40 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	1.85 kg / 2.5 kg
Mounting position	vertical, can be rotated by 90° in each axis

Derating coefficient of technical parameters based on altitude

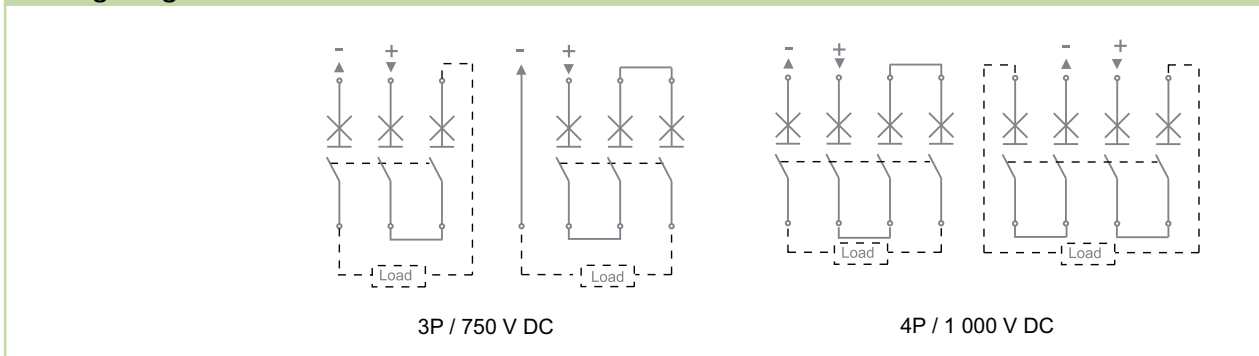
Altitude	≤ 2 000 m	3 000 m	4 000 m	5 000 m
Derating op. current I_n coefficient	1	0.96	0.93	0.9
Maximum rated op. voltage U_e	1 000 V DC	900 V DC	850 V DC	800 V DC
Rated insulation voltage U_i	1 000 V DC	930 V DC	870 V DC	800 V DC
Rated impulse withstand voltage U_{imp}	8 kV	8 kV	8 kV	8 kV
Dielectric properties ($U_{imp}=8$ kV)	3 110 V DC	2 892 V DC	2 705 V DC	2 488 V DC

eg: $I_n=125$ A
 $I_r=0,7 I_n=87,5$ A

Dimensions



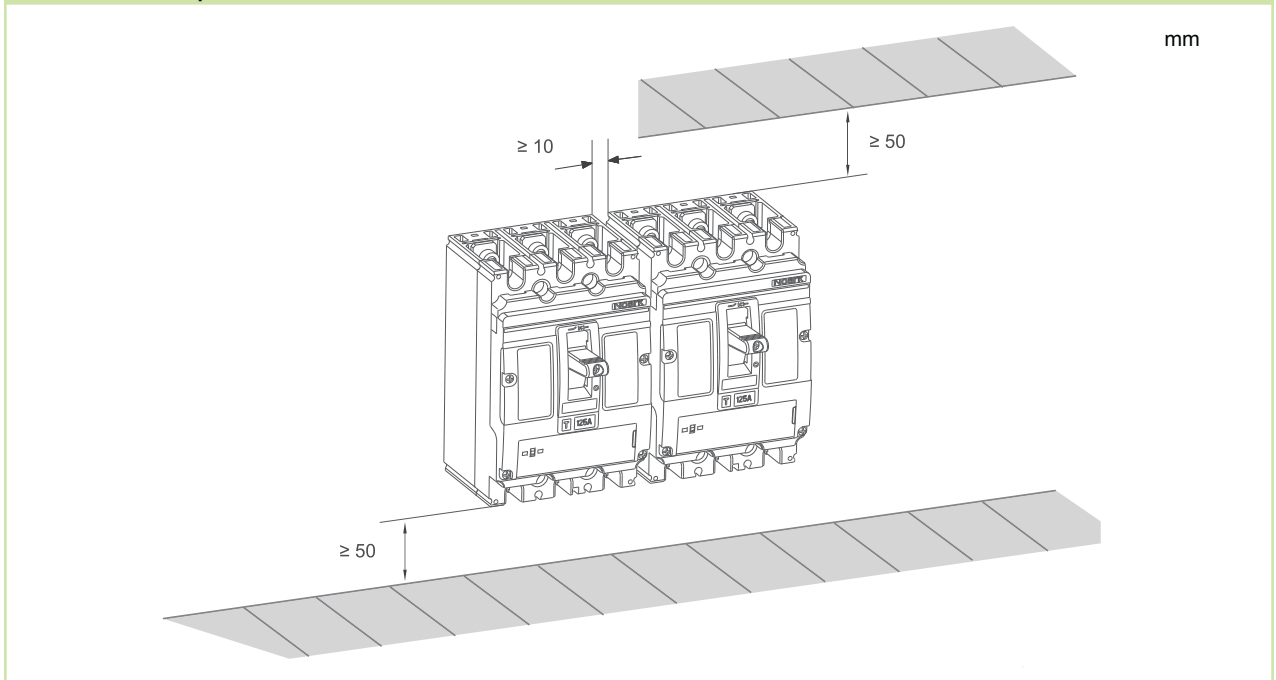
Wiring diagram



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Installation space



Tripping characteristics

